

PROJECT MANUAL

Putnam Valley Central School District

171 Oscawana Lake Road, Putnam Valley, NY 10579

PARTIAL ROOF REPLACEMENT + REPAIR

Putnam Valley High School

146 Peekskill Hollow Road, Putnam Valley, NY 10579

SED #48-05-03-04-0-010-007

Architect

KG+D Architects, PC

285 Main Street, Mount Kisco, NY 10549

914.666.5900 www.kgdarchitects.com

Roofing Consultant

Watsky Associates

20 Madison Avenue, Valhalla, NY 10595

914.948.3450

Environmental Consultant

WSP USA Solutions, Inc.

500 Summit Lake Drive, Suite 450, Valhalla, NY 10595

914.747.1120

Construction Documents 10 June 2022

THE UNDERSIGNED CERTIFIES THAT TO THE BEST OF HIS KNOWLEDGE, INFORMATION AND BELIEF, THE PLANS AND SPECIFICATIONS ARE IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF THE NEW YORK STATE UNIFORM FIRE PREVENTION AND BUILDING CODE, THE STATE ENERGY CONSERVATION CONSTRUCTION CODE, AND BUILDING STANDARDS OF THE EDUCATION DEPARTMENT, AND THAT THE PLANS AND SPECIFICATIONS REQUIRE THAT NO ASBESTOS CONTAINING MATERIAL SHALL BE USED.

Walter Hauser, AIA

Kaeyer, Garment + Davidson Architects, PC

285 Main Street, Mount Kisco, New York 10549

914.666.5900 kgdarchitects.com

Index to Project Manual/Specifications

For

PARTIAL ROOF REPLACEMENT + REPAIR

Putnam Valley High School
146 Peekskill Hollow Road, Putnam Valley, NY 10579

Putnam Valley Central School District
171 Oscawana Lake Road, Putnam Valley, NY 10579

SED No. 48-05-03-04-0-010-007

<u>Section</u>	<u>Title</u>
----------------	--------------

00 00 01	Index to Specifications
----------	-------------------------

BIDDING AND CONTRACT REQUIREMENTS

00 10 00	Notice to Bidders
00 21 00	Invitation and Instructions, Proposal Form and Contract Requirements
00 46 44	Wage and Hour Rates
00 46 45	Wage Rate Attachment
00 50 00	AIA A104-2017 Contract Agreement
00 61 02	A310 Bid Bond
00 61 03	A312 Payment Bond
00 61 04	A312 Performance Bond
00 63 01	RFI Form
00 70 01	Waiver of Liens
00 70 02	Insurance Rider

DIVISION 01 GENERAL REQUIREMENTS

01 33 02	Submittal Cover Sheet
----------	-----------------------

DIVISION 02 EXISTING CONDITIONS

02 26 00	Hazardous Material Assessment
----------	-------------------------------

DIVISION 03 Not Used

DIVISION 04 MASONRY

04 01 00	Masonry Maintenance
----------	---------------------

DIVISION 05 Not Used

DIVISION 06 WOOD, PLASTICS AND COMPOSITES

06 10 00	Carpentry
----------	-----------

DIVISION 07 THERMAL AND MOISTURE PROTECTION

07 52 16	SBS Modified Bitumen Roofing
07 54 19	PVC Roofing
07 62 00	Sheet Metal Flashings and Specialties
07 72 00	Roof Accessories

07 December 2020
Construction Documents
SED NO: 44-10-00-01-0-010-034

Enlarged City School District of Middletown
Truman Moon Elementary School
Fire Alarm Upgrades

<u>Section</u>	<u>Section Title</u>
----------------	----------------------

****End of Index****

Notice to Bidders

The Putnam Valley Central School District will receive individual sealed bid proposals before **11:00 AM on June 30th, 2022, for:**

Putnam Valley HS Partial Roof Replacement + Repairs

The district will receive the proposals at the Business Office, 171 Oscawana Lake Road, Putnam Valley, NY, 10579, and at that time and place any and all such proposals that have been received in accordance with the terms hereof will be publicly opened and read aloud.

The district invites bidders to bid on the work described in the Bid Documents that falls within the following bid packages:

Bid Package #	Trade
#1	Single Prime Contract

See the Bid Documents for a further description of the scope of work.

Bidders must use the Bid Proposal Forms included with the Bid Documents in order to make their proposals, and each proposal must be made in accordance with those Forms.

Bidders may obtain the Bid Documents **after 3:00 pm on June 13, 2022**, from REVplans, 28 Church Street, Unit 7, Warwick, NY 10990, (877) 272-0216. Complete digital sets of Bidding Documents, drawings and specifications, may be obtained online as a download at the following website: www.usinglesspaper.com under 'public projects.' Complete hard copy sets of Bidding Documents, drawings and specifications, may be obtained from REV upon depositing the sum of **\$50.00** for each combined set of documents. Checks or money orders shall be made payable to "*Putnam Valley Central School District*." The full deposit will be refunded to bidders upon return of the Bid Documents in acceptable condition within one week of notification of award by the District as per NYS General Municipal Law Article 5A, Section 102. Bidders are to submit a written request for plan deposit refund which is to be accompanied by a copy of the canceled check or District issued receipt. Upon receipt of request, the Business Office will generate a refund on the next available check run. Any bidder requiring documents to be shipped shall make arrangements with the printer and pay for all packaging and shipping costs.

Please note Rev (www.usinglesspaper.com) is the designated location and means for distributing and obtaining all bid package information. All bidders are urged to register to ensure receipt of all necessary information, including bid addenda.

There will be a pre-bid site meeting **at 3:00 PM on June 22, 2022**. Bidders shall meet at the main entrance to the school. Bidders are urged to attend the site meeting. Knowledge of the field conditions is crucial to understanding the Work.

Each proposal must be accompanied by a certified check payable to the *Putnam Valley Central School District* or by a Bid Bond for a sum equal to five percent (5%) of the bid, conditioned as set forth in the Instructions to Bidders. All bid security, except those of the three low bidders will be returned within four days after proposals are submitted. The bid security provided by the three low bidders will be returned after the execution of the Trade Contract.

The district will require the successful bidder to provide separate Performance and Labor & Materials Payment Bonds in the amount of the contract price and in the form specified in the Bid Documents.

To the fullest extent allowed by law, the district reserves the right to reject bids that contain

omissions, exceptions or modifications, or in their sole discretion to waive such irregularities, or to reject any or all bids or to accept any bid which is in the best interest of the District.

All laborers, workers and mechanics working on the site of this project must be certified as having successfully completed the OSHA 10-hour construction safety & health course.

All proposals shall be sealed in an opaque envelope distinctly marked on the outside as follows:

Putnam Valley Central School District

Project:

Bid Opening Date:

Name of Bidder:

Bid Package:

"SEALED BID"

The district will not open or consider any proposal unless it is received at that location by no later than the appointed time on the bid opening date, on the bid opening date. Bidders are solely responsible for the arrival of each bid proposal at the place of bid opening by the appointed time, regardless of the means of delivery.

END OF ADVERTISEMENT

PART 1 - INVITATION & INSTRUCTIONS

Project: Partial Roof Replacement + Repair

Project Location: Putnam Valley High School
146 Peekskill Hollow Road
Putnam Valley, NY 10579

Owner: Putnam Valley CSD
171 Oscawana Lake Road
Putnam Valley, NY 10579
Contact: David Spittal, Director of Facilities

Architect: KG+D Architects, PC
285 Main Street
Mount Kisco, NY 10549
Attn: Andrew Allison
914.666.5900

Bid proposals must be submitted on the attached, fully executed forms. They are to be submitted in sealed envelopes bearing on the outside, the name and address of the bidder, the title of the Project as noted above, and the opening date and time. Failure to fully complete the form or follow the instructions may result in disqualification.

Attendance at the pre-bid inspection is highly recommended. Contractors shall meet at the Project Location building main entrance. Reasonable knowledge of the site and conditions is the contractor's responsibility and is understood as agreed to by the contractor by submitting a bid proposal. Questions as a result of such inspection, or of the documents, should be submitted in writing to the office of the Architect as listed above.

The Owner reserves the right to waive or refuse to waive any proposal informalities.

Submitted bids shall remain irrevocable for a period of forty-five (45) days.

All sealed bids must include the following executed documents:

- ☐ Bid Proposal Form
- ☐ Non-Collusive Affidavit
- ☐ Indemnification and Hold Harmless Clause
- ☐ Certification of Compliance with the Iran Divestment Act
- ☐ Bid Security

PART 2 – BID PROPOSAL FORM

Putnam Valley HS Partial Roof Replacement + Repair

Name: _____

Street Address: _____

Municipality / State / Zip Code: _____

Telephone / Email: _____

Contact Person (printed name and title): _____

Proposed Scope of Work:

Partial Roof Replacement, Repair, and all associated work per the Construction Documents

The total amount for the work above is:

_____ and 00/100 DOLLARS (\$_____.00)
(Written in Words) (Written in Numerals)

Authorized Signature: _____
(Print Name/Title) (Sign)

NON-COLLUSIVE AFFADAVIT

By submission of this proposal each proposer and each person signing on behalf of any proposer certifies, and in the case of a joint proposal each party thereto certifies as to its' own organization, under penalty of perjury, that to the best of his knowledge and belief:

1. The prices in this proposal 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 proposer or with any competitor;
2. Unless otherwise required by law, the prices quoted in this proposal have not been knowingly disclosed by the proposer and will not knowingly be disclosed by the proposer prior to the opening, directly or indirectly, to any other proposer or to any competitor; and
3. No attempt has been made or will be made by the proposer to induce any other person, partnership or corporation to submit or not to submit a proposal for the purpose of restricting competition.

I, herby affirm under the penalties of perjury that the foregoing statement is true.

Dated: _____ Signed _____

(Print Name)

(Title)

INDEMNIFICATION AND HOLD HARMLESS CLAUSE

Contractor Agrees to indemnify and save harmless the Owner, and any of their agents, assigns, employees or independent contractors, the Architect and persons in his employ, from any and all liability for damages for injury to the person or property of another and from all suits and actions and all costs and damages to which such parties may be subjected resulting from the Contractor's performance of this contract, whether such performance be by the Contractor, or by any Subcontractor or employee.

I certify that I have been duly authorized to execute this Agreement on behalf of:

(Name of Contractor/Company)

Dated: _____ Signed _____

(Print Name)

(Print Title)

CERTIFICATION OF COMPLIANCE WITH THE IRAN DIVESTMENT ACT

As a result of the Iran Divestment Act of 2012 (the "Act"), Chapter 1 of the 2012 Laws of New York, a new provision has been added to State Finance Law (SFL) § 165-a and New York General Municipal Law § 103-g, both effective April 12, 2012. Under the Act, the Commissioner of the Office of General Services (OGS) will be developing a list of "persons" who are engaged in "investment activities in Iran" (both are defined terms in the law) (the "Prohibited Entities List"). Pursuant to SFL § 165-a(3)(b), the initial list is expected to be issued no later than 120 days after the Act's effective date at which time it will be posted on the OGS website.

By submitting a bid in response to this solicitation or by assuming the responsibility of a Contract awarded hereunder, each Bidder/Contractor, any person signing on behalf of any Bidder/Contractor and any assignee or subcontractor and, in the case of a joint bid, each party thereto, certifies, under penalty of perjury, that once the Prohibited Entities List is posted on the OGS website, that to the best of its knowledge and belief, that each Bidder/Contractor and any subcontractor or assignee is not identified on the Prohibited Entities List created pursuant to SFL § 165-a(3)(b).

Additionally, Bidder/Contractor is advised that once the Prohibited Entities List is posted on the OGS Website, any Bidder/Contractor seeking to renew or extend a Contract or assume the responsibility of a Contract awarded in response to this solicitation must certify at the time the Contract is renewed, extended or assigned that it is not included on the Prohibited Entities List.

During the term of the Contract, should the School District receive information that a Bidder/Contractor is in violation of the above-referenced certification, the School District will offer the person or entity an opportunity to respond. If the person or entity fails to demonstrate that he/she/it has ceased engagement in the investment which is in violation of the Act within 90 days after the determination of such violation, then the School District shall take such action as may be appropriate including, but not limited to, imposing sanctions, seeking compliance, recovering damages or declaring the Bidder/Contractor in default. The School District reserves the right to reject any bid or request for assignment for a Bidder/Contractor that appears on the Prohibited Entities List prior to the award of a contract and to pursue a responsibility review with respect to any Bidder/Contractor that is awarded a contract and subsequently appears on the Prohibited Entities List.

I, _____, being duly sworn, deposes and says that he/she is the _____ of the _____ Corporation and that neither the Bidder/ Contractor nor any proposed subcontractor is identified on the Prohibited Entities List.

SIGNED

SWORN to before me this _____ day of _____ 20__

Notary Public: _____

OR

**DECLARATION OF BIDDER'S INABILITY TO PROVIDE CERTIFICATION OF COMPLIANCE WITH
THE IRAN DIVESTMENT ACT**

Bidders shall complete this form if they cannot certify that the bidder /contractor or any proposed subcontractor is not identified on the Prohibited Entities List. The District reserves the right to undertake any investigation into the information provided herein or to request additional information from the bidder.

Name of the Bidder: _____

Address of Bidder _____

Has bidder been involved in investment activities in Iran? _____

Describe the type of activities including but not limited to the amounts and the nature of the investments (e.g. banking, energy, real estate):

If so, when did the first investment activity occur? _____

Have the investment activities ended? _____

If so, what was the date of the last investment activity? _____

If not, have the investment activities increased or expanded since April 12, 2012?

Has the bidder adopted, publicized, or implemented a formal plan to cease the investment activities in Iran and to refrain from engaging in any new investments in Iran?

If so, provide the date of the adoption of the plan by the bidder and proof of the adopted resolution, if any and a copy of the formal plan. _____

In detail, state the reasons why the bidder cannot provide the Certification of Compliance with the Iran Divestment Act below (additional pages may be attached):

I, _____ being duly sworn, deposes and says that he/she is the
_____ of the _____ Corporation and the
foregoing is true and accurate.

SIGNED

SWORN to before me this _____ day of _____ 20____

Notary Public: _____

PART 3 – CONTRACT REQUIREMENTS & GENERAL CONDITIONS

A. Contract

By submission of a proposal, the Contractor agrees to enter into a contract with the Owner within 30 days of the submission of the bid. The form of Contract and General Conditions is included in this project manual.

B. Insurance Requirements

If awarded the job, the bidder agrees to obtain policies of insurance for the following coverages in the amounts listed, upon which the Owner, "KG+D Architects, P.C." and consultants are named as "additional insured."

The contractor shall provide adequate proof of coverage within seven (7) calendar days of receipt of the notice of award (and to proceed) of the contract by the Board of Education. Failure to provide such proof may void the proposal.

The successful proposer, at its sole cost and expense, shall provide the Owner with insurance coverage as detailed in *Section 007002 Insurance Rider*, whether the operations to be covered thereby are through the successful bidder or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.

1. Insurance Coverage Requirements Summary: See *Section 007002 Insurance Rider*

C. Bid Bond

All bids must be accompanied by a Bid Bond in the amount of 5 percent of the Contract Sum drawn by a recognized surety authorized to conduct business in the State of New York and made payable to the Owner. Bid security will be returned to all except the three lowest bidders, after formal analysis and evaluation of bids. No bid will be withheld beyond the forty-five (45) day period stipulated above. Remaining bid security will be returned to bidders after Owner and successful bidder have executed the Agreement and the Owner has received and approved performance and payment bonds.

D. Performance and Payment Bonds

Separate Performance and Payment Bonds will be required for the work. Each shall be in the amount of 100% of the Contract price.

E. Qualifications

Entities submitting proposals are to be experienced in the work of this project and must provide complete information on three representative projects, which can be viewed by the Owner, including being within 30 miles of the project site.

F. Prevailing Wage

Contractors and subcontractors must submit Certified Payroll and Waiver of Liens with each application for payment.

G. Submittals

Provide complete submittals of all materials and assemblies to be utilized in the project. These are to be approved by the Owner and or Architect prior to ordering materials.

Requirements for the submittal process will be discussed at the initial project meeting, however no asbestos or lead containing materials will be used or brought on the Owner's site.

All project submittals are due within 45 days of notice to proceed (NTP).

H. Equivalency Clause

As per the requirements of the State Education Department and New York State Law approved equivalent products will be reviewed by the Owner and or Architect and if they meet the performance criteria of the specified products, they will be deemed acceptable.

Any materials, articles or equipment of other manufacturers and vendors which performs the same duties imposed by the general design may be considered equally acceptable provided that the material, article or equipment so proposed is of equal quality, substance and function. It is the responsibility of the Contractor to show that the proposed substitution is equal. It is the responsibility of the Contractor to identify any substitutions and to provide a point-by-point comparison and backup, such that a reasonable review can be made. The Contractor shall not provide, or install any such proposed material, article or equipment without prior written approval.

I. Existing Conditions / Field Verification

The Contractor shall familiarize themselves with the existing conditions, verify necessary field conditions to prepare an accurate proposal, perform all required measurements for the fabrication and installation of work, and assume complete responsibility for the accuracy of same.

J. Scope

This project involves partial roof replacement, limited repairs and associated work at Putnam Valley High School.

K. Special Requirements

Special Project Requirements - Contractor at all times will comply with the full requirements of 8 NYCRR Section 155.5 as they address "General Safety and Security Standards for Construction Projects."

The occupied portion of any school building shall always comply with the minimum requirements necessary to maintain a certificate of occupancy.

A complete copy of 155.5 may be obtained at the State Education Department web site, <http://www.emsc.nysed.gov/facplan> or at the office of the architect.

Specifically, contractors must take special note of the requirements for NO SMOKING, separation of construction from students and staff, and worker picture identification being worn at all times. Contractor will check in with the Owner representative at the beginning and end of each work period. Hours of work and noise control must comply with the local municipal requirements. No work under this contract will be done while the school is occupied.

Further explanations of special requirements are listed below:

1. General safety and security standards for construction projects are as follows:
 - a) All construction materials shall be stored in a safe and secure manner.
 - b) Fences around construction supplies or debris shall be maintained.
 - c) Gates shall always be locked unless a worker is in attendance to prevent unauthorized entry.
 - d) Workers shall be required to wear photo-identification badges at all times for identification and security purposes while working at occupied sites."

2. Separation of construction areas from occupied spaces:

Construction areas which are under the control of a contractor and therefore not occupied by district staff or students shall be separated from occupied areas. Provisions shall be made to prevent the passage of dust and contaminants into occupied parts of the building. Periodic inspection and repairs of the containment barriers must be made to prevent exposure to dust or contaminants. Gypsum board must be used in exit ways or other areas that require fire rated separation. Heavy duty plastic sheeting may be used only for a vapor, fine dust or air infiltration barrier, and shall not be used to separate occupied spaces from construction areas.

- a) A specific stairwell and/or elevator should be assigned for construction worker use during work hours. In general, workers may not use corridors, stairs or elevators designated for students or school staff.
- b) Large amounts of debris must be removed by using enclosed chutes or a similar sealed system. There shall be no movement of debris through halls of occupied spaces of the building. No material shall be dropped or thrown outside the walls of the building.
- c) All occupied parts of the building affected by renovation activity shall be cleaned at the close of each workday. School buildings occupied during a construction project shall maintain required health, safety and educational capabilities at all times that classes are in session."
- d) The contractor shall be responsible for the control of chemical fumes, gases, and other contaminants to ensure they do not enter occupied portions of the building or air intakes.
- e) The contractor shall be responsible to ensure that activities and materials which result in "off-gassing" of volatile organic compounds such as glues, paints, furniture, carpeting, wall covering, drapery, etc. are scheduled, cured or ventilated in accordance with manufacturers' recommendations before a space can be occupied.
- f) A plan detailing how exiting required by the applicable building code will be maintained. Existing exits from occupied portions of buildings must be continuously maintained or alternative exits provided.
- g) Existing fire safety systems, such as fire alarms and exit and emergency lights, must be continuously maintained or provisions made to provide equivalent safety. In addition, the fire department must be notified of any non-operating systems.

- h) Provide and follow a plan detailing how adequate ventilation will be maintained during construction.
- i) Develop and maintain a noise abatement program and enforce strict discipline over all personnel to keep noise to a minimum.
 - 1. Equipment and work shall not produce noise in excess of 60db in occupied areas or shall be scheduled for off hours or acoustical abatement procedures shall be taken. Noise level measurements (dba) shall be taken with a type 2 sound level meter in the occupied space in a location closest to the source of the noise.
 - 2. Execute construction work by methods and by use of equipment which will reduce excess noise.
 - 3. Equip air compressors with silencers, and power equipment with mufflers.

General Requirements – Contractor to provide all support and general requirements as needed to complete their own work and to avoid impacting the Owner's operations. The contractor may obtain temporary water and 120volt power from the building, subject to cancellation if abused.

L. Construction Procedures

The Contractor is to review all on-site construction operations including staging areas, worker parking, delivery access, dumpster location, work hours and schedules with the Owner / Architect prior to proceeding. All on-site operations are to fully comply with Section 155.5.

M. Asbestos Abatement

Testing performed by the Owner has indicated Asbestos will not be encountered during this project. However:

Large and small asbestos abatement projects as defined by 12NYCRR56 shall not be performed while the building is occupied. If abatement is required, a copy of the current NYS Department of Labor License (with picture) bearing the designation "I" for Asbestos Project Designer and indicating expiration date must be submitted. The Asbestos Designer must also be a NYS Licensed Architect or Engineer.

It is the interpretation of the New York State Education Department that the term "building", as referenced in this section, means a wing or major section of a building that can be completely isolated from the rest of the building with sealed noncombustible construction. The isolated portion of the building must contain exits that do not pass through the occupied portion and ventilation systems must be physically separated and sealed at the isolation barrier.

N. Lead Abatement / Lead Paint / PCBs

Testing performed by the Owner has indicated lead paint and PCB's will not be encountered during this project. However:

All areas scheduled for construction as well as areas of flaking and peeling paint shall be tested for the presence of lead and abated or encapsulated in accordance with the following guidelines:

Any construction or maintenance operations which will disturb lead-based paint shall be abated pursuant to protocols detailed in the "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing" (June 1995; U.S. Department of Housing and Urban Development, Washington, DC 20410; available at the New York State Education Department Office of Facilities Planning, 89 Washington Avenue, Room 1060 EBA, Albany, NY 12234).

In the event undocumented lead-based paint is discovered during the work, the Contractor shall immediately notify the Architect/Engineer and/or Owner for instructions as to procedures to be taken.

PCBs are regulated by the U.S. Environmental Protection Agency (U.S. EPA) and the State of New York. PCBs may be present in building caulk or in the soil near caulked structures in typical locations such as windows and expansion joints. If it is determined that caulking materials and/or soil contain PCBs, a site-specific abatement plan should be developed to address potential environmental and public health concerns. The HUD Technical Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing available at www.hud.gov/offices/lead/guidelines/hudguidelines/ can be used as a basis for developing the steps for abating the contamination and preventing contamination of nearby areas.

This is the same guideline required by NYSED to manage lead contaminated materials in schools under the RESCUE regulations. Caulking materials that contain either lead, PCBs, or both can therefore be managed under the same guidance. Caulking materials that contain asbestos in addition to either lead or PCBs or samples that contain only asbestos will be managed in accordance with requirements of the NYS Department of Labor Code Rule 56.

O. Milestone Schedule & Work Hours

The Contractor shall develop a construction schedule inclusive of the following tasks and milestones.

Award / notice to proceed (NTP):	No later than 45 days after proposals due
Provision of all Submittals:	No later than 10 days after NTP
Substantial Completion:	August 1, 2023

The project site is an occupied building, and all work shall occur second shift, weekend, and during school closures. No work will be permitted during hours of school operation.

The Contractor must submit an updated schedule with each application for payment.

P. Cleaning

The Contractor is to protect all adjacent areas while installation is underway and is to fully clean all disturbed areas and remove all debris and materials that are not claimed by the Owner. Throughout the construction the site is to be kept neat and orderly.

Q. Close out Procedures

The contractor is to notify the Owner and Architect when the installation is complete including any remaining work or close out items. At that time the Architect will provide a punch list with valuation. The contractor then may requisition their full contract, without retainage, but less 200% of the value of the punch list, which will be the final payment. After receipt of the punch list from the Architect, the contractor is to promptly remedy all items but not later than three weeks after the receipt of the punch list. Once this is complete and close out documents and warranties have been submitted, the contractor will receive final payment. In addition to material warranties, the contractor shall provide a one-year full labor and material warranty from the time of completion of the punch list work.

End of Section

SECTION 00 46 44

WAGE AND HOUR RATES

1.01 GENERAL

- A. The following are instructions for obtaining the minimum wage rates, health and welfare and pension fund contributions as determined by the Industrial Commissioner of the State of New York in accordance with the provisions of Section 220 of the Labor Law.
- B. All contractors will be bound and obligated by the Laws of New York State to insure payment to all workers involved with the construction of the Project.

1.02 MINIMUM WAGE RATES

- A. The current wage and benefit rates are available when following the instructions on the attached page.

The "Request for Wage and Supplement Information" (PW 39) you have submitted has been accepted, and a Prevailing Rate Case Number (PRC# 2022006122 - PVHS Roof Replacement) has been assigned to the project.

To access the PDF file of your schedule, click on <https://apps.labor.ny.gov/wpp/publicViewProject.do?method=showIt&id=1533142> or copy and paste into your browser

Prevailing Wage

[Home](#) > Prevailing Wage

[Wage Schedule](#) · [Submit Notice Of Award](#) · [Submit Notice Of Project Completion](#)

PRC#: 2022006122

Type of Contracting Agency: Local School District

Acceptance Status: Accepted Article 8

Contracting Agency

Putnam Valley CSD
Jill Figarella
District Treasurer
171 Oscawana Lake Road
Putnam Valley NY 10579

(845) 528-8143
jfigarella@pvcasd.org

Send Reply To

Walter Hauser
Principal
KG+D Architects, PC
285 Main Street
Mount Kisco NY 10549

(914) 666 -5900
sannar@kgdarchitects.com

Project Information

Project Title PVHS Roof Replacement
Description of Work Partial roof replacement and repair at high school building.
Contract Id No. 2021-1086
Project Location(s) Putnam Valley High School
Route No / Street Address 146 Peekskill Hollow Road
Village / City
Town Putnam Valley
State / Zip NY 10579
Nature of Project Other Reconstruction, Maintenance, Repair or Alteration
Approximate Bid Date 08/01/2022
Checked Occupation(s) Construction (Building, Heavy & Highway, Sewer, Water, Tunnel)

Applicable Counties

Putnam

Department of Labor

[Accessibility](#)

[Contact](#)

[Language Access](#)

[Privacy Policy](#)





AIA[®] Document A104[™] – 2017

Standard Abbreviated Form of Agreement Between Owner and Contractor

AGREEMENT made as of the day of in the year
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

Putnam Valley Central School District
146 Peekskill Hollow Road
Putnam Valley, NY 10579
Phone: 845.528.8143

and the Contractor:
(Name, legal status, address and other information)

for the following Project:
(Name, location and detailed description)

The Architect:
(Name, legal status, address and other information)

KG+D Architects, PC
285 Main Street
Mount Kisco, NY 10549
Phone: 914.666.5900

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

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

TABLE OF ARTICLES

1	THE WORK OF THIS CONTRACT
2	DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION
3	CONTRACT SUM
4	PAYMENT
5	DISPUTE RESOLUTION
6	ENUMERATION OF CONTRACT DOCUMENTS
7	GENERAL PROVISIONS
8	OWNER
9	CONTRACTOR
10	ARCHITECT
11	SUBCONTRACTORS
12	CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
13	CHANGES IN THE WORK
14	TIME
15	PAYMENTS AND COMPLETION
16	PROTECTION OF PERSONS AND PROPERTY
17	INSURANCE AND BONDS
18	CORRECTION OF WORK
19	MISCELLANEOUS PROVISIONS
20	TERMINATION OF THE CONTRACT
21	CLAIMS AND DISPUTES

EXHIBIT A DETERMINATION OF THE COST OF THE WORK

ARTICLE 1 THE WORK OF THIS CONTRACT

The Contractor shall execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 2 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 2.1 The date of commencement of the Work shall be:

(Check one of the following boxes.)

[X] The date of this Agreement.
(Paragraphs deleted)

Init.

/

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 2.2 The Contract Time shall be measured from the date of commencement.

§ 2.3 Substantial Completion

§ 2.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:

(Check the appropriate box and complete the necessary information.)

☒ By the following date:

Final Completion Date: August 23, 2019

§ 2.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work	Substantial Completion Date
NA	

§ 2.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 2.3, liquidated damages, if any, shall be assessed as set forth in Section 3.5.

ARTICLE 3 CONTRACT SUM

§ 3.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be one of the following:

(Check the appropriate box.)

☒ Stipulated Sum, in accordance with Section 3.2 below

(Paragraphs deleted)

(Based on the selection above, complete Section 3.2, 3.3 or 3.4 below.)

§ 3.2 The Stipulated Sum shall be Dollars and xx/100 Cents (\$.00), subject to additions and deductions as provided in the Contract Documents.

§ 3.2.1 The Stipulated Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)

§ 3.2.2 Unit prices, if any:

(Identify the item and state the unit price and the quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit (\$0.00)
------	-----------------------	-------------------------

§ 3.2.3 Allowances, if any, included in the stipulated sum:

(Identify each allowance.)

Item

Price

§ 3.3 Cost of the Work Plus Contractor's Fee – NOT USED

(Paragraphs deleted)

§ 3.4 Cost of the Work Plus Contractor's Fee With a Guaranteed Maximum Price – NOT USED

§ 3.5 Liquidated damages, if any:

(Insert terms and conditions for liquidated damages, if any.)

ARTICLE 4 PAYMENT

§ 4.1 Progress Payments

§ 4.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 4.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month.

§ 4.1.3 Provided that an Application for Payment is received by the Architect not later than the FIFTEENTH (15th) day of a month, the Owner shall make payment of the certified amount to the Contractor not later than the TENTH (10th) day of the Next month. If an Application for Payment is received by the Architect after the date fixed above, payment shall be made by the Owner not later than THIRTY (30) days after the Architect receives the Application for Payment.

(Federal, state or local laws may require payment within a certain period of time.)

§ 4.1.4 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold retainage from the payment otherwise due as follows:

(Insert a percentage or amount to be withheld as retainage from each Application for Payment and any terms for reduction of retainage during the course of the Work. The amount of retainage may be limited by governing law.)

Five percent (5%), no reduction

§ 4.1.5 Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

(Paragraphs deleted)

§ 4.2 Final Payment

§ 4.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Section 18.2, and to satisfy other requirements, if any, which extend beyond final payment;
- .2 the Contractor has submitted a final accounting for the Cost of the Work, where payment is on the basis of the Cost of the Work with or without a Guaranteed Maximum Price; and
- .3 a final Certificate for Payment has been issued by the Architect in accordance with Section 15.7.1.

§ 4.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment.

ARTICLE 5 DISPUTE RESOLUTION

§ 5.1 Binding Dispute Resolution

For any claim subject to, but not resolved by, mediation pursuant to Section 21.5, the method of binding dispute resolution shall be as follows:

(Check the appropriate box.)

Init.

[X] Litigation in a court of competent jurisdiction
(Paragraphs deleted)
in the domicile of the Owner

If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, claims will be resolved in a court of competent jurisdiction.

ARTICLE 6 ENUMERATION OF CONTRACT DOCUMENTS

§ 6.1 The Contract Documents are defined in Article 7 and, except for Modifications issued after execution of this Agreement, are enumerated in the sections below.

§ 6.1.1 The Agreement is this executed AIA Document A104™–2017, Standard Abbreviated Form of Agreement Between Owner and Contractor.

§ 6.1.2 - NOT USED

(Paragraph deleted)

§ 6.1.3 The Supplementary and other Conditions of the Contract: NA

(Table deleted)

§ 6.1.4 The Specifications:

(Either list the Specifications here or refer to an exhibit attached to this Agreement.)

Bid Issue Specifications dated TBD – Cover and Index attached

(Table deleted)

§ 6.1.5 The Drawings:

(Either list the Drawings here or refer to an exhibit attached to this Agreement.)

Bid Issue Drawings dated TBD– Title Sheet attached

(Table deleted)

§ 6.1.6 The Addenda, if any:

Number

Date

Pages

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are enumerated in this Article 6.

§ 6.1.7 Additional documents, if any, forming part of the Contract Documents:

(Paragraphs deleted)

Putnam Valley Central School District Contractor Insurance Agreement

ARTICLE 7 GENERAL PROVISIONS

§ 7.1 The Contract Documents

The Contract Documents are enumerated in Article 6 and consist of this Agreement (including, if applicable, Supplementary and other Conditions of the Contract), Drawings, Specifications, Addenda issued prior to the execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

No obligation of the Architect to the Owner, whether expressed by agreement or implied by law, shall be construed as intended for the benefit of the Contractor. Nothing in the Contract Documents nor in any aspect of the Architect's relationship with the Owner shall create or give rise to any duty whatsoever on the part of the Architect to the Contractor. The term "Contractor" in this paragraph shall include the Contractor, its officers, employees, agents, contractees and Subcontractors of any tier; coordinate with Article 9.15 of this Document.

§ 7.1.1 In the event of any conflict among the Contract Documents, the Contractor shall notify the Owner and the Architect of same and follow and comply with their interpretation of same. In the event that the Owner and Architect fail to respond to the Contractor's notification within a reasonable period of time, then the Documents shall be construed according to the following priorities:

Highest Priority:	Modifications issued after execution of the Agreement
Second Priority:	Agreement between Owner and Contractor
Third Priority:	Addenda issued prior to the execution of the Agreement later date to take precedence
Fourth Priority:	Special Project Requirements (if any)
Fifth Priority:	Additional Conditions
Sixth Priority:	Supplementary General Conditions
Seventh Priority:	General Conditions
Eighth Priority:	The Technical Specifications including Division #1
Ninth Priority:	The Conformed Construction Drawings

The terms and conditions of this Paragraph 7.1.1, however, shall not relieve the Contractor of any other obligations set forth in this Contract and Conditions Document

Among drawings, large scale details shall control over small scale details and figured dimensions shall control over Drawings not dimensioned.

Before ordering any materials or doing any Work, each Contractor and Subcontractor shall verify measurements at the Project site and shall be responsible for the correctness of such measurements. No extra charges or compensation will be allowed on account of differences between actual dimensions and the dimensions indicated on the Drawings. Any difference which may be found shall be submitted to the Architect for resolution before proceeding with the Work.

If a minor change in the Work is found necessary due to actual field conditions, the affected Subcontractor drawings of such departure to the Contractor for the approval of the Architect before making the change.

§ 7.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind between any persons or entities other than the Owner and the Contractor.

§ 7.3 The Work

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

§ 7.4 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 7.5 Ownership and use of Drawings, Specifications and Other Instruments of Service

§ 7.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors,

Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 7.5.2 The Contractor, Subcontractors, Sub-subcontractors and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to the protocols established pursuant to Sections 7.6 and 7.7, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants.

§ 7.6 Digital Data Use and Transmission

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. The parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

§ 7.7 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

§ 7.8 Severability

The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 7.9 Notice

§ 7.9.1 Except as otherwise provided in Section 7.9.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission in accordance with AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:

(If other than in accordance with AIA Document E203–2013, insert requirements for delivering Notice in electronic format such as name, title and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)

§ 7.9.2 Notice of Claims shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 7.10 Relationship of the Parties

Where the Contract is based on the Cost of the Work plus the Contractor's Fee, with or without a Guaranteed Maximum Price, the Contractor accepts the relationship of trust and confidence established by this Agreement and covenants with the Owner to cooperate with the Architect and exercise the Contractor's skill and judgment in furthering the interests of the Owner; to furnish efficient business administration and supervision; to furnish at all times an adequate supply of workers and materials; and to perform the Work in an expeditious and economical manner consistent with the Owner's interests. The Owner agrees to furnish and approve, in a timely manner, information required by the Contractor and to make payments to the Contractor in accordance with the requirements of the Contract Documents.

§ 7.11 ADDITIONAL DEFINITIONS

§7.11.1 THE PROJECT - The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner or by separate contractors and as may be defined in Section 01010/01 10 00.

§7.11.2 THE PROJECT MANUAL - The Project Manual is a volume assembled for the Work which may include the bidding requirements, sample forms, Conditions of the Contract and Specifications.

§7.11.3 ADDENDUM: A change to the Contract Documents issued by Architect with Owner's approval prior to the execution of the Agreement and specifically listed in the Agreement.

§7.11.4 ALTERNATE: A variation in Contract requirements on which a separate price is to be received by the Owner as a part of the bid. If the Alternate is accepted in writing by the Owner, the variation is then a part of the Contract and the amount of money quoted to be added or deducted from the Base Bid is taken into account in determining the Contract Sum.

§7.11.5 PROVIDE: The Term "provide" shall mean furnish and install complete and ready for safe and regular use and/or operation of the item, material or service indicated.

§7.11.6 INDICATED AND SHOWN: Shall mean as detailed, scheduled, or called for in the Contract Documents.

§7.11.7 BULLETINS: Bulletins are written or graphic instruments issued by the Architect after the execution of the Contract which modify or interpret the bidding documents, including the Drawings and Specifications, by additions, deletions, clarifications or corrections.

§7.11.8 The terms "KNOWLEDGE," "RECOGNIZE" and "DISCOVER", their respective derivatives and similar terms in the Contract Documents, as used in reference to the Contractor, shall be interpreted to mean that which the Contractor knows (or should know), recognizes (or should recognize) and discovers (or should discover) in exercising the care, skill, and diligence required by the Contract Documents. Analogously, the expression "reasonably inferable" and similar terms in the Contract Documents shall be interpreted to mean reasonably inferable by a contractor familiar with the Project and exercising the care, skill and diligence required of the Contractor by the Contract Documents.

§ 7.11.9 The phrase "PERSISTENTLY FAILS" and other similar expressions, as used in reference to the Contractor, shall be interpreted to mean any combination of acts and omissions, which causes the Owner or Architect to reasonably conclude that the Contractor will not complete the Work within the Contract Time, for the Contract Sum or in substantial compliance with the requirements of the Contract Documents.

§ 7.11.10 - Wherever required by the context, any gender shall include the other gender, the singular shall include the plural, and the plural shall include the singular. Each defined term herein may be used in its singular or plural form whether or not so defined.

§ 7.12 CONFIDENTIALITY/PUBLIC COMMUNICATIONS AND USE AND DISCLOSURE OF PROJECT INFORMATION

Any public communications or disclosure of materials or information with respect to the Project by the Contractor and their employees and Subcontractors related to this engagement, except as required by law, shall be subject to the Owner's prior written approval, including, without limitation, any promotional, marketing, media or other material or information related to the Owner or the Project. The Contractor and its employees and Subcontractors hereby agrees to indemnify and hold the Owner harmless from and against any cost, damage, liability, loss or claim arising from violation of the foregoing. The Contractor shall specifically cause all Subcontractors or any other persons for entities performing any services, or furnishing any materials or equipment, for the Work to warrant and represent all items set forth in this Paragraph. The representation and warranty contained in this Paragraph shall survive the complete performance of the Work or earlier termination of this Agreement.

§ 7.13 Nothing in the Contract Documents shall relieve any Contractor from compliance with any statutory requirement, including those contained in New York State Education Law §3813.

ARTICLE 8 OWNER

§ 8.1 Information and Services Required of the Owner

§ 8.1.1 Prior to commencement of the Work, at the written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 8.1.1, the Contract Time shall be extended appropriately.

§ 8.1.2 The Owner shall furnish all necessary surveys and a legal description of the site.

§ 8.1.3 The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 8.1.4 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 9.6.1, the Owner shall secure and pay for other necessary approvals, easements, assessments, and charges required for the construction, use, or occupancy of permanent structures or for permanent changes in existing facilities.

§ 8.2 Owner's Right to Stop the Work

If the Contractor fails to correct Work which is not in accordance with the requirements of the Contract Documents, or repeatedly fails to carry out the Work in accordance with the Contract Documents, or fails or refuses to provide a sufficient amount of properly supervised and coordinated labor, materials, or equipment so as to permit the Owner to reasonably infer that the Contractor will not be able to complete the Work within the Contract Time or fails to remove, bond or discharge (within thirty (30) days after actual notice or notice pursuant hereto from the Owner or the Architect) any lien filed upon Owner's property by anyone claiming by, through, or under Contractor, or disregards the instructions of Architect or Owner when based upon the requirements of the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order is eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.

§ 8.3 Owner's Right to Carry Out the Work

If the Contractor defaults or otherwise neglects to carry out the Work in accordance with the Contract Documents and fails within a three (3) day period after the effective date of notice from the Owner to commence to correct and thereafter diligently continue to correct such defaults or to otherwise properly carry out such Work, the Owner may give a second notice and, in the event that within three (3) days following the effective date of such second notice the Contractor continues to fail to commence to correct and thereafter diligently continue to correct such defaults or to otherwise properly carry out such Work, the Owner, without prejudice to other remedies the Owner may have, may correct such defaults and carry out such Work.

In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the cost of correcting such deficiencies, including compensation of the Architect, and such Consultants whose participation is deemed necessary by the Owner or Architect, for additional services and expenses made necessary by such default, neglect or failure.

If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

8.4 OWNER'S RIGHT TO AUDIT

The Contractor shall keep full and accurate records of all costs incurred and items billed in connection with the performance of the Work, which records shall be open to audit by the Owner or its authorized representatives during performance of the Work and until three (3) years after Final Payment. In addition, the Contractor shall make it a condition of all subcontracts relating to the Work that any and all Subcontractors will keep accurate records of costs incurred and items billed in connection with their work and that such records shall be open to audit by the Owner or its authorized representatives during performance of the Work and until three (3) years after its completion.

§ 8.5 EXTENT OF OWNERS RIGHTS AND RESPONSIBILITIES

The rights stated in this Article 8 and elsewhere in the Contract Documents are cumulative and not in limitation of any rights of the Owner (1) granted in the Contract Documents, (2) at law or (3) in equity. In no event shall the Owner have control over, charge of, or any responsibility for construction means, methods, techniques, sequences or procedures or for safety precautions and programs in connection with the Work, notwithstanding any of the rights and authority granted the Owner in the Contract Documents

ARTICLE 9 CONTRACTOR

§ 9.1 Review of Contract Documents and Field Conditions by Contractor

§ 9.1.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

The Contractor and each Subcontractor shall evaluate and satisfy themselves as to the conditions and limitations under which the Work is to be performed, including, without limitation (1) the location, condition, layout and nature of the Project site and surrounding areas; (2) generally prevailing climatic conditions, (3) anticipated labor supply and costs, (4) availability and cost of materials, tools and equipment and (5) other similar issues. The Owner assumes no responsibility or liability for the physical condition or safety of the Project site or any other improvements located on the Project site. Except as set forth in Article 16, the Contractor shall be solely responsible for providing a safe place for the performance of the Work. The Owner shall not be required to make any adjustment in either the Contract Sum or Contract Time in connection with any failure by the Contractor or any Subcontractor to comply with the requirements of this paragraph 9.1.1.

§ 9.1.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 8.1.2, shall take field measurements of any existing conditions related to that portion of the Work and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies, or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional unless otherwise specifically provided in the Contract Documents.

§ 9.1.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 9.2 Supervision and Construction Procedures

§ 9.2.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters.

The Contractor shall employ a competent full-time project superintendent and such necessary assistants who shall be in attendance at the Project site, during the progress of the Work to provide for the expeditious completion of the Work;

The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor. Important communications shall be confirmed in writing. Other communications shall be similarly confirmed on written request in each case.

Further, the superintendent shall not be changed except with the consent of the Owner or Architect, which consent shall not be unreasonably denied or delayed, unless the superintendent, or such assistant or assistants, proves to be

unsatisfactory to the individual Contractor and ceases to be in his employ; however the superintendent shall be changed upon request of the Owner, for good cause shown.

Where the Contract Documents refer to particular construction means, methods, techniques, sequences or procedures or indicate or imply that such are to be used in the Work, such reference is intended only to indicate that the operations of the Contractor shall be such as to produce at least the quality of work implied by the operations described, but the actual determination of whether or not the described operations may be safely and suitably employed on the Work shall be the sole responsibility of the Contractor.

§ 9.2.1.1 The Contractor shall, prior to start of any portion of the Work:

- .1 review any specified construction or installation procedures, including those as may be recommended by the proposed manufacturer(s);
- .2 advise the Architect, in writing if the specified procedure or procedures deviate from good construction practice;
- .3 advise the Architect, in writing if following said procedure or procedures will affect any warranty, including Contractor's general warranty;
- .4 advise the Architect, in writing of any objections the Contractor may have to the specified procedure or procedures;
- .5 propose to the Architect, in writing any alternative procedure or procedures which the Contractor will warrant.

§ 9.2.1.2 - Further, all loss, damage, or liability, or cost of correcting defective work unless, in compliance with Paragraph 9.2.1, Contractor gives timely written notice to the Owner and Architect that such means, methods, techniques, sequences or procedures may not be safe, arising from the employment of any construction means, methods, techniques, sequences or procedures shall be borne by the Contractor, notwithstanding that such construction means, methods, techniques, sequences or procedures are referred to, indicated or implied by the Contract Documents.

§ 9.2.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for or on behalf of the Contractor or any of its Subcontractors.

It is understood and agreed that the relationship of Contractor to Owner shall be that of an independent contractor. Nothing contained herein or inferable here from shall be deemed or construed to (1) make Contractor the agent, servant, or employee of the Owner, or (2) create any partnership, joint venture, or other association between Owner and Contractor. Any direction or instruction by Owner in respect of the Work shall relate to the results the Owner desires to obtain from the Work and shall in no way affect Contractor's independent contractor status as described herein.

§ 9.3 Labor and Materials

§ 9.3.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 9.3.2 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them. Should any disorderly, incompetent or objectionable person be hired or employed by the Contractor, upon or about the premises of the Owner, for any purpose or in any capacity, he/she shall, upon request of the Architect or Owner, be removed from the Project and not again assigned thereto without written permission of the Architect or Owner.

§ 9.3.3 The Contractor may make a substitution only with the consent of the Owner, after evaluation by the Architect and in accordance with a Modification and/or Change Order. Substitution requests shall be made in accordance with the requirements in the Contract Documents.

§ 9.4 Warranty

The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new and of recent manufacture unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation or normal wear and tear under normal usage. All other warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 15.6.3.

§ 9.5 Taxes

The Contractor shall pay sales, consumer, use, and other similar taxes that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

The Owner, as identified on Page 1 of AIA 107, is a nonprofit, educational facility and is therefore "tax-exempt" in accordance with the applicable laws of the State of New York and with Chapter 32 of the Internal Revenue Code, as most recently amended, for collection of all sales and excise taxes. Exemption Certificates will be furnished, upon request, to the Contractor by the Owner, only for materials and supplies to be incorporated into Work under the terms of the Contract. There is no exemption from the sales or use tax on charges to the Contractor or subcontractor for lease of tools, machinery, equipment or other property used in conjunction with the Project. The Contractors and subcontractors shall be solely responsible for and pay any and all applicable taxes, including sales and compensating use taxes, on such leased tools, machinery, equipment or other property, and for materials not incorporated in the Project, and the amount of such taxes, if any, shall be deemed included in the executed Base Bid.

§ 9.6 Permits, Fees, Notices, and Compliance with Laws

§ 9.6.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

The Contractor, in securing other permits for construction or any other aspect of the Work associated with this project which requires a permit, notwithstanding language in the Agreement, shall at its own cost and expense, make the necessary arrangements to complete, file and have sealed by a Professional Engineer licensed in the jurisdiction, any and all preliminary affidavits of certification that may be required by the governing agency or agencies having jurisdiction for issuing permits for construction for this project which are legally required when bids are received or negotiations are concluded, but in any case, prior to starting construction.

Further, the Contractor shall, if required by ordinances, laws, codes, and rules and regulations of the governing agencies having jurisdiction over this project, retain a licensed Professional Engineer to supervise the construction of this project including, but not limited to - foundations, structural work, soils, welding, reinforced masonry, fireproofing, firestopping and the like, however this will not relieve the Design Professional Team from performing their contractual responsibilities.

§ 9.6.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work. If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 9.7 Allowances

The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. The Owner shall select materials and equipment under allowances with reasonable promptness. Allowance amounts shall include the costs to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts. Contractor's costs for unloading and handling at the site, labor, installation, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowance.

§ 9.8 Contractor's Construction Schedules

§ 9.8.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 9.8.2 The Contractor shall perform the Work in general accordance with the most recent schedule submitted to the Owner and Architect.

§ 9.9 Submittals

§ 9.9.1 The Contractor shall review for compliance with the Contract Documents and submit to the Architect Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents in coordination with the Contractor's construction schedule and in such sequence as to allow the Architect reasonable time for review. By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them; (2) determined and verified materials, field measurements, and field construction criteria related thereto, or will do so; and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents. The Work shall be in accordance with approved submittals.

NO Contractor shall submit any shop drawings that are merely tracings or other copies of any of the Contract Documents other than those produced as backgrounds using electronic (CAD) copies of work.

In the event that "cad" backgrounds are used, they shall be for identification purposes only and a separate drawing indicating actual information, techniques and the like shall be prepared.

Each shop drawing must be prepared by the Contractor, Subcontractor, Specialty Contractor, vendor or material person of the Contractor.

The Architect shall have the authority to reject any shop drawing violating any of the above provisions, and no extension of the Contract Time shall be given on account of such rejection.

§ 9.9.2 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents.

§ 9.9.3 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents or unless the Contractor needs to provide such services in order to carry out the Contractor's own responsibilities. If professional design services or certifications by a design professional are specifically required, the Owner and the Architect will specify the performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional. If no criteria are specified, the design shall comply with applicable codes and ordinances. Each Party shall be entitled to rely upon the information provided by the other Party. The Architect will review and approve or take other appropriate action on submittals for the limited purpose of checking for conformance with information provided and the design concept expressed in the Contract Documents. The Architect's review of Shop Drawings, Product Data, Samples, and similar submittals shall be for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. In performing such review, the Architect will approve, or take other appropriate action upon, the Contractor's Shop Drawings, Product Data, Samples, and similar submittals.

§ 9.10 Use of Site

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

The right of possession of the premises and the improvements made thereon by the Contractor shall remain at all times in The Owner. The Contractor's right to entry and use thereof arises solely from the permission granted by the Owner under the Contract Documents.

All Contractors shall confine their use of the premises, for all purposes, to the areas occupied by the construction and related storage areas as and if shown.

The Contractor shall provide all required temporary access walkways, both interior and exterior, temporary partitioning and the like necessary to complete the operations. Coordinate requirements and operations with Section 00 21 00 of the General Requirements. The Contractor shall maintain unobstructed entrance to and/or exit from the present building complex. All Contractor's work areas shall be kept clean each day of refuse including containers, cups and the like. THE ENTIRE FACILITY WILL REMAIN IN OPERATION DURING THE COURSE OF THE ENTIRE CONSTRUCTION OPERATIONS.

All contractors performing work on this contract shall schedule their work so as not to interfere with any traffic to and from the required areas of use. Contractor shall be responsible for maintaining all traffic and shall provide all required barriers and protection as required to safeguard the work and the public and the occupants of the building during Construction.

Contractors, their workmen, suppliers, etc., will be held to adhere strictly to the requirements hereinbefore stated and shall not occupy or carry on traffic through other parts of the site or interior of present buildings, except by specific permission from the Owner.

The Contractor shall repair or replace any existing trees, shrubbery or other planting damaged by operations and/or workmen employed in performance of their contract.

During the whole course of the Work, the Contractor shall conduct his work and operations as to interfere with traffic near the work as little as possible and effect by every reasonable means the safety and comfort of pedestrians, vehicles and vehicle passengers near the Work.

Employees, vehicles, equipment and material of all Contractors and of all others utilized by the Contractors' for the performance of their work shall enter onto the construction site only at those locations designated or approved by the Owner.

The Contractor shall properly maintain all access to work and storage areas so that there will be continuous unimpeded access to the work site in all seasons of the year, on all regular working days and during all regular working hours of any and all trades employed by any Contractor during work at the site.

Only such vehicles, trucks and equipment shall be parked or stored within the work area as are absolutely necessary for performing the work, for the length of time that a particular phase of work is performed. ALL OTHER CONTRACTOR' VEHICLES AND/OR EMPLOYEES' AND/OR WORKPERSON'S VEHICLES, INCLUDING PASSENGER CARS, SHALL BE PARKED OFF THE SITE.

Security - It will be the responsibility of the General Contractor to provide necessary and required security measures to adequately safeguard the construction site from vandalism and intrusion of unauthorized persons. The Contractor shall submit means and methods of security to the Owner, thru the Architect, for approval. The project site must be secured 24 hours a day, seven (7) days a week, including all holidays.

All workpersons and employees of any Contractor are prohibited from: Trespassing or leaving any vehicle on any property not assigned by the Owner as set aside for the use of the Contractor; leaving any vehicle on the grounds unless it is locked, and the ignition keys are removed.

All employees or persons entering upon the property surrounding the facilities affected by the construction are restricted to the immediate area of work. Only persons having official business will be admitted to the construction site.

§ 9.11 Cutting and Patching

The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly.

§ 9.12 Cleaning Up

The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus material from and about the Project.

If cleanup is not performed in accordance herewith, the Owner will engage the services of a cleaning company each time the requirement is not met without further notification to the Contractor. The cost of such cleaning company, together with the cost of any custodial cost of the School District, will be divided among each Contractor who has failed to clean its debris.

The Contractor shall be responsible for broken glass, and at the completion of the Work shall replace such damaged or broken glass. After damaged or broken glass has been replaced, the Contractor shall remove all labels, wash and polish both sides of all glass. In addition to general broom cleaning, the Contractor shall perform the following final cleaning for all trades at completion of the Work.

- .1 Remove temporary protections;
- .2 Remove marks, stains, fingerprints and other soil or dirt from painted, decorated and natural finished woodwork and other Work;
- .3 Remove spots, soil and paint from ceramic tile, quarry tile, marble and other finished materials, and wash or wipe clean;
- .4 Clean fixtures, cabinet work and equipment, removing stains, paint, dirt and dust, and leave same in undamaged, new condition;
- .5 Clean aluminum in accordance with recommendations of the manufacturer; and
- .6 Clean all floors thoroughly in accordance with recommendations of the Manufacturer.

§ 9.13 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

§ 9.14 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

§ 9.15 Indemnification

§ 9.15.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work. Such obligation shall be effective regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Notwithstanding any provision to the contrary in this section or anywhere else within this Agreement or otherwise in the Contract Documents, all of the indemnification and hold harmless agreements herein and therein are subject and subordinate to the limitations of the laws of the State of New York and in no event shall Contractor nor any other party be required to indemnify any person in violation of the provisions of the New York State General Obligations Law, sections 5-322.1 or 5-324, or of any other applicable law.

§ 9.15.2 In claims against any person or entity indemnified under this Section 9.15 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 9.15.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

§ 9.15.3 The Contractor's indemnity obligations under this Paragraph 9.15 shall, but not by way of limitation, specifically include all claims and judgments which may be made against the Owner, the Architect, their consultants,

and agents and employees of any of them under the New York State Labor Law, similar laws of other governmental bodies having jurisdiction, and further, against claims and judgments arising from violation of public ordinances and requirements of governing authorities due to the Contractor's or its Subcontractor's method of execution of the Work. Further, whenever any party to the Agreement is required, in words or substance, to indemnify or hold harmless another party, whether or not the following is expressly included in whole or in part in the paragraph with regard to such particular indemnification and hold harmless provision, such indemnification and hold harmless provision shall include, but not be limited to, the payment or reimbursement of all judgments, claims, damages, losses, fees, costs, and expenses, and litigation costs and expenses, including, but not limited to, the reasonable fees of its attorneys and witnesses.

ARTICLE 10 ARCHITECT

§ 10.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction, until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents, unless otherwise modified in writing in accordance with other provisions of the Contract.

§ 10.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

§ 10.3 The Architect will visit the site at intervals appropriate to the stage of the construction to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general, if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 10.4 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 10.5 Based on the Architect's evaluations of the Work and of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 10.6 The Architect has authority to reject Work that does not conform to the Contract Documents and to require inspection or testing of the Work.

§ 10.7 The Architect will review and approve or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 10.8 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect will make initial decisions on all claims, disputes, and other matters in question between the Owner and Contractor but will not be liable for results of any interpretations or decisions rendered in good faith.

§ 10.9 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

ARTICLE 11 SUBCONTRACTORS

§ 11.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site or to otherwise furnish labor, material or other services with respect to a portion of the Work, and includes, but is not limited to, Specialists, Specialty Contractor, and Trade Subcontractors. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site or to otherwise furnish labor, material or other services with respect to a portion of the Work. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

The term 'Specialist' or 'Specialty Contractor' as used in these specifications shall mean an individual or firm of established reputation, or, if newly organized, whose personnel have previously established a reputation in the same field, which is regularly engaged in, and which maintains a regular force of workmen skilled in either manufacturing or fabricating items required by the Contract, installing items required by the Contract, or otherwise performing work required by the Contract.

Where the Contract Specifications require installation by a 'Specialist', that term shall also be deemed to mean either the manufacturer of the item, an individual or firm licensed by the manufacturer, or an individual or firm who will perform such work under the manufacturer's direct supervision. **§ 11.2** Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the Subcontractors or suppliers proposed for each of the principal portions of the Work. The Contractor shall not contract with any Subcontractor or supplier to whom the Owner or Architect has made reasonable written objection within ten days after receipt of the Contractor's list of Subcontractors and suppliers. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

(Paragraph deleted)

§ 11.3 Contracts between the Contractor and Subcontractors shall (1) require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by the terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by the Contract Documents, assumes toward the Owner and Architect, and (2) allow the Subcontractor the benefit of all rights, remedies and redress against the Contractor that the Contractor, by these Contract Documents, has against the Owner.

ARTICLE 12 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 12.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules when directed to do so. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

§ 12.2 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities and shall connect and coordinate the Contractor's activities with theirs as required by the Contract Documents.

§ 12.3 The Owner shall be reimbursed by the Contractor for costs incurred by the Owner which are payable to a Separate Contractor because of delays, improperly timed activities, or defective construction of the Contractor. The Owner shall be responsible to the Contractor for costs incurred by the Contractor because of delays, improperly timed activities, damage to the Work, or defective construction of a Separate Contractor.

ARTICLE 13 CHANGES IN THE WORK

§ 13.1 By appropriate Modification, changes in the Work may be accomplished after execution of the Contract. The Owner, without invalidating the Contract, may order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, with the Contract Sum and Contract Time being adjusted accordingly. Such changes in the Work shall be authorized by written Change Order signed by the Owner, Contractor, and Architect, or by written Construction Change Directive signed by the Owner and Architect. Upon issuance of the Change Order or Construction Change Directive, the Contractor shall proceed promptly with such changes in the Work, unless otherwise provided in the Change Order or Construction Change Directive.

§ 13.2 Adjustments in the Contract Sum and Contract Time resulting from a change in the Work shall be determined by mutual agreement of the parties or, in the case of a Construction Change Directive signed only by the Owner and Architect, by the Contractor's cost of labor, material, equipment, and reasonable overhead and profit, unless the parties agree on another method for determining the cost or credit. Pending final determination of the total cost of a Construction Change Directive, the Contractor may request payment for Work completed pursuant to the Construction Change Directive. The Architect will make an interim determination of the amount of payment due for purposes of certifying the Contractor's monthly Application for Payment. When the Owner and Contractor agree on adjustments to the Contract Sum and Contract Time arising from a Construction Change Directive, the Architect will prepare a Change Order.

§ 13.2.1 The value of a Change in the Work, shall be determined by one or more of the following:

- .1 Unit Prices or alternates previously agreed to by Contractor and Owner;
- .2 If no such Unit Price or Alternates are previously agreed to, then value of the Change shall be determined by adding or deducting a fixed sum amount agreed on between the Owner and the Contractor; or
- .3 By adding:
 - a. the actual cost to Contractor of labor for base wages only, including required union benefits as set forth in the applicable collective bargaining agreement, plus premiums required to be paid by Contractor for liability and workers' compensation insurance for such labor, plus state taxes for unemployment insurance and federal social security taxes, plus an allowance of 10% for Contractor's profit, supervision, administrative and all other overhead, indirect costs, and additional performance, labor, and material bond costs related to the labor portion of the Change; plus
 - b. The actual cost to Contractor of materials incorporated or to be incorporated into the Project, including transportation to the site, plus maintenance, operation and rental, or reasonable rental value, of Contractor owned equipment, other than small tools, plus an allowance of five percent (5%) for Contractor's profit, supervision, administrative and all other overhead, indirect costs, and additional performance, labor, and material bond costs related to the materials portion of the Change.
- .4 Should Contractor be required or permitted to subcontract all or a portion of the Change to be performed on the basis of the cost of labor and materials, payments to a Subcontractor of any tier that actually performs the Change shall be governed by the provision in subparagraph c above with the exception of the allowance stipulated therein. In the event of subcontracting the Change, the Contractor will be entitled to an allowance of ten percent (10%) for labor and five percent (5%) for material instead of the allowance set forth in subparagraph c above and it shall be the responsibility of the Contractor and its Subcontractor(s) of all tiers to allocate the allowances set forth in this subparagraph d between and amongst themselves.
- .5 In order to facilitate checking of quotations for extras or credits, all proposals, shall be accompanied by a complete itemization of costs including labor, materials and sub-contracts. Labor and materials shall be itemized in the manner prescribed below and in the format described in the Specifications. Where major cost

Init.

items are subcontracts, they shall be itemized also. All proposals without such itemization will be returned to the Contractor for resubmission, and Owner may issue a Construction Change Directive in lieu thereof.

1. Materials (Itemized Breakdown) _____
2. Rental of Equipment (Itemized Breakdown) _____
3. Subtotal (Add lines 1-2) _____
4. Overhead and Profit (10% x line 3) _____
5. Subtotal (Add lines 3-4) _____
6. Labor (Itemized Breakdown) _____
7. Insurance on Labor (Workmen's Comp., etc.) _____
8. Subtotal (Add lines 6 and 7) _____
9. Overhead and Profit (15% x line 8) _____
10. Subtotal (Add lines 8 and 9) _____
11. Subcontract Work (Include Itemized Breakdown, Subcontractor's overhead and profit allowed is 10%) _____
12. Prime Contractor Overhead and Profit (5% x line 11) _____
13. Subtotal (Add lines 7 & 8) _____
14. Subtotal (Add lines 5, 10, and 13) _____
15. Bond charges (2% x line 14) _____
16. TOTAL CHANGE ORDER
(Add lines 14 and 15) _____

.6 For additional bond charges for the total Change Order, two (2%) percent of the Cost. This shall apply for Deduct Change Orders as well.

.7 When performing any Work on the basis of the cost of labor and materials, and Contractor or its Subcontractors are permitted or required to perform any overtime work, the cost of labor shall include additional wages over and above straight time rates, as well as wages at straight time rates. However, the allowance set forth in subparagraph 13.2.1 subsubparagraphs .3 or .4, if applicable, shall not be computed nor paid with respect to such additional wages. Superintendent or non-working foreman fees are not allowed.

§ 13.3 The Architect will have authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes

Init.

shall be effected by written order and shall be binding on the Owner and Contractor. The Contractor shall carry out such written orders promptly. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work.

§ 13.4 If concealed or unknown physical conditions are encountered at the site that differ materially from those indicated in the Contract Documents or from those conditions ordinarily found to exist, the Contract Sum and Contract Time shall be equitably adjusted as mutually agreed between the Owner and Contractor; provided that the Contractor provides notice to the Owner and Architect promptly and before conditions are disturbed.

ARTICLE 14 TIME

§ 14.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing this Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 14.2 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 14.3 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 14.4 The date of Substantial Completion is the date certified by the Architect in accordance with Section 15.6.3.

§ 14.5 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) changes ordered in the Work; (2) by labor disputes, fire, unusual delay in deliveries, abnormal adverse weather conditions not reasonably anticipatable, unavoidable casualties, or any causes beyond the Contractor's control; or (3) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine, subject to the provisions of Article 21.

ARTICLE 15 PAYMENTS AND COMPLETION

§ 15.1 Schedule of Values

§ 15.1.1 Where the Contract is based on a Stipulated Sum or the Cost of the Work with a Guaranteed Maximum Price pursuant to Section 3.2 or 3.4, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Stipulated Sum or Guaranteed Maximum Price to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy required by the Architect. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 15.1.2 The allocation of the Stipulated Sum or Guaranteed Maximum Price under this Section 15.1 shall not constitute a separate stipulated sum or guaranteed maximum price for each individual line item in the schedule of values.

§ 15.2 Control Estimate

§ 15.2.1 Where the Contract Sum is the Cost of the Work, plus the Contractor's Fee without a Guaranteed Maximum Price pursuant to Section 3.3, the Contractor shall prepare and submit to the Owner a Control Estimate within 14 days of executing this Agreement. The Control Estimate shall include the estimated Cost of the Work plus the Contractor's Fee.

§ 15.2.2 The Control Estimate shall include:

- .1 the documents enumerated in Article 6, including all Modifications thereto;
- .2 a list of the assumptions made by the Contractor in the preparation of the Control Estimate to supplement the information provided by the Owner and contained in the Contract Documents;
- .3 a statement of the estimated Cost of the Work organized by trade categories or systems and the Contractor's Fee;
- .4 a project schedule upon which the Control Estimate is based, indicating proposed Subcontractors, activity sequences and durations, milestone dates for receipt and approval of pertinent information, schedule of shop drawings and samples, procurement and delivery of materials or equipment the Owner's occupancy requirements, and the date of Substantial Completion; and

- .5 a list of any contingency amounts included in the Control Estimate for further development of design and construction.

§ 15.2.3 When the Control Estimate is acceptable to the Owner and Architect, the Owner shall acknowledge it in writing. The Owner's acceptance of the Control Estimate does not imply that the Control Estimate constitutes a Guaranteed Maximum Price.

§ 15.2.4 The Contractor shall develop and implement a detailed system of cost control that will provide the Owner and Architect with timely information as to the anticipated total Cost of the Work. The cost control system shall compare the Control Estimate with the actual cost for activities in progress and estimates for uncompleted tasks and proposed changes. This information shall be reported to the Owner, in writing, no later than the Contractor's first Application for Payment and shall be revised and submitted with each Application for Payment.

§ 15.2.5 The Owner shall authorize preparation of revisions to the Contract Documents that incorporate the agreed-upon assumptions contained in the Control Estimate. The Owner shall promptly furnish such revised Contract Documents to the Contractor. The Contractor shall notify the Owner and Architect of any inconsistencies between the Control Estimate and the revised Contract Documents.

§ 15.3 Applications for Payment

§ 15.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 15.1, for completed portions of the Work. The application shall be notarized, if required; be supported by all data substantiating the Contractor's right to payment that the Owner or Architect require; shall reflect retainage if provided for in the Contract Documents; and include any revised cost control information required by Section 15.2.4. Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 15.3.2 With each Application for Payment where the Contract Sum is based upon the Cost of the Work, or the Cost of the Work with a Guaranteed Maximum Price, the Contractor shall submit payrolls, petty cash accounts, receipted invoices or invoices with check vouchers attached, and any other evidence required by the Owner to demonstrate that cash disbursements already made by the Contractor on account of the Cost of the Work equal or exceed progress payments already received by the Contractor plus payrolls for the period covered by the present Application for Payment, less that portion of the progress payments attributable to the Contractor's Fee.

§ 15.3.3 Payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment stored, and protected from damage, off the site at a location agreed upon in writing.

§ 15.3.4 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or other encumbrances adverse to the Owner's interests.

§ 15.4 Certificates for Payment

§ 15.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner of the Architect's reasons for withholding certification in whole or in part as provided in Section 15.4.3.

§ 15.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluations of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the

Contract Documents prior to completion and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 15.4.3 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 15.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 15.4.1. If the Contractor and the Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 9.2.2, because of

- .1 defective Work not remedied;
- .2 third-party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a Separate Contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 15.4.4 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 15.4.3, in whole or in part, that party may submit a Claim in accordance with Article 21.

§ 15.5 Progress Payments

§ 15.5.1 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to sub-subcontractors in a similar manner.

§ 15.5.2 Neither the Owner nor Architect shall have an obligation to pay or see to the payment of money to a Subcontractor or supplier except as may otherwise be required by law.

§ 15.5.3 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 15.5.4 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

§ 15.6 Substantial Completion

§ 15.6.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 15.6.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of

items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 15.6.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. When the Architect determines that the Work or designated portion thereof is substantially complete, the Architect will issue a Certificate of Substantial Completion which shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 15.6.4 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 15.7 Final Completion and Final Payment

§ 15.7.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions stated in Section 15.7.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 15.7.2 Final payment shall not become due until the Contractor has delivered to the Owner a complete release of all liens arising out of this Contract or receipts in full covering all labor, materials and equipment for which a lien could be filed, or a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including costs and reasonable attorneys' fees.

§ 15.7.3 The making of final payment shall constitute a waiver of claims by the Owner except those arising from

- .1 liens, claims, security interests or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents;
- .3 terms of special warranties required by the Contract Documents; or
- .4 audits performed by the Owner, if permitted by the Contract Documents, after final payment.

§ 15.7.4 Acceptance of final payment by the Contractor, a Subcontractor or supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of the final Application for Payment.

ARTICLE 16 PROTECTION OF PERSONS AND PROPERTY

§ 16.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation, or replacement in the course of construction.

The Contractor shall comply with, and give notices required by, applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons and property and their protection from damage, injury, or loss. The Contractor shall promptly remedy damage and loss to property caused in whole or in part by the Contractor, a Subcontractor, a sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 16.1.2 and 16.1.3. The Contractor may make a claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 9.15.

§ 16.2 Hazardous Materials and Substances

§ 16.2.1 The Contractor is responsible for compliance with the requirements of the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents, and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 16.2.2 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area, if in fact, the material or substance presents the risk of bodily injury or death as described in Section 16.2.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

§ 16.2.3 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

ARTICLE 17 INSURANCE AND BONDS

§ 17.1 Contractor's Insurance

§ 17.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in this Section 17.1 or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the insurance required by this Agreement from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 18.4, unless a different duration is stated below:

The Contractor shall provide written notification to the Owner of the cancellation or expiration of any insurance required by this Section 17.1. The Contractor shall provide such written notice within five (5) business days of the date the Contractor is first aware of the cancellation or expiration, or is first aware that the cancellation or expiration is threatened or otherwise may occur, whichever comes first.

§ 17.1.1.1 Notwithstanding any terms, conditions or provisions in any other writing between the parties, the Contractor hereby agrees to effectuate the naming of the **Putnam Valley Central School District** as an additional insured on the Contractor's insurance policies, with the exception of Workers' Compensation and NYS Disability Insurance.

§ 17.1.1.2 The policy naming the Owner as an additional insured shall:

- .1 Be an insurance policy from an A.M. Best rated "secured" or better insurer, authorized to conduct business in New York State. A New York licensed insurer is preferred. The decision to accept specific insurers lies exclusively with the Owner.
- .2 State that the Contractor's coverage shall be primary and non-contributory coverage for the Owner, its Board of Education, employees and volunteers.
3. Additional insured status shall be provided by standard or other endorsements that extend coverage to the Owner for both ongoing and completed operations. The decision to accept an endorsement rests solely with the Owner. A completed copy of the endorsements must be attached to the certificate of insurance.
4. The certificate of insurance must describe the specific services provided by the Contractor (e.g., roofing, carpentry, plumbing) that are covered by the liability policies.
5. At the Owner's request, the Contractor shall provide a copy of the declaration page of the liability and umbrella policies with a list of endorsements and forms. If so requested, the Contractor will provide a copy of the police endorsements and forms.
6. A fully completed New York Construction Certificate of Liability Insurance Addendum (ACORD 855 2014/5) must be included with the certificates of insurance.

§ 17.1.1.3 The Contractor agrees to indemnify the Owner for any applicable deductibles and self-insured retentions.

§ 17.1.2 Commercial General Liability insurance for the Project written on an occurrence form with policy limits of not less than One Million Dollars (\$ 1,000,000) each occurrence, Two Million Dollars (\$ 2,000,000) general aggregate, and Two Million Dollars (\$ 2,000,000) aggregate for products-completed operations hazard, providing coverage for claims including

- .1 damages because of bodily injury, sickness or disease, including occupational sickness or disease, and death of any person;
- .2 personal and advertising injury;
- .3 damages because of physical damage to or destruction of tangible property, including the loss of use of such property;
- .4 bodily injury or property damage arising out of completed operations; and
- .5 the Contractor's indemnity obligations under Section 9.15.

The general aggregate shall apply on a per-project basis.

§ 17.1.3 Automobile Liability covering vehicles owned by the Contractor and non-owned vehicles used by the Contractor, with policy limits of not less than One Million Dollars (\$ 1,000,000) combined single limit for owned, hired and borrowed and non-owned motor vehicles, for bodily injury, death of any person, and property damage arising out of the ownership, maintenance, and use of those motor vehicles along with any other statutorily required automobile coverage.

\$1,000,000	Combined Single Limit or
\$ 500,000	Bodily injury (per person)
\$1,000,000	Bodily injury (per accident)
\$ 500,000	Property Damage
\$5,000	Medical Payments

§ 17.1.4 The Contractor may achieve the required limits and coverage for Commercial General Liability and Automobile Liability through a combination of primary and excess or umbrella liability insurance, provided such primary and excess or umbrella insurance policies result in the same or greater coverage as those required under Section 17.1.2 and 17.1.3, and in no event shall any excess or umbrella liability insurance provide narrower coverage than the primary policy. The excess policy shall not require the exhaustion of the underlying limits only through the actual payment by the underlying insurers.

§ 17.1.5 Workers' Compensation, Employer's Liability and NYS Disability Insurance for all employees at statutory limits. Proof of coverage must be on the approved specific form, as required by the NYS Workers' Compensation Board. ACORD certificates are not acceptable.

Statutory	Part A
Statutory	Disability

Init.

Employer's Liability	Part B
\$ 500,000	Each Accident
\$1,000,000	Disease Policy Limit
\$ 500,000	Disease Each Employee

§ 17.1.6 Excess Insurance: Insurance is to cover all stated insurance coverages listed within this

- **\$5 million each Occurrence and Aggregate** for general construction and no work at elevation (1 story – 10 feet) or project values less than or equal to \$1,000,000.
- **\$10 million each Occurrence and Aggregate for high-risk construction**, work at elevation (>1 story or 10 feet) or project values greater than \$1,000,000.

Umbrella/Excess coverage shall be on a follow-form basis over the Auto Liability and General Liability coverages. Excess coverage shall be on a follow-form basis.

§ 17.1.7 If the Contractor is required to furnish professional services as part of the Work, the Contractor shall procure Professional Liability insurance covering performance of the professional services, with policy limits of not less than (\$) per claim and (\$) in the aggregate.

§ 17.1.8 If the Work involves the transport, dissemination, use, or release of pollutants, the Contractor shall procure Pollution Liability insurance, with policy limits of not less than (\$) per claim and (\$) in the aggregate.

Hazardous material liability insurance as follows:	\$2,000,000 occurrence/\$2,000,000 aggregate, including products and completed operations.
Such insurance shall include coverage for the Contractor's operations including, but not limited to, removal, replacement enclosure, encapsulation and/or disposal of asbestos, or any other hazardous material, along with any related pollution events, including coverage for third-party liability claims for bodily injury, property damage and clean-up costs. If a retroactive date is used, it shall pre-date the inception of the Contract.	
If motor vehicles are used for transporting hazardous materials, the Contractor shall provide pollution liability broadened coverage (ISO endorsement CA 9948) as well as proof of M CS 90. Coverage shall fulfill all requirements of the Contract and General Conditions and shall extend for a period of three (3) years following acceptance by the Owner of the Certificate of Completion.	

§ 17.1.9 Coverage under Sections 17.1.7 and 17.1.8 may be procured through a Combined Professional Liability and Pollution Liability insurance policy, with combined policy limits of not less than (\$) per claim and (\$) in the aggregate.

§ 17.1.10 The Contractor shall provide certificates of insurance acceptable to the Owner evidencing compliance with the requirements in this Section 17.1 at the following times: (1) prior to commencement of the Work; (2) upon renewal or replacement of each required policy of insurance; and (3) upon the Owner's written request. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment and thereafter upon renewal or replacement of such coverage until the expiration of the period required by Section 17.1.1. The certificates will show the Owner as an additional insured on the Contractor's Commercial General Liability and excess or umbrella liability policy.

§ 17.1.11 The Contractor shall disclose to the Owner any deductible or self-insured retentions applicable to any insurance required to be provided by the Contractor.

§ 17.1.12 Contractor acknowledges that failure to obtain and maintain such insurance on behalf of the Owner constitutes a material breach of contract and subjects it to liability for damages, indemnification and all other legal remedies available to the Owner.

Init.

§ 17.1.13 To the fullest extent permitted by law, the Contractor shall cause the commercial liability coverage required by this Section 17.1 to include (1) the Owner, the Architect, and the Architect's Consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions for which loss occurs during completed operations. The additional insured coverage shall be primary and non-contributory to any of the Owner's general liability insurance policies and shall apply to both ongoing and completed operations. To the extent commercially available, the additional insured coverage shall be no less than that provided by Insurance Services Office, Inc. (ISO) forms CG 20 10 07 04, CG 20 37 07 04, and, with respect to the Architect and the Architect's Consultants, CG 20 32 07 04.

§ 17.1.14 Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by this Section 17.1, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

§ 17.1.15 Other Insurance Provided by the Contractor

(List below any other insurance coverage to be provided by the Contractor and any applicable limits.)

Coverage	Limits	
Testing Company Errors and Omission Insurance:	\$1,000,000	Each Occurrence
For the testing and other professional acts of the Contractor performed under the contract with the Owner. Further, Contractor shall require all Subcontractors to carry the same insurance coverages and limits of liability as set forth above and adjusted to the nature of Subcontractors' operations and submit same to Owner for approval prior to start of any Work.	\$2,000,000	Aggregate
Owners Contractors Protective (OCP) Insurance:	The District/BOCES will be the Named Insured on OCP Policies. There will be no Additional Insureds on any OCP Policies.	
- For projects less than or equal to \$1,000,000 and work on 1 story (10 feet) only;	• \$1 million per occurrence, \$2 million aggregate with the District/BOCES as the Named Insured.	
- For projects greater than \$1,000,000 and/or work over 1 story (10 feet);	• \$2 million per occurrence, \$4 million aggregate with the District/BOCES as the Named Insured.	
- For all projects where General Liability, Auto and Umbrella/Excess Coverage is with non-licensed and non-admitted carriers in New York State;	• \$2 million per occurrence, \$4 million aggregate with the District/BOCES as the named Insured.	

§ 17.2 Owner's Insurance

§ 17.2.1 Owner's Liability Insurance

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

§ 17.2.2 Property Insurance

§ 17.2.2.1 The Owner shall purchase and maintain, from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located, property insurance written on a builder's risk "all-risks" completed value or equivalent policy form and sufficient to cover the total value of the entire Project on a replacement cost basis. The Owner's property insurance coverage shall be no less than the amount of the initial Contract Sum, plus the value of subsequent Modifications and labor performed or materials or equipment supplied by others. The property insurance shall be maintained until Substantial Completion and thereafter as provided in Section 17.2.2.2, unless otherwise provided in the Contract Documents or otherwise agreed in writing by the parties to this

Agreement. This insurance shall include the interests of the Owner, Contractor, Subcontractors, and Sub-subcontractors in the Project as insureds. This insurance shall include the interests of mortgagees as loss payees.

§ 17.2.2.2 Unless the parties agree otherwise, upon Substantial Completion, the Owner shall continue the insurance required by Section 17.2.2.1 or, if necessary, replace the insurance policy required under Section 17.2.2.1 with property insurance written for the total value of the Project that shall remain in effect until expiration of the period for correction of the Work set forth in Section 18.4. The Owner shall provide written notification to the Contractor of the cancellation or expiration of any insurance required by Sections 17.2 and 17.3. The Owner shall provide such written notice within five (5) business days of the date the Owner is first aware of the cancellation or expiration, or is first aware that the cancellation or expiration is threatened or otherwise may occur, whichever comes first.

§ 17.2.2.3 If the insurance required by this Section 17.2.2 is subject to deductibles or self-insured retentions, the Owner shall be responsible for all loss not covered because of such deductibles or retentions.

§ 17.2.2.4 If the Work involves remodeling an existing structure or constructing an addition to an existing structure, the Owner shall purchase and maintain, until the expiration of the period for correction of Work as set forth in Section 18.4, "all-risks" property insurance, on a replacement cost basis, protecting the existing structure against direct physical loss or damage, notwithstanding the undertaking of the Work. The Owner shall be responsible for all co-insurance penalties.

§ 17.2.2.5 Prior to commencement of the Work, the Owner shall secure the insurance, and provide evidence of the coverage, required under this Section 17.2.2 and, upon the Contractor's request, provide a copy of the property insurance policy or policies required by this Section 17.2.2. The copy of the policy or policies provided shall contain all applicable conditions, definitions, exclusions, and endorsements.

§ 17.2.2.6 Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any insurance required by this Section 17.2.2, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

§ 17.2.2.7 Waiver of Subrogation

§ 17.2.2.7.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by this Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this Section 17.2.2.7 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

§ 17.2.2.7.2 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 17.2.2.7.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

§ 17.2.2.8 A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements, written where legally required for validity, the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

§ 17.2.3 Other Insurance Provided by the Owner

(List below any other insurance coverage to be provided by the Owner and any applicable limits.)

Coverage

Limits

§ 17.3 Performance Bond and Payment Bond

§ 17.3.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in the Contract Documents on the date of execution of the Contract. The form of the Performance Bond shall be AIA Form A312 and the form of the Payment Bond shall be AIA Form A312.

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

ARTICLE 18 CORRECTION OF WORK

§ 18.1 The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed, or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense, unless compensable under Section A.1.7.3 in Exhibit A, Determination of the Cost of the Work.

§ 18.2 In addition to the Contractor's obligations under Section 9.4, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 15.6.3, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty.

§ 18.3 If the Contractor fails to correct nonconforming Work within a reasonable time, the Owner may correct it in accordance with Section 8.3.

§ 18.4 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 18.5 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Article 18.

ARTICLE 19 MISCELLANEOUS PROVISIONS

§ 19.1 Assignment of Contract

Neither party to the Contract shall assign the Contract without written consent of the other, except that the Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

§ 19.2 Governing Law

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 21.6.

§ 19.3 Tests and Inspections

Tests, inspections, and approvals of portions of the Work required by the Contract Documents or by applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities shall be made at an appropriate time. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 19.4 The Owner's representative:

(Name, address, email address and other information)

Jill Figarella, District Treasurer
Putnam Valley Central School District
146 Peekskill Hollow Road
Putnam Valley, NY 10579

§ 19.5 The Contractor's representative:

(Name, address, email address and other information)

§ 19.6 Neither the Owner's nor the Contractor's representative shall be changed without ten days' prior notice to the other party.

§ 19.7 No claims for increased costs, charges, expenses or damages of any kind shall be made by the Contractor against the Owner for any delays or hindrances from any cause whatsoever, provided that the Owner, in the Owner's discretion, may compensate the Contractor for any said delays by extending the time for completion of the Work as specified in the Contract. Should the Contractor sustain any damages through any act or omission of any other contractor having a contract with the Owner or through any act or omission of any subcontractor of said other contractor, the Contractor shall have no claim against the Owner for same damage.

ARTICLE 20 TERMINATION OF THE CONTRACT

§ 20.1 Termination by the Contractor

If the Architect fails to certify payment as provided in Section 15.4.1 for a period of 30 days through no fault of the Contractor, or if the Owner fails to make payment as provided in Section 4.1.3 for a period of 30 days, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner payment for Work executed.

§ 20.2 Termination by the Owner for Cause

§ 20.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 20.2.2 When any of the reasons described in Section 20.2.1 exists, the Owner, upon certification by the Architect that sufficient cause exists to justify such action, may, without prejudice to any other remedy the Owner may have and after giving the Contractor seven days' notice, terminate the Contract and take possession of the site and of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor and may finish the Work by whatever reasonable method the Owner may deem expedient. Upon request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 20.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 20.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 20.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Architect, upon application, and this obligation for payment shall survive termination of the Contract.

§ 20.3 Termination by the Owner for Convenience

The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause. The Owner shall pay the Contractor for Work executed; and costs incurred by reason of such termination, including costs attributable to termination of Subcontracts; and a termination fee, if any, as follows:

(Insert the amount of or method for determining the fee payable to the Contractor by the Owner following a termination for the Owner's convenience, if any.)

ARTICLE 21 CLAIMS AND DISPUTES

§ 21.1 Claims, disputes, and other matters in question arising out of or relating to this Contract, including those alleging an error or omission by the Architect but excluding those arising under Section 16.2, shall be referred initially to the Architect for decision. Such matters, except those waived as provided for in Section 21.11 and Sections 15.7.3 and 15.7.4, shall, after initial decision by the Architect or 30 days after submission of the matter to the Architect, be subject to mediation as a condition precedent to binding dispute resolution.

§ 21.2 Notice of Claims

§ 21.2.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 18.2, shall be initiated by notice to the Architect within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 21.2.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 18.2, shall be initiated by notice to the other party.

§ 21.3 Time Limits on Claims

The Owner and Contractor shall commence all claims and causes of action against the other and arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in this Agreement whether in contract, tort, breach of warranty, or otherwise, within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 21.3.

§ 21.4 If a claim, dispute or other matter in question relates to or is the subject of a mechanic's lien, the party asserting such matter may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 21.5 The parties shall endeavor to resolve their disputes by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with their Construction Industry Mediation Procedures in effect on the date of this Agreement. A request for mediation shall be made in

writing, delivered to the other party to this Agreement, and filed with the person or entity administering the mediation. The request may be made concurrently with the binding dispute resolution but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 21.6 The parties agree that any mediation commenced with respect to this Agreement shall be expanded by any party to include resolution of disputes involving any other party involved in the Project, provided the dispute arises out of common questions of law and/or fact. It is expressly agreed that there will be no arbitration as to any matters arising under or relating to this Agreement.

§ 21.7 If mediation is not successful, the parties agree that any action or proceeding arising under this Agreement shall be brought in a New York State court of competent jurisdiction located in Putnam County.

§ 21.8 The parties expressly agree to delete the requirement that any and all disputes, controversies and claims arising out of the Contract be referred to arbitration. By so agreeing, the parties express their mutual intent that there is no agreement to arbitrate such disputes notwithstanding the use and reference to arbitration elsewhere in the Contract Documents.

§ 21.9 Continuing Contract Performance

Pending final resolution of a Claim, except as otherwise agreed in writing, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 21.10 Waiver of Claims for Consequential Damages

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

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

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 20. Nothing contained in this Section 21.11 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

This Agreement entered into as of the day and year first written above.

OWNER (Signature)

President, Board of Education
(Printed name and title)

CONTRACTOR (Signature)

, President,
(Printed name and title)



AIA® Document A310™ – 2010

Bid Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

Putnam Valley Central School District
171 Oscawana Lake Road
Putnam Valley, NY 10579

BOND AMOUNT: \$**PROJECT:**

(Name, location or address, and Project number, if any)

Putnam Valley High School
Partial Roof Replacement + Repair
146 Peekskill Hollow Road
Putnam Valley, NY 10579
SED #48-05-03-04-0-010-007

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

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

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

Init.

furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this day of ,

(Witness)

(Witness)

(Contractor as Principal)

(Seal)

(Title)

(Surety)

(Seal)

(Title)

Init.

/



AIA® Document A312™ – 2010

Payment Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

Putnam Valley Central School District
171 Oscawana Lake Road
Putnam Valley, NY 10579

CONSTRUCTION CONTRACT

Date:

Amount: \$ 0.00

Description:

(Name and location)

Putnam Valley High School
Partial Roof Replacement + Repair
146 Peekskill Hollow Road
Putnam Valley, NY 10579
SED #48-05-03-04-0-010-007

BOND

Date:

(Not earlier than Construction Contract Date)

Amount: \$

Modifications to this Bond: ☐ None ☐ See Section 18

CONTRACTOR AS PRINCIPAL

Company: (Corporate Seal)

SURETY

Company: (Corporate Seal)

Signature: _____

Name and

Title:

(Any additional signatures appear on the last page of this Payment Bond.)

Signature: _____

Name and

Title:

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

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

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

- .1 the name of the Claimant;
- .2 the name of the person for whom the labor was done, or materials or equipment furnished;
- .3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- .4 a brief description of the labor, materials or equipment furnished;
- .5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- .6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- .7 the total amount of previous payments received by the Claimant; and
- .8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

§ 16.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

Company: _____ (Corporate Seal)

Signature: _____
Name and Title: _____
Address: _____

SURETY

Company: _____ (Corporate Seal)

Signature: _____
Name and Title: _____
Address: _____



AIA® Document A312™ – 2010

Performance Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

Putnam Valley Central School District
171 Oscawana Lake Road
Putnam Valley, NY 10579

CONSTRUCTION CONTRACT

Date:

Amount: \$ 0.00

Description:

(Name and location)

Putnam Valley High School
Partial Roof Replacement + Repair
146 Peekskill Hollow Road
Putnam Valley, NY 10579
SED #48-05-03-04-0-010-007

BOND

Date:

(Not earlier than Construction Contract Date)

Amount: \$

Modifications to this Bond: ☐ None ☐ See Section 16

CONTRACTOR AS PRINCIPAL

Company: (Corporate Seal)

Signature: _____

Name and

Title:

(Any additional signatures appear on the last page of this Performance Bond.)

SURETY

Company: (Corporate Seal)

Signature: _____

Name and

Title:

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

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

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

Init.

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

- .1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
- .2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
- .3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the

Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 Balance of the Contract Price. The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 Contractor Default. Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

Company: _____
(Corporate Seal)

Signature: _____
Name and Title: _____
Address: _____

SURETY

Company: _____
(Corporate Seal)

Signature: _____
Name and Title: _____
Address: _____

Init.

/

Putnam Valley CSD
Putnam Valley High School
Partial Roof Replacement + Repair

Contractor:		Architect: KG+D Architects, PC	
Address:		Address: 285 Main St., Mt. Kisco, NY 10549	
Telephone:		Telephone: 914.666.5900	
Fax:		Fax: 914.666.0051	
Email:		Email: aallison@kgdarchitects.com	
Project Name:		Project Location:	
Description, complete with backup data as necessary attached hereto: 			
Sketches of Conditions		Spec Reference:	
		Drawing Reference:	
Proposed Solution: 			
Cost Impact:		Time Impact:	
Trade/Specialty Contractors Affected: 			
Trade/Specialty Contractors Coordinated With: 			
Submitted By: 			
Architect's Response: 			
Response By:		Date of Response:	

REQUISITION FOR PARTIAL PAYMENT - WAIVER OF LIENS

PROJECT	OWNER
GENERAL CONTRACTOR	SUBCONTRACTOR/VENDOR
CONTRACT	WORK COMPLETE
PROJECT:	CONTRACT -\$
TRADE:	CHANGE ORDERS -\$
CONTRACT -\$	TOTAL COMPLETE -\$
CHANGE ORDERS -\$	RETAINAGE (____%) -\$
TOTAL CONTRACT -\$	LESS PRE. REQ. -\$
	THIS REQUISITION -\$

Waiver of Lien

The undersigned, upon receipt of the above requisition payment hereby releases and discharges the Owner of and from any liability or obligation in any way related to or arising out of this project up to and including the date of this document.

The undersigned further covenants and agrees that it shall not in any way claim or file a mechanic's or other lien against the premises of the above designated project, or any part thereof, or against any fund applicable thereto for any of the work, labor, materials heretofore furnished by it in connection with the improvement of said premises.

The undersigned further warrants that, in order to induce the Owner to release this partial payment, they have paid all claims for labor, material, insurance, taxes, equipment, etc., employed in the prosecution of the work above, to date of this requisition.

The undersigned hereby releases and agrees to hold the Owner harmless from any and all claims in connection with the furnishing of such labor and materials, etc., for the construction of the aforementioned project.

The undersigned further guarantees that all portions of the work furnished and/or provided by them are in accordance with the contract and that the terms of the contract with respect to these guarantees will hold for the period specified in said contract.

IN WITNESS WHEREOF, we have executed under seal this release on the below date and to be legally bound hereby:

WITNESS: _____ FIRM: _____

BY: _____ DATE: _____

CORPORATE ACKNOWLEDGEMENT

State of

)SS.

)

County of

On the _____ day of _____, before me came _____
to me known and who by me being duly sworn did depose and say that he resides at
_____; that he is the officer of the said corporation
executing the foregoing instrument, that he knows the seal of said corporation, that the seal
affixed to said instrument is such corporate seal, that it was so affixed by order of the Board of
Directors of said corporation and that he signed his name thereto by like order.

Notary Public

INDIVIDUAL ACKNOWLEDGEMENT

State of

)SS.

)

County of

On the _____ day of _____, before me came _____ to
me known and who by me being duly sworn did depose and say that he resides at
_____ that he is the individual
who executed the foregoing instrument.

Notary Public

PARTNERSHIP ACKNOWLEDGEMENT

State of

)SS.

)

County of

On the _____ day of _____, before me came
_____ to me known and who by me being duly sworn did depose and say that
he resides at _____; that he is the partner in the
firm of _____ doing business under the name of
_____ and that he executed the foregoing instrument on
behalf of said partnership.

Notary Public

Section 00 70 02

Insurance Rider

Name of Insurance Producer:	
Name of Insured:	

The Contractor shall purchase and maintain during the life of the contract insurances as listed herein. This insurance must be purchased from a New York State licensed and admitted, A.M. Best Rated "A" or "A+" carrier. The Owner, the Architect, their Consultants and Subconsultants shall, except for Worker's Compensation and Employer's Liability Insurance, be named as additional named insureds on a primary and non-contributory basis. Contractor must submit additional insured endorsements to the District for approval.

At least ten (10) working days prior to the commencement of the Work, the Contractor and all Subcontractors shall submit to the Owner, through the Architect, a Certificate of Insurance (AIA Form G705) or Accord 25-s showing evidence of insurance coverage as required by these documents. The standard Accord Form of Certificate of Insurance or insurance carrier certificate will be acceptable for employer's liability, NYS Disability must be on Form DB120.1. Submit all Workers' Compensation Certificates on form C-105.2, or if funded through the New York State Insurance Fund, on form U-26.3.

All Certificates of Insurance must be signed by a licensed agent or authorized representative of the insurance carrier.

The certificate shall be issued to the Owner with a provision that in the event the policies are either canceled or diminished, at least 30 days prior notice thereof shall be given to the Owner.

The insurance required for this project shall be written for not less than limits of liability specified in this attachment or otherwise within the Contract Documents or required by law, whichever coverage is greater. Coverages, shall be on an occurrence basis, shall be maintained without interruption from date of commencement of the Work until date of final payment and termination of any coverage required to be maintained after final payment.

- .1 **General Liability:** (Occurrence Form) – Limits Per Project using ISO Form CG 00 01 07 98 or later date

\$2,000,000	General Aggregate
\$2,000,000	Products/Completed Operations
\$1,000,000	Personal and Adv. Injury
\$1,000,000	Occurrence
\$100,000	Fire Damage
\$ 10,000	Medical Expense

Coverage to include Broad Form Property Damage, Contractual Liability, Independent Contractors, and Personal Injury. No exclusion for XCU or hazards shall be endorsed to the Policy.

Products and Completed Operations Coverage to be kept in force for 24 months after final payment; a renewal certificate is to be submitted for the project if the coverage renews in less than 12 months following the completion of the project.

Coordinate requirements for additional insurance covering contractual obligations assumed by Contractor as established in Articles 3.18 and 10.3 of these Conditions by using Endorsement ISO Form B, CG 20 38 and CG 20 37 or equivalent. This endorsement must also reflect that the coverage provided is Primary and Non-Contributory. Waiver of Subrogation applies to all policies for all additional insureds.

.2 Auto Liability to cover ALL autos; or Owned, Hired, Leased and Non-Owned Autos.

\$1,000,000	Combined Single Limit or
\$ 500,000	Bodily injury (per person)
\$1,000,000	Bodily injury (per accident)
\$ 500,000	Property Damage
\$5,000	Medical Payments

- .3 Excess Liability:** Insurance is to cover all stated insurance coverages listed within this
- \$5 million each Occurrence and Aggregate for general construction and no work at elevation (1 story – 10 feet) or project values less than or equal to \$1,000,000.
 - \$10 million each Occurrence and Aggregate for high-risk construction, work at elevation (>1 story or 10 feet) or project values greater than \$1,000,000.
 - Umbrella/Excess coverage shall be on a follow-form basis over the Auto Liability and General Liability coverages.

.4 Workers' Compensation

Statutory	Part A
Statutory	Disability
Employer's Liability	Part B
\$ 500,000	Each Accident
\$1,000,000	Disease Policy Limit
\$ 500,000	Disease Each Employee

.5 Owners Contractors Protective (OCP) Insurance

- For projects less than or equal to \$1,000,000 and work on 1 story (10 feet) only;
- \$1 million per occurrence, \$2 million aggregate with the District/BOCES as the Named Insured.
- For projects greater than \$1,000,000 and/or work over 1 story (10 feet); \$2 million per occurrence, \$4 million aggregate with the District/BOCES as the Named Insured.

- For all projects where General Liability, Auto and Umbrella/Excess Coverage is with non-licensed and non-admitted carriers in New York State; \$2 million per occurrence, \$4 million aggregate with the District/BOCES as the named Insured.
- The District/BOCES will be the Named Insured on OCP Policies. There will be no Additional Insureds on any OCP Policies.

.6 Hazardous Material Coverage

Hazardous material liability insurance as follows:	\$2,000,000 occurrence/\$2,000,000 aggregate, <u>including products and completed operations.</u>
Such insurance shall include coverage for the Contractor's operations including, but not limited to, removal, replacement enclosure, encapsulation and/or disposal of asbestos, or any other hazardous material, along with any related pollution events, including coverage for third-party liability claims for bodily injury, property damage and clean-up costs. If a <u>retroactive date</u> is used, it shall <u>pre-date the inception of the Contract</u>	
If <u>motor vehicles are used for transporting hazardous materials, the Contractor shall</u> provide pollution liability broadened coverage (ISO endorsement CA 9948) as well as proof of <u>M CS 90</u> . Coverage shall fulfill all requirements of the Contract and General Conditions and shall extend for a period of three (3) years following acceptance by the Owner of the <u>Certificate of Completion</u>	

.7 Testing Company Errors and Omission Insurance

\$1,000,000	Each Occurrence
\$2,000,000	Aggregate

For the testing and other professional acts of the Contractor performed under the contract with the Owner.

Further, Contractor shall require all Subcontractors to carry the same insurance coverages and limits of liability as set forth above and adjusted to the nature of Subcontractors' operations and submit same to Owner for approval prior to start of any Work.

In the event Contractor fails to obtain the required certificates of insurance from the Subcontractor and a claim is made or suffered, the Contractor shall indemnify, defend and hold harmless Owner, Architect, Engineers, Consultants and Subconsultants and their agents or employees from any and all claims for which the required insurance would have provided coverage. This indemnity obligation is in addition to any other indemnity obligation provided in the Contract.

The following shall be included as Additional Insureds:

- Putnam Valley Central School District Members of the Board of Education, any officer, member of its staff, employee, or representative of school district.
- KG+D Architects, PC, and ALL consultants listed on the cover of the PROJECT/SPECIFICATIONS MANUAL

Proof of Insurance shall show the following Insureds and Holder:

- a) Certificate Holder
- b) Additional Names Insured, on a primary basis:
 - Owner
 - Architect
 - Construction Manager, if applicable
 - Consultant

**** End of Section ****

SUBMITTAL COVER SHEET

Contractor: _____

Address: _____ Telephone: () _____

Owner: _____

Name of Project: _____

TYPE OF SUBMITTAL:

- ☐ Shop Drawings
☐ Technical Data
☐ Test Report

- ☐ Schedule
☐ Certificate
☐ Warranty

- ☐ Color Sample
☐ _____

- ☐ Physical Sample

Submission #: (circle one) 1st 2nd 3rd 4th

Description:

Product Identification: _____

Manufacturer: _____

Subcontractor/Supplier: _____

DOCUMENT REFERENCES: (Must be fully filled out)

Spec Section No.: _____ Drawing No(s): _____

Paragraph: _____ Rm. Or Det. No(s): _____

Contractor Remarks:

Contractor Submittal Review Stamp

THE ATTACHED MATERIAL HAS BEEN REVIEWED BY THE UNDERSIGNED AND IS BELIEVED TO COMPLY WITH ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE UNDERSIGNED UNDERSTANDS VERIFICATION OF FIELD DIMENSIONS, AND COORDINATION WITH OTHER TRADES, REMAINS THE RESPONSIBILITY OF THE CONTRACTOR.

DATE: _____ BY (SIGN): _____

Consultant use below this line:

Architect Submittal Review Stamp

- ☐ NO EXCEPTIONS
☐ REJECTED
☐ EXAMINED

- ☐ MAKE CORRECTIONS NOTED
☐ REVISE AND RESUBMIT
☐ SUBMIT SPECIFIED ITEM

CHECKING IS ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. ANY ACTION SHOWN IS SUBJECT TO THE REQUIREMENTS OF THE PLANS & SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS WHICH SHALL BE CONFIRMED & CORRELATED AT THE JOB SITE; FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATION OF HIS WORK WITH THAT OF ALL OTHER TRADES & THE SATISFACTORY PERFORMANCE OF HIS WORK

KG+D ARCHITECTS, P.C.

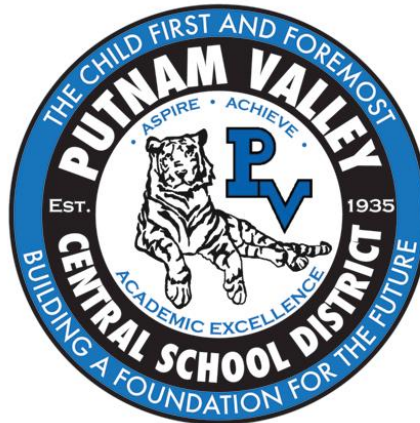
DATE _____ BY _____

FINAL REPORT OF ENVIRONMENTAL SERVICES

Performed at:

**PUTNAM VALLEY HIGH SCHOOL
ROOF REPLACEMENT – PHASE 1
146 PEEKSKILL HOLLOW ROAD
PUTNAM VALLEY, NY 10579**

Prepared for:



**Putnam Valley Central School District
146 Peekskill Hollow Road
Putnam Valley, NY 10579**

Prepared by:



**WSP USA Solutions, Inc.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
Tel. (914) 747-1120**

**Project No. 31403475.058
Final Submission Date: May 23, 2022**



May 23, 2022

Mr. Dave Spittal
Director of Operations, Technology & Transportation
Chief Emergency Office
Putnam Valley Central School District
146 Peekskill Hollow Road
Putnam Valley, NY 10579

**Subject: Final Report of Environmental Services
Putnam Valley Elementary School
Roof Replacement – Phase 1
146 Peekskill Hollow Road
Putnam Valley, NY 10579**

Dear Mr. Spittal:

WSP USA Solutions, Inc. has completed a material inspection at Putnam Valley High School located at 146 Peekskill Hollow Road, Putnam Valley NY 10579. The inspection included visual observation, material sampling, and laboratory sample analysis of suspect Asbestos-Containing Materials (ACM), Lead Based Paints (LBP) and Polychlorinated Biphenyls (PCBs) as part of the Roof Replacement – Phase 1 project at Putnam Valley High School.

The attached report presents descriptions and results of the material sampling procedures and visual analysis. Relevant general project information is provided, followed by our findings, assessments and recommendations. Laboratory analysis data and certifications are provided in the Appendices.

If you have any questions concerning this report or if we may be of further assistance to you, please contact us.

Sincerely,

WSP USA SOLUTIONS, INC.

A handwritten signature in blue ink, appearing to read 'CN', is positioned above the name and title of the signatory.

Craig Napolitano, CHMM
Vice President, Emergency Management & IH Services



TABLE OF CONTENTS

	Page
1.0 EXECUTIVE SUMMARY	1
2.0 FIELD INSPECTION PROCEDURES AND SAMPLE ANALYSIS METHODS	3
3.0 INSPECTION SCOPE AND MATERIAL ASSESSMENT.....	6
4.0 INSPECTION RESULTS	8
5.0 AREAS NOT ACCESSIBLE	10
6.0 CONCLUSIONS AND RECOMMENDATIONS	10
7.0 REPORT CERTIFICATIONS	11

Appendices

Appendix A: Asbestos Sample Analysis Results in Tabular Form

Appendix B: Asbestos Bulk Sample Field Data Sheets with Chain of Custody & Laboratory Results

Appendix C: Asbestos Bulk Sample Location Drawings

Appendix D: Asbestos Containing Materials Location Drawings

Appendix E: Lead XRF Shot Results

Appendix F: PCB Bulk Sample Field Data Sheets with Chain of Custody & Laboratory Results

Appendix G: Company License, Personnel Certifications and Laboratory Accreditations

Appendix H: Scope of Work Drawings



1.0 EXECUTIVE SUMMARY

WSP USA Solutions, Inc. has performed a material inspection for the presence or absence of Asbestos-Containing Materials (ACM), Lead Based Paints (LBP) and Polychlorinated Biphenyls (PCBs) at Putnam Valley High School located at 146 Peekskill Hollow Road, Putnam Valley NY 10579. The intent of this inspection was to screen for ACM, LBP and PCBs that may be impacted during the Roof Replacement – Phase 1 project at Putnam Valley High School.

Stephen Gruber and Liam Bristol of WSP performed this inspection on November 1, 2021. Mr. Gruber is licensed as a New York State Department of Labor (NYSDOL) Asbestos Inspector (Cert# 17-42557) and a licensed New York State EPA as a Lead Inspector (Cert# LBP-I-1219874-1). Mr. Bristol is licensed as a New York State Department of Labor (NYSDOL) Asbestos Inspector (Cert# 19-20724) and a licensed New York State EPA as a Lead Inspector (Cert# LBP-I-1212175-1).

The results of the visual inspection, XRF Testing and bulk sample analysis determined that the following suspect ACM, LBP & PCB materials

A. ASBESTOS-CONTAINING MATERIAL

Analytical results of the bulk samples collected on 5/12/22 by WSP indicate that the following materials **contain asbestos** (greater than 1-percent):

- **None**

Analytical results of the bulk samples collected on 5/12/22 by WSP indicate that the following materials **did not contain asbestos** (less than 1-percent):

- (5th Layer) Pearlite
- (3rd Layer) Gypsum Deck
- (2nd Layer) Brown Fibrous Insulation
- (1st Layer) Asphalt Membrane
- (3rd Layer) Particle Board at Drain Bowl
- (2nd Layer) Tar-like Material at Drain Bowl
- Tar at Cap Flashing (Black)
- (2nd Layer) Black Base Flashing
- (1st Layer) Silver Foil Flashing
- Green Caulking at Cap Flashing
- Gray Caulking at Cap Flashing
- Black Tar at Edge of Roof
- (5th Layer) Pearlite
- (2nd Layer) Gypsum Deck
- (1st Layer) Asphalt Membrane
- Tar-like Material at Drain Bowl (Between 1st & 2nd Layer)
- Silver Foil Flashing



Final Report for Environmental Inspection Services

- Gray Expansion Joint Caulking

B. LEAD-BASED PAINT

Based upon XRF readings, lead has been confirmed to exist in the following tested combinations:

- None

Lead was **not detected** in the following tested combinations via XRF readings:

- Blue Paint on Metal Wall
- Green Paint on Metal Wall

C. PCB-CONTAINING MATERIAL

Analytical results of the bulk samples collected indicate that the following materials contain PCB (greater than 50 PPM).

- None

Analytical results of the bulk samples collected indicate that the following materials did not contain PCB (less than 50 PPM);

- Caulking (Green) at Metal Cap Flashing (1st Layer)
- Caulking (Gray) at Metal Cap Flashing (2nd Layer)
- Caulking (White) at Expansion Joints/Window Wall



2.0 FIELD INSPECTION PROCEDURES AND SAMPLE ANALYSIS METHODS

A. ASBESTOS-CONTAINING MATERIAL

Guidelines used for the inspection were established by the Environmental Protection Agency (EPA) in the Guidance for Controlling Asbestos Containing Materials in Buildings, Office of Pesticides and Toxic Substances, Doc 560/5-85-024, and 40 CFR Part 763, Asbestos Hazard Emergency Response Act (AHERA).

Field information was organized in accordance with the AHERA methodology of homogenous area (HA). During the Inspection, reasonable effort was made to identify all locations and types of ACM materials associated with the scope of work. Sampling has included multiple samples of the same materials chosen at random. However, due to inconsistencies of a manufacturer's processes and the contractor's installation methods, materials of similar construction may contain various amounts of asbestos. Furthermore, some materials that were not originally specified to contain asbestos may in fact contain this mineral. For example, cementitious pipe insulation and plaster were frequently mixed with asbestos at the construction site for ease of application. Locating all asbestos materials can only be definitively achieved by conducting exploratory demolition and sampling every section of pipe insulation, fitting or valve covering, fireproofing, and other suspect ACM.

Bulk samples of suspect ACM are analyzed using polarized light microscopy (PLM) coupled with dispersion staining, as described in 40 CFR Part 763 and the National Emissions Standard for Hazardous Air Pollutants (NESHAPS). NESHAPS is the standard industry protocol for the determination of asbestos in building materials. A suspect material is immersed in a solution of known refractive index and subjected to illumination by polarized light. The color displays that result are compared to a standardized atlas whereby the specific variety of asbestos is determined. It should also be recognized that PLM is primarily a qualitative identification method whereby asbestos percentage, if any, is estimated. While EPA, New York State, and New York City regulations governing ACM consider materials containing greater than 1-percent as asbestos, accurately quantifying asbestos content below 5-percent has been shown to be unreliable.

The New York State Department of Health has recently revised the PLM Stratified Point Counting Method. The March 25th, 2011 method, "Polarized Light Microscopy Methods for Identifying and Quantifying Asbestos in Bulk Samples" can be found as Item 198.1 in the Environmental Laboratory Approval program (ELAP) Certification manual. Whereas the procedure of analysis for bulk samples that fall into the category of "Non-friable Organically Bound" (NOB) can be found in the March 25th 2011 method "Polarized-Light Microscope Method for Identifying and Quantifying Asbestos in Non-Friable Organically Bound Bulk Samples", Item 198.6 in the ELAP Certification Manual. This category includes any sample in a flexible to rigid asphalt or vinyl matrix (floor tiles, mastic, roofing shingles, roofing felt, etc.). These samples must be "ashed" in a muffle furnace at 480-degrees Celsius (to remove organic matrix), treated with acid (to remove any mineral carbonate), and filtered through a 0.4-micron polycarbonate filter before being analyzed by PLM. The sample must be weighted between each of these steps to track the percent loss of organic matrix.



ELAP has determined that analysis of NOB materials is not reliably performed by PLM. Therefore, if PLM analysis yields results of 1-percent asbestos or less, the result must be confirmed by TEM. For bulk samples that undergo TEM analysis, the March 25th, 2011 method "Transmission Electron Microscope Method for Identifying and Quantitating Asbestos in Non-Friable organically Bound Bulk Samples" must be used and can be found as Item 198.4 in the ELAP Certification Manual. ELAP certified laboratories must include the following statement with their PLM analysis results for each "negative" (1-percent or less asbestos) NOB sample: "Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-ACM, confirmation must be made by quantitative transmission electron microscopy".

All samples are initially analyzed by Polarized Light Microscopy in accordance with Item 198.1 and 198.6 of the ELAP Certification Manual. Samples which yield a negative PLM result and which are classified as a "non-friable" material, are then re-analyzed utilizing TEM methodology in accordance with Item 198.4 of the ELAP Certification Manual. The laboratory performing both these analysis procedures is Atlas Environmental Labs Corp. located at 255 West 36th Street, New York, NY 10018. The laboratory has received accreditation from the following agencies:

- National Voluntary Laboratory Accreditation Program (Lab Code 500092-0)
- New York State Environmental Laboratory Approval Program (Lab No. 11999)
- American Industrial Hygiene Association Accredited Laboratory (Lab No. 208306)

B. LEAD-BASED PAINT

Painted surfaces within the space equivalents in the scope of work were identified and grouped together by component type, substrate and visible color. In similar fashion, the inspection continued in each space equivalent with the identification of unique combinations of component, substrate and visible color. A random representative area of each unique combination was sampled and tested. For each of these designated components, an area on the component was chosen which represents the paint on that building component. During the inspection, components that are accessible surfaces, friction surfaces, impact surfaces, or have deteriorated paint was identified.

The readings of paint surfaces were taken using an RMD LPA-1 XRF Lead Paint Spectrum Analyzer. The LPA-1 method of measurement is based on the spectrometric analysis of lead K-shell X-ray fluorescence within a controlled depth of interrogation. The LPA-1 Analyzer uses a Co-57 radioactive source and an advanced, solid-state, room temperature, radiation detector to generate and detect the x-ray fluorescence spectrum of a painted surface. The spectrum is then analyzed by a microprocessor to eliminate the effects of substrate and other factors such as scattering to allow an accurate determination of the amount of lead on a surface. The LPA-1 automatically analyzes spectrometric data in real time and differentiates the lead signal from the spectrum. The x-ray fluorescence properties are determined through calibration process and are used for automatic substrate correction and calculation of the lead content of a painted surface.



C. POLYCHLORINATED BIPHENYLS (PCBs)

PCBs belong to a broad family of man-made organic chemicals known as chlorinated hydrocarbons. PCBs were domestically manufactured from 1929 until their manufacture was banned in 1979. They have a range of toxicity and vary in consistency from thin, light-colored liquids to yellow or black waxy solids. Due to their non-flammability, chemical stability, high boiling point, and electrical insulating properties, PCBs were used in hundreds of industrial and commercial applications including electrical, heat transfer, and hydraulic equipment; as plasticizers in paints, plastics, and rubber products; in pigments, dyes, and carbonless copy paper; and many other industrial applications.

Although no longer commercially produced in the United States, PCBs may be present in products and materials produced before the 1979 PCB ban. Products that may contain PCBs include: Transformers and capacitors, Oil used in motors and hydraulic systems, Fluorescent light ballasts, Adhesives and tapes, Caulking, Plastics, etc.

The PCBs used in these products were chemical mixtures made up of a variety of individual chlorinated biphenyl components, known as congeners. Most commercial PCB mixtures are known in the United States by their industrial trade names. The most common trade name is aroclor.

Polychlorinated biphenyls (PCBs) are regulated pursuant to the United States Environmental Protection Agency Code of Federal Regulations (40 CFR Part 761) and the Toxic Substances Control Act (TSCA – 15 U.S.C. 2605). These regulations require certain testing and reporting requirements to determine management, recycling and disposal options for PCBs.



3.0 INSPECTION SCOPE AND MATERIAL ASSESSMENT

The areas inspected for ACM materials that may be impacted by the proposed Roof Replacement – Phase 1 project at Putnam Valley High School include:

- Roofs A, E, F and H

A. ASBESTOS-CONTAINING MATERIAL

Materials examined during the WSP this inspection included:

- (5th Layer) Perlite
- (3rd Layer) Gypsum Deck
- (2nd Layer) Brown Fibrous Insulation
- (1st Layer) Asphalt Membrane
- (3rd Layer) Particle Board at Drain Bowl
- (2nd Layer) Tar-like Material at Drain Bowl
- Tar at Cap Flashing (Black)
- (2nd Layer) Black Base Flashing
- (1st Layer) Silver Foil Flashing
- Green Caulking at Cap Flashing
- Gray Caulking at Cap Flashing
- Black Tar at Edge of Roof
- (5th Layer) Perlite
- (2nd Layer) Gypsum Deck
- (1st Layer) Asphalt Membrane
- Tar-like Material at Drain Bowl (Between 1st & 2nd Layer)
- Silver Foil Flashing
- Gray Expansion Joint Caulking

Analytical results of the bulk samples collected on 5/12/22 by WSP indicate that the following materials **contain asbestos** (greater than 1-percent).

- **None**

Analytical results of the bulk samples collected on 5/12/22 by WSP indicate that the following materials **did not contain asbestos** (less than 1-percent);

- (5th Layer) Perlite
- (3rd Layer) Gypsum Deck
- (2nd Layer) Brown Fibrous Insulation
- (1st Layer) Asphalt Membrane
- (3rd Layer) Particle Board at Drain Bowl
- (2nd Layer) Tar-like Material at Drain Bowl
- Tar at Cap Flashing (Black)



- (2nd Layer) Black Base Flashing
- (1st Layer) Silver Foil Flashing
- Green Caulking at Cap Flashing
- Gray Caulking at Cap Flashing
- Black Tar at Edge of Roof
- (5th Layer) Pearlite
- (2nd Layer) Gypsum Deck
- (1st Layer) Asphalt Membrane
- Tar-like Material at Drain Bowl (Between 1st & 2nd Layer)
- Silver Foil Flashing
- Gray Expansion Joint Caulking

B. LEAD-BASED PAINT

Based upon XRF readings, lead has been confirmed to exist in the following tested combinations:

- **None**

Lead was **not detected** in the following tested combinations via XRF readings:

- Blue Paint on Metal Wall
- Green Paint on Metal Wall

C. PCB-CONTAINING MATERIAL

Analytical results of the bulk samples collected indicate that the following materials contain PCB (greater than 50 PPM).

- **None**

Analytical results of the bulk samples collected indicate that the following materials did not contain PCB (less than 50 PPM);

- Caulking (Green) at Metal Cap Flashing (1st Layer)
- Caulking (Gray) at Metal Cap Flashing (2nd Layer)
- Caulking (White) at Expansion Joints/Window Wall



Final Report for Environmental Inspection Services

4.0 INSPECTION RESULTS

A. ASBESTOS-CONTAINING MATERIAL

The asbestos inspection involved a thorough visual examination of all areas that may be impacted by the proposed Roof Replacement – Phase 1 project at Putnam Valley High School. The following suspect materials were sampled and analyzed for asbestos content by WSP:

4.1 Table 4.1 – Suspect Materials Inspected

HOMOGENOUS MATERIAL	LOCATION	MATERIAL	ASBESTOS CONTENT
WSP Sampled on 5/12/2022			
-	Roof A, E, F & H	Metal Roof Deck	Non-Suspect
A	Roof A & E	(5 th Layer) Perlite	NAD
B		(3 rd Layer) Gypsum Deck	NAD
C		(2 nd Layer) Brown Fibrous Insulation	NAD
D		(1 st Layer) Asphalt Membrane	NAD
E		(3 rd Layer) Particle Board @ Drain Bowl	NAD
F		(2 nd Layer) Tar-Like material @ Drain Bowl	NAD
G		Tar @ Cap Flashing (Black)	NAD
H		(2 nd Layer) Black Base Flashing	NAD
I		(1 st Layer) Silver Foil Flashing	NAD
J		Green Caulking @ Cap Flashing	NAD
K		Gray Caulking @ Cap Flashing	NAD
L		Black Tar @ Edge of Roof	NAD
M	Roof F & H	(5 th Layer) Perlite	NAD
N		(2 nd Layer) Gypsum Deck	NAD
O		(1 st Layer) Asphalt Membrane	NAD
P		Tar-like Material @ Drain Bowl (Between 1 st & 2 nd Layer)	NAD
Q		Silver Foil Flashing	NAD
R		Grey Expansion Joint Caulk	NAD
-		Metal Window Walls	Non-Suspect

Bold = Positive for ACM

NAD = No Asbestos Detected

NA/PS = Not analyzed/ positive sample

4.2 SAMPLE ANALYSIS TABLE

Laboratory analysis results, in tabular form, are included in Appendix A.



Final Report for Environmental Inspection Services

B. LEAD-BASED PAINT

The lead Inspection involved a thorough visual examination of all accessible areas impacted by the proposed Roof Replacement – Phase 1, project at Putnam Valley High School. The following suspect surfaces were tested for lead content:

Test Number	Sample Location	Building Component	Color	Substrate	Condition	Lead Content (mg/cm ²)
01	Calibration Check @ 1.0	---	---	---	---	0.7
02	Calibration Check @ 1.0	---	---	---	---	0.8
03	Calibration Check @ 1.0	---	---	---	---	0.7
04	Calibration Check @ 0.0	---	---	---	---	-0.1
05	Calibration Check @ 0.0	---	---	---	---	-0.2
06	Calibration Check @ 0.0	---	---	---	---	0.0
07	Exterior	Wall	Blue	Metal	Good	-0.4
08		Wall	Green	Metal	Good	-0.7
09	Calibration Check @ 1.0	---	---	---	---	1.0
10	Calibration Check @ 1.0	---	---	---	---	1.1
11	Calibration Check @ 1.0	---	---	---	---	1.0
12	Calibration Check @ 0.0	---	---	---	---	0.0
13	Calibration Check @ 0.0	---	---	---	---	0.1
14	Calibration Check @ 0.0	---	---	---	---	0.0

C. PCB-CONTAINING MATERIAL

The PCB Inspection involved a thorough visual examination of all areas that may be impacted by the proposed Roof Replacement – Phase 1 project at the Putnam Valley High School. The following suspect materials were tested for PCB content:

HOMOGENOUS MATERIAL	LOCATION	MATERIAL	PCB CONTENT (PPM)
A	Exterior, Roof	Caulking (Green) at Metal Cap Flashing (1 st Layer)	ND



Final Report for Environmental Inspection Services

HOMOGENOUS MATERIAL	LOCATION	MATERIAL	PCB CONTENT (PPM)
B	Exterior, Roof	Caulking (Grey) at Metal Cap Flashing (2 nd Layer)	ND
C	Exterior, Roof	Caulking (White) at Expansion Joints/Window Wall	ND

Bold = Positive for PCB ND = No PCB Detected

5.0 AREAS NOT ACCESSIBLE

During the inspection the following areas were not accessible:

Spaces within Walls/Floors/Ceilings: No destructive sampling was performed on concealed spaces in walls to access plenum, chases etc. It should be assumed that asbestos containing materials may exist in these spaces. Any suspect materials encountered during work should be sampled for analysis before work continues.

Building Envelope: No destructive sampling was performed on the building envelope. It should be assumed that asbestos, lead and PCB containing materials may exist in these spaces. Any suspect materials encountered during work should be sampled for analysis before work continues.

6.0 CONCLUSIONS AND RECOMMENDATIONS

No ACM, LBP and PCB have been identified in this inspection that may be impacted as part of the proposed Roof Replacement – Phase 1 project at Putnam Valley High School, reported in Section 4.0 of this report.

The ACM, LBP & PCB inspection was conducted at the request of Putnam Valley Central School District for the proposed Roof Replacement – Phase 1 project at Putnam Valley High School. Any change in the scope of work will require further investigation to accurately classify any additional ACM, LBP or PCBs resulting from the modified or updated scope of work.



Final Report for Environmental Inspection Services

7.0 REPORT CERTIFICATIONS

This report, and the supporting data, findings, conclusions, opinions, and recommendations it contains represent the result of WSP's efforts for the environmental inspection work for Putnam Valley High School.

Opinions and recommendations presented in this report apply to site conditions and features as they existed at the time of WSP's site visits, and those reasonably foreseeable. They cannot necessarily apply to conditions and features of which WSP is unaware and has not had the opportunity to evaluate.

The conclusions presented in this report are professional opinions solely upon WSP's visual observations of accessible areas, laboratory test data, and current regulatory requirements. These conclusions are intended exclusively for the purpose stated herein and the site indicated for the project indicated.

Prepared by:

A black ink signature of Stephen Gruber, consisting of a stylized 'S' followed by a horizontal line and a diagonal stroke.

Stephen Gruber
Environmental Specialist

Reviewed by:

A blue ink signature of Craig Napolitano, featuring a stylized 'C' and 'N' with a horizontal line and a diagonal stroke.

Craig Napolitano, CHMM
Vice President, Emergency
Management & IH Services



**APPENDIX A:
ASBESTOS SAMPLE ANALYSIS RESULTS IN TABULAR FORM**



Final Report for Environmental Inspection Services

APPENDIX A SAMPLE ANALYSIS RESULTS IN TABULAR FORM PUTNAM VALLEY HIGH SCHOOL ROOF REPLACEMENT – PHASE 1 146 PEEKSKILL HOLLOW ROAD PUTNAM VALLEY, NY 10579

Homogeneous Area No.	Sample No.	Location	Material	PLM Result	TEM Result
WSP Sampled on 5/12/2022					
A	01	Roof A, Top Center	(5 th Layer) Pearlite	NAD	N/A
	02	Roof E, Edge Center		NAD	N/A
B	03	Roof E, Top Center	(3 rd Layer) Gypsum Deck	NAD	N/A
	04	Roof E, E Side of Top Slope		NAD	N/A
C	05	Roof A, NE Corner @ Wall	(2 nd Layer) Brown Fibrous Insulation	NAD	N/A
	06	Roof A, NE Corner @ Wall		NAD	N/A
D	07	Roof A, NE Corner @ Wall	(1 st Layer) Asphalt Membrane	NAD	NAD
	08	Roof E, E Edge Center		NAD	NAD
E	09	Roof A, East Point	(3 rd Layer) Particle Board @ Drain Bowl	NAD	N/A
	10	Roof E, South Point		NAD	N/A
F	11	Roof A, East Point	(2 nd Layer) Tar-Like material @ Drain Bowl	NAD	NAD
	12	Roof E, South Point		NAD	NAD
G	13	Roof A, NE Corner @ Wall	Tar @ Cap Flashing (Black)	NAD	NAD
	14	Roof A, NE Corner @ Wall		NAD	NAD
H	15	Roof A, NE Corner @ Wall	(2 nd Layer) Black Base Flashing	NAD	NAD
	16	Roof E, W Edge Center		NAD	NAD

Bold = Positive for ACM
NAD = No Asbestos Detected

N/A = Not Applicable
NA/PS = Not analyzed/ positive sample



Final Report for Environmental Inspection Services

Homogeneous Area No.	Sample No.	Location	Material	PLM Result	TEM Result
I	17	Roof A, NE Corner @ Wall	(1 st Layer) Silver Foil Flashing	NAD	NAD
	18	Roof E, W Edge Center		NAD	NAD
J	19	Roof A, NE Corner @ Wall	Green Caulking @ Cap Flashing	NAD	NAD
	20	Roof E, W Edge Center		NAD	NAD
K	21	Roof A, NE Corner @ Wall	Gray Caulking @ Cap Flashing	NAD	NAD
	22	Roof E, W Edge Center		NAD	NAD
L	23	Roof A, S Edge Center	Black Tar @ Edge of Roof	NAD	NAD
	24	Roof E, E Edge Center		NAD	NAD
M	25	Roof H, Center	(5 th Layer) Perlite	NAD	N/A
	26	Roof F, Center		NAD	N/A
N	27	Roof H, Center	(2 nd Layer) Gypsum Deck	NAD	N/A
	28	Roof F, Center		NAD	N/A
O	29	Roof H, W End	(1 st Layer) Asphalt Membrane	NAD	NAD
	30	Roof F, S Edge		NAD	NAD
P	31	Roof H, Low Point	Tar-like Material @ Drain Bowl (Between 1 st & 2 nd Layer)	NAD	NAD
	32	Roof F, Center		NAD	NAD
Q	33	Roof H, S Edge @ Wall	Silver Foil Flashing	NAD	NAD
	34	Roof F, W Edge @ Wall		NAD	NAD
R	35	Roof H, S Edge @ Wall	Grey Expansion Joint Caulk	NAD	NAD
	36	Roof F, SW Edge @ Wall		NAD	NAD

Bold = Positive for ACM
NAD = No Asbestos Detected

N/A = Not Applicable
NA/PS = Not analyzed/ positive sample



**APPENDIX B:
ASBESTOS BULK SAMPLE FIELD DATA SHEETS WITH
CHAIN OF CUSODY & LABORATORY RESULTS**



Atlas Environmental Lab, Corp.
255 West 36th Street, Suite# 1503
New York, NY 10018
Phone:(212) 563-0400 Fax:(212) 563-0401
www.atlasenvironmentallab.com

Bulk Asbestos Report by PLM-TEM

Client: WSP
Collected by: Client
Project Name/No.: 31403475.058
Project Address: Putnam Valley HS; 146 Peekskill Hollow Rd, Putnam Valley, NY
Work Area: Roof A and E

Lab ID: BK0522252
Date Received: 5/13/2022
PLM Date Analyzed: 5/14/2022
TEM Date Analyzed: 5/16/2022
Report Date: 5/16/2022

Client ID#	Lab ID#	Description/ Location	Analyst Description	ORG %	All %	ASI %	PLM			TEM	Method By ELAP		
							Fibrous%	Non Fibrous%	Asbestos% &Type	Asbestos% &Type	PLM 198.1	PLM NOB 198.6	TEM 198.4
A01	BK0522252-1	Roof A; Top Center - (5th Layer) Pearlite	Grey, Homogeneous, Friable	Not Applicable			80%CELL	20%	NAD		X		
A02	BK0522252-2	Roof E; E Edge Center - (5th Layer) Pearlite	Grey, Homogeneous, Friable	Not Applicable			75%CELL	25%	NAD		X		
B03	BK0522252-3	Roof E, Top center - (3rd Layer) Gypsum Deck	Grey, Homogeneous, Friable	Not Applicable			5%FBGL	95%	NAD		X		
B04	BK0522252-4	Roof B, E Side, Top of Slope - (3rd Layer) Gypsum Deck	Grey, Homogeneous, Friable	Not Applicable			5%FBGL	95%	NAD		X		
C05	BK0522252-5	Roof A, NE Corner at Wall - (2nd Layer) Brown Fibrous Insulation	Beige, Homogeneous, Friable	Not Applicable			5%FBGL	95%	NAD		X		
C06	BK0522252-6	Roof A, NE Corner at Wall - (2nd Layer) Brown Fibrous Insulation	Beige, Homogeneous, Friable	Not Applicable			5%FBGL	95%	NAD		X		
D07	BK0522252-7	Roof A, NE Corner at Wall - (1st Layer) Asphalt Membrane	Black, Homogeneous, Non-Fibrous	64.0	6.3	29.7	0%	100%	NAD Inconclusive	NAD		X	X
D08	BK0522252-8	Roof E, E Edge Center - (1st Layer) Asphalt Membrane	Black, Homogeneous, Non-Fibrous	69.2	9.3	21.5	0%	100%	NAD Inconclusive	NAD		X	X
E09	BK0522252-9	Roof A, East Point - (3rd Layer) Particle Board at Drain Bowl	Brown, Homogeneous, Friable	Not Applicable			100%CELL	0%	NAD		X		
E10	BK0522252-10	Roof E, South Point - (3rd Layer) Particle Board at Drain Bowl	Brown, Homogeneous, Friable	Not Applicable			100%CELL	0%	NAD		X		



Atlas Environmental Lab, Corp.
 255 West 36th Street, Suite# 1503
 New York, NY 10018
 Phone:(212) 563-0400 Fax:(212) 563-0401
 www.atlasenvironmentallab.com

Bulk Asbestos Report by PLM-TEM

Client: WSP
Collected by: Client
Project Name/No.: 31403475.058
Project Address: Putnam Valley HS; 146 Peekskill Hollow Rd, Putnam Valley, NY
Work Area: Roof A and E

Lab ID: BK0522252
Date Received: 5/13/2022
PLM Date Analyzed: 5/14/2022
TEM Date Analyzed: 5/16/2022
Report Date: 5/16/2022

Client ID#	Lab ID#	Description/ Location	Analyst Description	ORG %	All %	ASI %	PLM			TEM	Method By ELAP		
							Fibrous%	Non Fibrous%	Asbestos% &Type	Asbestos% &Type	PLM 198.1	PLM NOB 198.6	TEM 198.4
F11	BK0522252-11	Roof A, East Point - (2nd Layer) Tar-like Material at Drain Bowl	Black, Homogeneous, Non-Fibrous	56.0	5.2	38.8	0%	100%	NAD Inconclusive	NAD		X	X
F12	BK0522252-12	Roof E, South Point - (2nd Layer) Tar-like Material at Drain Bowl	Black, Homogeneous, Non-Fibrous	52.5	22.5	25.1	0%	100%	NAD Inconclusive	NAD		X	X
G13	BK0522252-13	Roof A, NE Corner at Wall - Tar at Cap Flashing (Black)	Black, Homogeneous, Non-Fibrous	62.1	30.4	7.5	0%	100%	NAD Inconclusive	NAD		X	X
G14	BK0522252-14	Roof A, NE Corner at Wall - Tar at Cap Flashing (Black)	Black, Homogeneous, Non-Fibrous	71.6	23.8	4.6	0%	100%	NAD Inconclusive	NAD		X	X
H15	BK0522252-15	Roof A, NE Corner at Wall - (2nd Layer) Black Base Flashing	Black, Homogeneous, Non-Fibrous	72.8	6.4	20.7	0%	100%	NAD Inconclusive	NAD		X	X
H16	BK0522252-16	Roof E, W Edge Center - (2nd Layer) Black Base Flashing	Black, Homogeneous, Non-Fibrous	73.1	6.2	20.7	0%	100%	NAD Inconclusive	NAD		X	X
I17	BK0522252-17	Roof A, NE Corner at Wall - (1st layer) Silver Foil Flashing	Green/Black, Homogeneous, Non-Fibrous	60.2	4.8	35.0	0%	100%	NAD Inconclusive	NAD		X	X
I18	BK0522252-18	Roof E, W Edge Center- (1st layer) Silver Foil Flashing	Green/Black, Homogeneous, Non-Fibrous	63.1	3.9	33.0	0%	100%	NAD Inconclusive	NAD		X	X
J19	BK0522252-19	Roof A, NE Corner at Wall - Green Caulking at Cap Flashing	Black, Homogeneous, Non-Fibrous	56.8	7.3	35.9	0%	100%	NAD Inconclusive	NAD		X	X
J20	BK0522252-20	Roof E, W Edge Center- Green Caulking at Cap Flashing	Black, Homogeneous, Non-Fibrous	57.4	16.3	26.3	0%	100%	NAD Inconclusive	NAD		X	X



Atlas Environmental Lab, Corp.
255 West 36th Street, Suite# 1503
New York, NY 10018
Phone:(212) 563-0400 Fax:(212) 563-0401
www.atlasenvironmentallab.com

Bulk Asbestos Report by PLM-TEM

Client: WSP
Collected by: Client
Project Name/No.: 31403475.058
Project Address: Putnam Valley HS; 146 Peekskill Hollow Rd, Putnam Valley, NY
Work Area: Roof A and E

Lab ID: BK0522252
Date Received: 5/13/2022
PLM Date Analyzed: 5/14/2022
TEM Date Analyzed: 5/16/2022
Report Date: 5/16/2022

Client ID#	Lab ID#	Description/ Location	Analyst Description	ORG %	All %	ASI %	PLM			TEM	Method By ELAP		
							Fibrous%	Non Fibrous%	Asbestos% &Type	Asbestos% &Type	PLM 198.1	PLM NOB 198.6	TEM 198.4
K21	BK0522252-21	Roof A, NE Corner at Wall - Grey Caulking at Cap Flashing	Brown, Homogeneous, Non-Fibrous	84.2	4.8	11.0	0%	100%	NAD Inconclusive	NAD		X	X
K22	BK0522252-22	Roof E W Edge Center - Grey Caulking at Cap Flashing	Brown, Homogeneous, Non-Fibrous	62.3	13.4	24.3	0%	100%	NAD Inconclusive	NAD		X	X
L23	BK0522252-23	Roof A, S Edge Center - Black Tar at Edge of Roof	Black, Homogeneous, Non-Fibrous	49.2	34.2	16.6	0%	100%	NAD Inconclusive	NAD		X	X
L24	BK0522252-24	Roof E, E Edge Center- Black Tar at Edge of Roof	Black, Homogeneous, Non-Fibrous	45.8	29.9	24.3	0%	100%	NAD Inconclusive	NAD		X	X
M25	BK0522252-25	Roof H, center - (5th Layer) Pearlite	Grey, Homogeneous, Friable	Not Applicable			75%CELL	25%	NAD		X		
M26	BK0522252-26	Roof F, center - (5th Layer) Pearlite	Grey, Homogeneous, Friable	Not Applicable			75%CELL	25%	NAD		X		
N27	BK0522252-27	Roof H, Center - (2nd Layer) Gypsum Deck	Beige, Homogeneous, Friable	Not Applicable			5%FBGL	95%	NAD		X		
N28	BK0522252-28	Roof F, Center - (2nd Layer) Gypsum Deck	Beige, Homogeneous, Friable	Not Applicable			5%FBGL	95%	NAD		X		
O29	BK0522252-29	Roof H, W End - (1st Layer) Asphalt Membrane	Blue/Black, Homogeneous, Non-Fibrous	61.6	19.0	19.4	0%	100%	NAD Inconclusive	NAD		X	X
O30	BK0522252-30	Roof F, S Edge- (1st Layer) Asphalt Membrane	Blue/Black, Homogeneous, Non-Fibrous	55.3	23.7	21.0	0%	100%	NAD Inconclusive	NAD		X	X



Atlas Environmental Lab, Corp.
255 West 36th Street, Suite# 1503
New York, NY 10018
Phone:(212) 563-0400 Fax:(212) 563-0401
www.atlasenvironmentallab.com

Bulk Asbestos Report by PLM-TEM

Client: WSP
Collected by: Client
Project Name/No.: 31403475.058
Project Address: Putnam Valley HS; 146 Peekskill Hollow Rd, Putnam Valley, NY
Work Area: Roof A and E

Lab ID: BK0522252
Date Received: 5/13/2022
PLM Date Analyzed: 5/14/2022
TEM Date Analyzed: 5/16/2022
Report Date: 5/16/2022

Client ID#	Lab ID#	Description/ Location	Analyst Description	ORG %	All %	ASI %	PLM			TEM	Method By ELAP		
							Fibrous%	Non Fibrous%	Asbestos% & Type	Asbestos% & Type	PLM 198.1	PLM NOB 198.6	TEM 198.4
P31	BK0522252-31	Roof H, Low Point - Tar-like Material at Drain Bowl (between 1st and 2nd Layer)	Black, Homogeneous, Non-Fibrous	62.2	11.4	26.5	0%	100%	NAD Inconclusive	NAD		X	X
P32	BK0522252-32	Roof F, Center - Tar-like Material at Drain Bowl (between 1st and 2nd Layer)	Black, Homogeneous, Non-Fibrous	55.0	4.0	41.0	0%	100%	NAD Inconclusive	NAD		X	X
Q33	BK0522252-33	Roof H, S Edge at Wall - Silver Foil Flashing	Black, Homogeneous, Non-Fibrous	51.7	10.5	37.8	0%	100%	NAD Inconclusive	NAD		X	X
Q34	BK0522252-34	Roof F, W Edge at Wall - Silver Foil Flashing	Black, Homogeneous, Non-Fibrous	57.4	4.4	38.2	0%	100%	NAD Inconclusive	NAD		X	X
R35	BK0522252-35	Roof H, S Edge at Wall - Grey Expansion Joint Caulk	Grey, Homogeneous, Non-Fibrous	44.4	8.5	47.1	0%	100%	NAD Inconclusive	NAD		X	X
R36	BK0522252-36	Roof F, SW Corner at Wall - Grey Expansion Joint Caulk	Grey, Homogeneous, Non-Fibrous	29.6	38.9	31.6	0%	100%	NAD Inconclusive	NAD		X	X

Quantitative Analysis (Semi/Full): Bulk Asbestos Analysis-PLM by EPA 600/M4-82-020 per 40 CFR or ELAP 198.1 (friable) and 198.6 (NOB) samples for New York.

AL

NAD=no asbestos detected, NA/PS=Not Analyzed/Positive Stop, Trace=<1%, FBGL=Fiberglass, CELL=Cellulose, CHRY=Chrysotile, Amo=Amosite, CRO=Crocidolite, ANTH=Anthophyllite, TRE=Tremolite, ACT=Actinolite, NA=not applicable.

PLM is not consistently reliable in detecting Asbestos in floor coverings and similar non friable organically bound 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 NY State.

All samples were prepared and analyzed in accordance with the EPA "TEM Method for Identifying and Quantifying Asbestos in Non-Fibrous Organically Bound Bulk Samples" ELAP 198.4".

ORG%=Ashed Organic%, All= Acid Insoluble Inorganic%, ASI= Acid Soluble Inorganic%

This "Summary of Analytical Results "shall not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, ELAP or any agency of the U.S Government. The results relate only to the items tested. This report may not be reproduced, except in full, without the written approval of AEL. Atlas Environmental lab did not collect the analyzed samples and thus accepts no liability with regard to their collection and/or maintenance. AEL relies on client's data. The liability of Atlas Environmental Lab corp with respect to the services charged, shall in no event exceed the amount of the invoice.

NYS-ELAP#11999, NVLAP Lab Code: 500092-0, NJ ID: NY034 "ELCP on NJ won't apply to TEM", CT Reg. ID: PH-0154

PLM Analyst: DK

TEM Analyst: VR

Approved by:



ASBESTOS SURVEY DATA SHEET/ CHAIN OF CUSTODY

BK05 22252

PAGE 1 OF 3

PROJECT NO.: ~~1002~~ 31403475.058

CLIENT: PUTNAM Valley CSD

PROJECT SITE: Putnam Valley HS; 146 Peckskill Hollow Rd, Putnam Valley, NY

Project Manager: A. Smolyar

LOCATION(S) SURVEYED: Roof A & E

PROPOSED PROJECT: Roof Replacement

DATE(S) OF INSPECTION: 5/12/2022

Inspector(s): Liam Briel

WSP

TELEPHONE NO.: (212) 612-7900 FAX NO.: (212) 363-4341

ADDRESS: 96 Morton Street, 8th Floor, New York, NY 10014

RESULTS TO: Lb.Labresults@wsp.com

TURNAROUND TIME: ☐ 12 HR. ☐ 24 HR.

☐ 48 HR. ☒ 72 HR.

HA	SAMPLE NO.	SAMPLE LOCATION	MATERIAL DESCRIPTION	APPROX. QUANTITY (LF/SF)	FIELD NOTES
A	01	Roof A, Top Center	(5th layer) Pearlite		
↓	02	Roof A E, E Edge Center	↓ ↓		4th layer foam
B	03	Roof A E, Top Center	(3rd layer) Gypsum Deck		
↓	04	Roof B, E side, top of slope	↓ ↓		
C	05	Roof A, NE corner @ wall	(2nd layer) Brown Fibrous		only @ 1 location on Roof A
↓	06	↓ ↓	Insulation		
D	07	Roof A, NE corner @ wall	(1st layer) Asphalt Membrane		
↓	08	Roof E, E Edge Center	↓ ↓		
E	09	Roof A, South East Point	(3rd layer) Particle Board		(above gypsum & foam & Pearlite)
↓	10	Roof E, South Point	@ Drain Bowl		
F	11	Roof A, South East Point	(2nd layer) Tar-like material		
↓	12	Roof E, South Point	@ Drain Bowl		

CHAIN OF CUSTODY

Relinquished by: (print) Liam Briel	(Sign) <i>Liam Briel</i>	5/13/22	1045 AM/PM	Relinquished by: (print)	(Sign)	/ /	AM/PM	Relinquished by: (print)	(Sign)	/ /	AM/PM
Received by: (print) A. Smolyar	(Sign) <i>A</i>	5/13/22	12:00 AM/PM	Received by: (print)	(Sign)	/ /	AM/PM	Received by: (print)	(Sign)	/ /	AM/PM

NOTE: USE STOP AT FIRST POSITIVE METHODOLOGY FOR EVERY HOMOGENEOUS MATERIAL

PLM Analyst *John W. Kegan* 05/14/22 12:44



ASBESTOS SURVEY DATA SHEET/ CHAIN OF CUSTODY

3K0522252

PAGE 2 OF 3

PROJECT NO.: ~~31403475.058~~ **31403475.058**
CLIENT: PUTNAM Valley CSD
PROJECT SITE: Putnam Valley HS; 146 Peckskill Hollow Rd, Putnam Valley, NY
Project Manager: A. Smolyar

LOCATION(S) SURVEYED: Roof A & E
PROPOSED PROJECT: Roof Replacement
DATE(S) OF INSPECTION: 5/12/2022
Inspector(s): Liam Brihol

WSP
 TELEPHONE NO.: (212) 612-7900 FAX NO.: (212) 363-4341
 ADDRESS: 96 Morton Street, 8th Floor, New York, NY 10014

RESULTS TO: Lb.Labresults@wsp.com

TURNAROUND TIME: ☐ 12 HR. ☒ 24 HR.

☐ 48 HR. ☒ 72 HR.

HA	SAMPLE NO.	SAMPLE LOCATION	MATERIAL DESCRIPTION	APPROX. QUANTITY (LF/SF)	FIELD NOTES
G	13	Roof A, NE Corner @ wall	Tar @ Cap Flashing		
↓	14	↓	(Black)		
H	15	Roof A, NE corner @ wall	(2nd layer) Black Base Flashing		
↓	16	Roof E, E Edge Center	↓		
I	17	Roof A, NE Corner @ wall	(3rd layer) Silver Foil Flashing		
↓	18	Roof E, E Edge Center	↓		
J	19	Roof A, NE Corner @ wall	Green Caulking @ Cap		
↓	20	Roof E, E Edge Center	Flashing		
K	21	Roof A, NE Corner @ wall	Grey Caulking @ Cap		
↓	22	Roof E, E Edge Center	Flashing		
L	23	Roof A, S Edge Center	Black Tar @ Edge of		
↓	24	Roof E, E Edge Center	Roof		

CHAIN OF CUSTODY

Relinquished by: (print) Liam Brihol	(Sign) [Signature]	5/13/22	10:05 AM	Relinquished by: (print)	(Sign)	/ /	AM/PM	Relinquished by: (print)	(Sign)	/ /	AM/PM
Received by: (print) A. Smolyar	(Sign) [Signature]	5/13/22	12:00 PM	Received by: (print)	(Sign)	/ /	AM/PM	Received by: (print)	(Sign)	/ /	AM/PM

NOTE: USE STOP AT FIRST POSITIVE METHODOLOGY FOR EVERY HOMOGENEOUS MATERIAL

PLM Analyst - [Signature] 5/14/22 18:40



ASBESTOS SURVEY DATA SHEET/ CHAIN OF CUSTODY

B100522252

PAGE 3 OF 3

PROJECT NO.: 31403475.058

CLIENT: PUTNAM VALLEY CSD

PROJECT SITE: Putnam Valley HS; 146 Freshkill Hollow Rd, Putnam Valley, NY

Project Manager: A. Smolyar

LOCATION(S) SURVEYED: Roof H & F

PROPOSED PROJECT: Roof Replacement

DATE(S) OF INSPECTION: 5/12/22

Inspector(s): Liam Bristol

WSP
TELEPHONE NO. : (212) 612-7900 FAX NO.: (212) 363-4341
ADDRESS: 96 Morton Street, 8th Floor, New York, NY 10014

RESULTS TO: Lb.Labresults@wsp.com

TURNAROUND TIME: ☐ 12 HR. ☒ 24 HR.

☐ 48 HR. ☒ 72 HR.

HA	SAMPLE NO.	SAMPLE LOCATION	MATERIAL DESCRIPTION	APPROX. QUANTITY (LF/SF)	FIELD NOTES
M	25	Roof H, Center	(5th Layer) Pearlite		
↓	26	Roof F, Center	↓ ↓		4th & 3rd Layer Foam
N	27	Roof H, Center	(2nd Layer) Gypsum Deck		
↓	28	Roof F, Center	↓ ↓		
O	29	Roof H, W End	(1st Layer) Asphalt Membrane		
↓	30	Roof F, S Edge	↓ ↓		
P	31	Roof H, Low Point	Tar-Like Material @		
↓	32	Roof F, Center	Drain Bowl (between 1st & 2nd layers)		
Q	33	Roof H, S Edge @ wall	Silver Foil Flashing		
↓	34	Roof F, W Edge @ wall	↓ ↓		
R	35	Roof H, S Edge @ wall	Grey Expansion Joint Caulk		
↓	36	Roof F, SW Corner @ wall	↓ ↓		

CHAIN OF CUSTODY

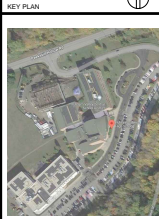
Relinquished by: (print) <u>Liam Bristol</u>	(Sign) <u>[Signature]</u>	<u>5/13/22</u>	<u>1045</u> AM/PM	Relinquished by: (print)	(Sign)	<u>1</u>	<u>1</u>	AM/PM
Received by: (print) <u>Audra Loo</u>	(Sign) <u>[Signature]</u>	<u>5/13/22</u>	<u>12:00</u> AM/PM	Received by: (print)	(Sign)	<u>1</u>	<u>1</u>	AM/PM

NOTE: USE STOP AT FIRST POSITIVE METHODOLOGY FOR EVERY HOMOGENEOUS MATERIAL

PLM Analyst - [Signature] / [Signature] 5/14/2022 18:46



**APPENDIX C:
ASBESTOS BULK SAMPLE LOCATION DRAWINGS**

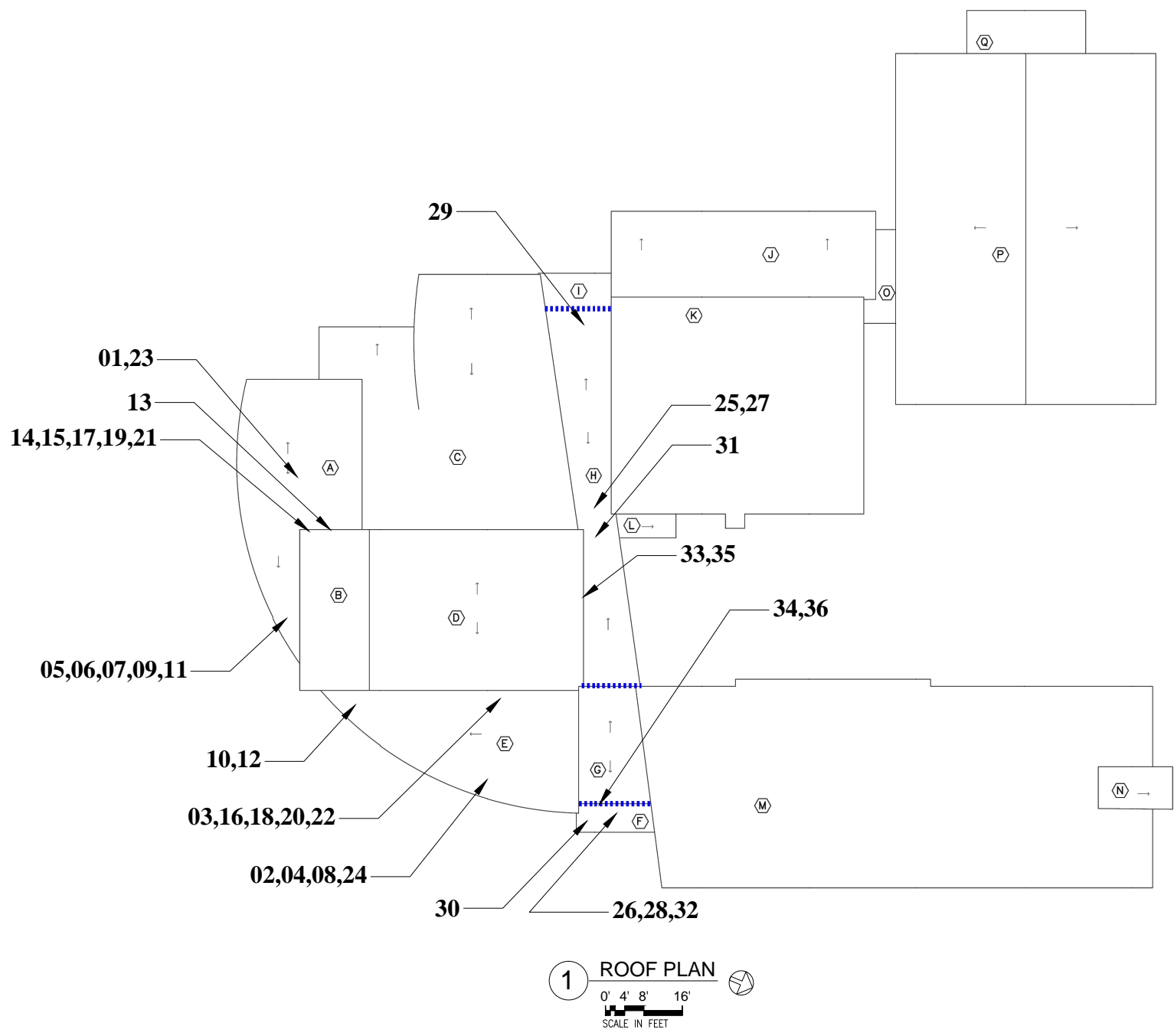


Rev	Date	Description

BULK SAMPLE LOCATIONS
PUTNAM VALLEY HIGH SCHOOL
145 PEEKSKILL HOLLOW RD
ROOF PLAN

JOB No.	31403475.058	Drawn	05/19/2022
Scale	AS NOTED	Checked /	JP
Sheet Number			

BSL001





**APPENDIX D:
ASBESTOS CONTAINING MATERIALS LOCATION
DRAWINGS
(N/A)**

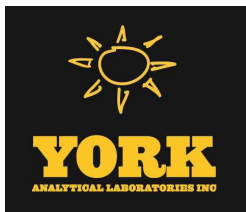


**APPENDIX E:
LEAD XRF SHOT RESULTS**

		XRF CALIBRATION CHECK FORM			PAGE <u>1</u> OF <u>2</u>	
PROJ. NO.: <u>31403475.058</u>		DATE: <u>5/12/22</u>				
PROJECT NAME: <u>Roof Replacement</u>		INSPECTOR NAME: <u>Stephen Grube</u>				
CLIENT: <u>Putnam Valley Central School District</u>		INSPECTOR SIGNATURE: <u>[Signature]</u>				
SITE: <u>Putnam Valley High School</u>		PROJ. MANAGER: <u>A. Smolyar</u>				
LOUIS BERGER a WSP USA Company TELEPHONE #: (212) 612-7900 FAX #: (212) 425-1618 ADDRESS: 96 Morton Street, 8 th Floor, New York, NY 10014		XRF MAKE/MODEL: <u>RMD LPA-1 (Serial#3675)</u> <u>Heuresis PB200T (Serial#2150)</u>		LLW#: <u> </u>		JOB#: <u> </u>
		NOTES:				
CALIBRATION CHECK – PRIOR TO LEAVING OFFICE						
_____ mg/cm ² Calibration Block		FIRST READING	SECOND READING	THIRD READING	AVERAGE	
CALIBRATION TIME: <u>0900</u>	TEST #	<u>01</u>	<u>2</u>	<u>3</u>		
	XRF READING	<u>0.7</u>	<u>0.8</u>	<u>0.7</u>		
CALIBRATION CHECK – PRIOR TO LEAVING OFFICE						
_____ mg/cm ² Calibration Block		FIRST READING	SECOND READING	THIRD READING	AVERAGE	
CALIBRATION TIME: _____	TEST #	<u>4</u>	<u>5</u>	<u>6</u>		
	XRF READING	<u>-0.1</u>	<u>-0.2</u>	<u>0</u>		
CALIBRATION CHECK – FIELD-START						
_____ mg/cm ² Calibration Block		FIRST READING	SECOND READING	THIRD READING	AVERAGE	
CALIBRATION TIME: <u>1000</u>	TEST #	<u>709</u>	<u>410</u>	<u>7211</u>		
	XRF READING	<u>1.0</u>	<u>1.1</u>	<u>1.0</u>		
CALIBRATION CHECK – FIELD-END/2-HR (circle one)						
_____ mg/cm ² Calibration Block		FIRST READING	SECOND READING	THIRD READING	AVERAGE	
CALIBRATION TIME: _____	TEST #	<u>12</u>	<u>13</u>	<u>14</u>		
	XRF READING	<u>0.0</u>	<u>0.1</u>	<u>0.0</u>		
CALIBRATION CHECK – FIELD-END/2-HR (circle one)						
_____ mg/cm ² Calibration Block		FIRST READING	SECOND READING	THIRD READING	AVERAGE	
CALIBRATION TIME: _____	TEST #					
	XRF READING					
CALIBRATION CHECK – FIELD-END/2-HR (circle one)						
_____ mg/cm ² Calibration Block		FIRST READING	SECOND READING	THIRD READING	AVERAGE	
CALIBRATION TIME: _____	TEST #					
	XRF READING					
CALIBRATION CHECK – FIELD-END/2-HR (circle one)						
_____ mg/cm ² Calibration Block		FIRST READING	SECOND READING	THIRD READING	AVERAGE	
CALIBRATION TIME: _____	TEST #					
	XRF READING					



**APPENDIX F:
PCB BULK SAMPLE FIELD DATA SHEETS WITH CHAIN OF
CUSTODY & LABORATORY RESULTS**



Technical Report

prepared for:

WSP USA (New York, NY)

One Penn Plaza, 2nd Floor

New York NY, 10119

Attention: Alexander Smolyar

Report Date: 05/19/2022

Client Project ID: 31403475.058

York Project (SDG) No.: 22E0616

CT Cert. No. PH-0723

New Jersey Cert. No. CT005 and NY037



New York Cert. Nos. 10854 and 12058

PA Cert. No. 68-04440

120 RESEARCH DRIVE
www.YORKLAB.com

STRATFORD, CT 06615
(203) 325-1371

132-02 89th AVENUE
FAX (203) 357-0166

RICHMOND HILL, NY 11418
ClientServices@yorklab.com

Report Date: 05/19/2022
Client Project ID: 31403475.058
York Project (SDG) No.: 22E0616

WSP USA (New York, NY)
One Penn Plaza, 2nd Floor
New York NY, 10119
Attention: Alexander Smolyar

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on May 13, 2022 and listed below. The project was identified as your project: **31403475.058**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Sample and Analysis Qualifiers section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the Sample and Data Qualifiers Relating to This Work Order section of this report and case narrative if applicable.

The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

<u>York Sample ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>
22E0616-01	A-01/02/03	Caulk	05/12/2022	05/13/2022
22E0616-02	B-04/05/06	Caulk	05/12/2022	05/13/2022
22E0616-03	C-07/08/09	Caulk	05/12/2022	05/13/2022

General Notes for York Project (SDG) No.: 22E0616

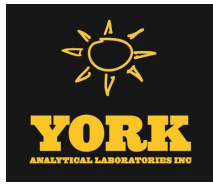
1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All analyses conducted met method or Laboratory SOP requirements. See the Sample and Data Qualifiers Section for further information.
6. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
7. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.
8. Analyses conducted at York Analytical Laboratories, Inc. Stratford, CT are indicated by NY Cert. No. 10854; those conducted at York Analytical Laboratories, Inc., Richmond Hill, NY are indicated by NY Cert. No. 12058.

Approved By: 

Date: 05/19/2022

Cassie L. Mosher
Laboratory Manager





Sample Information

Client Sample ID: A-01/02/03

York Sample ID: 22E0616-01

York Project (SDG) No.

Client Project ID

Matrix

Collection Date/Time

Date Received

22E0616

31403475.058

Caulk

May 12, 2022 3:00 pm

05/13/2022

Polychlorinated Biphenyls (PCB)

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg	0.345	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP	05/18/2022 06:54	05/18/2022 16:08	BJ
11104-28-2	Aroclor 1221	ND		mg/kg	0.345	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP	05/18/2022 06:54	05/18/2022 16:08	BJ
11141-16-5	Aroclor 1232	ND		mg/kg	0.345	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP	05/18/2022 06:54	05/18/2022 16:08	BJ
53469-21-9	Aroclor 1242	ND		mg/kg	0.345	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP	05/18/2022 06:54	05/18/2022 16:08	BJ
12672-29-6	Aroclor 1248	ND		mg/kg	0.345	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP	05/18/2022 06:54	05/18/2022 16:08	BJ
11097-69-1	Aroclor 1254	ND		mg/kg	0.345	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP	05/18/2022 06:54	05/18/2022 16:08	BJ
11096-82-5	Aroclor 1260	ND		mg/kg	0.345	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP	05/18/2022 06:54	05/18/2022 16:08	BJ
37324-23-5	Aroclor 1262	ND		mg/kg	0.345	1	EPA 8082A Certifications: NELAC-NY10854,NJDEP	05/18/2022 06:54	05/18/2022 16:08	BJ
11100-14-4	Aroclor 1268	ND		mg/kg	0.345	1	EPA 8082A Certifications: NELAC-NY10854,NJDEP	05/18/2022 06:54	05/18/2022 16:08	BJ
1336-36-3	* Total PCBs	ND		mg/kg	0.345	1	EPA 8082A Certifications:	05/18/2022 06:54	05/18/2022 16:08	BJ
Surrogate Recoveries		Result	Acceptance Range							
877-09-8	Surrogate: Tetrachloro-m-xylene	73.0 %	30-140							
2051-24-3	Surrogate: Decachlorobiphenyl	51.0 %	30-140							

Sample Information

Client Sample ID: B-04/05/06

York Sample ID: 22E0616-02

York Project (SDG) No.

Client Project ID

Matrix

Collection Date/Time

Date Received

22E0616

31403475.058

Caulk

May 12, 2022 3:00 pm

05/13/2022

Polychlorinated Biphenyls (PCB)

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg	0.370	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP	05/18/2022 06:54	05/18/2022 16:23	BJ
11104-28-2	Aroclor 1221	ND		mg/kg	0.370	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP	05/18/2022 06:54	05/18/2022 16:23	BJ
11141-16-5	Aroclor 1232	ND		mg/kg	0.370	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP	05/18/2022 06:54	05/18/2022 16:23	BJ



Sample Information

Client Sample ID: B-04/05/06

York Sample ID: 22E0616-02

York Project (SDG) No.
22E0616

Client Project ID
31403475.058

Matrix
Caulk

Collection Date/Time
May 12, 2022 3:00 pm

Date Received
05/13/2022

Polychlorinated Biphenyls (PCB)

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
53469-21-9	Aroclor 1242	ND		mg/kg	0.370	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP	05/18/2022 06:54	05/18/2022 16:23	BJ
12672-29-6	Aroclor 1248	ND		mg/kg	0.370	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP	05/18/2022 06:54	05/18/2022 16:23	BJ
11097-69-1	Aroclor 1254	ND		mg/kg	0.370	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP	05/18/2022 06:54	05/18/2022 16:23	BJ
11096-82-5	Aroclor 1260	ND		mg/kg	0.370	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP	05/18/2022 06:54	05/18/2022 16:23	BJ
37324-23-5	Aroclor 1262	ND		mg/kg	0.370	1	EPA 8082A Certifications: NELAC-NY10854,NJDEP	05/18/2022 06:54	05/18/2022 16:23	BJ
11100-14-4	Aroclor 1268	ND		mg/kg	0.370	1	EPA 8082A Certifications: NELAC-NY10854,NJDEP	05/18/2022 06:54	05/18/2022 16:23	BJ
1336-36-3	* Total PCBs	ND		mg/kg	0.370	1	EPA 8082A Certifications:	05/18/2022 06:54	05/18/2022 16:23	BJ
Surrogate Recoveries		Result	Acceptance Range							
877-09-8	Surrogate: Tetrachloro-m-xylene	80.0 %	30-140							
2051-24-3	Surrogate: Decachlorobiphenyl	55.0 %	30-140							

Sample Information

Client Sample ID: C-07/08/09

York Sample ID: 22E0616-03

York Project (SDG) No.
22E0616

Client Project ID
31403475.058

Matrix
Caulk

Collection Date/Time
May 12, 2022 3:00 pm

Date Received
05/13/2022

Polychlorinated Biphenyls (PCB)

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg	0.365	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP	05/18/2022 06:54	05/18/2022 16:38	BJ
11104-28-2	Aroclor 1221	ND		mg/kg	0.365	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP	05/18/2022 06:54	05/18/2022 16:38	BJ
11141-16-5	Aroclor 1232	ND		mg/kg	0.365	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP	05/18/2022 06:54	05/18/2022 16:38	BJ
53469-21-9	Aroclor 1242	ND		mg/kg	0.365	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP	05/18/2022 06:54	05/18/2022 16:38	BJ
12672-29-6	Aroclor 1248	ND		mg/kg	0.365	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP	05/18/2022 06:54	05/18/2022 16:38	BJ
11097-69-1	Aroclor 1254	ND		mg/kg	0.365	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP	05/18/2022 06:54	05/18/2022 16:38	BJ
11096-82-5	Aroclor 1260	ND		mg/kg	0.365	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP	05/18/2022 06:54	05/18/2022 16:38	BJ



Sample Information

Client Sample ID: C-07/08/09

York Sample ID: 22E0616-03

York Project (SDG) No.
22E0616

Client Project ID
31403475.058

Matrix
Caulk

Collection Date/Time
May 12, 2022 3:00 pm

Date Received
05/13/2022

Polychlorinated Biphenyls (PCB)

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
37324-23-5	Aroclor 1262	ND		mg/kg	0.365	1	EPA 8082A Certifications: NELAC-NY10854,NJDEP	05/18/2022 06:54	05/18/2022 16:38	BJ
11100-14-4	Aroclor 1268	ND		mg/kg	0.365	1	EPA 8082A Certifications: NELAC-NY10854,NJDEP	05/18/2022 06:54	05/18/2022 16:38	BJ
1336-36-3	* Total PCBs	ND		mg/kg	0.365	1	EPA 8082A Certifications:	05/18/2022 06:54	05/18/2022 16:38	BJ
Surrogate Recoveries		Result		Acceptance Range						
877-09-8	Surrogate: Tetrachloro-m-xylene	79.5 %								
2051-24-3	Surrogate: Decachlorobiphenyl	58.5 %								



Analytical Batch Summary

Batch ID: BE20987

Preparation Method: EPA 3550C

Prepared By: SJB

YORK Sample ID	Client Sample ID	Preparation Date
22E0616-01	A-01/02/03	05/18/22
22E0616-02	B-04/05/06	05/18/22
22E0616-03	C-07/08/09	05/18/22
BE20987-BLK1	Blank	05/18/22
BE20987-BS1	LCS	05/18/22
BE20987-BSD1	LCS Dup	05/18/22



Polychlorinated Biphenyls by GC/ECD - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE20987 - EPA 3550C											
Blank (BE20987-BLK1)						Prepared & Analyzed: 05/18/2022					
Aroclor 1016	ND	0.500	mg/kg								
Aroclor 1221	ND	0.500	"								
Aroclor 1232	ND	0.500	"								
Aroclor 1242	ND	0.500	"								
Aroclor 1248	ND	0.500	"								
Aroclor 1254	ND	0.500	"								
Aroclor 1260	ND	0.500	"								
Aroclor 1262	ND	0.500	"								
Aroclor 1268	ND	0.500	"								
Total PCBs	ND	0.500	"								
Surrogate: Tetrachloro-m-xylene	2.07		"	2.00		104	30-140				
Surrogate: Decachlorobiphenyl	1.57		"	2.00		78.5	30-140				
LCS (BE20987-BS1)						Prepared & Analyzed: 05/18/2022					
Aroclor 1016	8.37	0.500	mg/kg	10.0		83.7	40-130				
Aroclor 1260	6.57	0.500	"	10.0		65.7	40-130				
Surrogate: Tetrachloro-m-xylene	1.60		"	2.00		80.0	30-140				
Surrogate: Decachlorobiphenyl	1.06		"	2.00		53.0	30-140				
LCS Dup (BE20987-BSD1)						Prepared & Analyzed: 05/18/2022					
Aroclor 1016	9.07	0.500	mg/kg	10.0		90.7	40-130		7.98	25	
Aroclor 1260	7.71	0.500	"	10.0		77.1	40-130		16.0	25	
Surrogate: Tetrachloro-m-xylene	1.68		"	2.00		84.0	30-140				
Surrogate: Decachlorobiphenyl	1.27		"	2.00		63.5	30-140				
Batch Y2E1918 - BE20987											
Aroclor Reference (Y2E1918-ARC1)						Prepared & Analyzed: 05/18/2022					
Surrogate: Tetrachloro-m-xylene	0.199		ug/mL	0.200		99.5					
Surrogate: Decachlorobiphenyl	0.143		"	0.200		71.5					



Sample and Data Qualifiers Relating to This Work Order

Definitions and Other Explanations

*	Analyte is not certified or the state of the samples origination does not offer certification for the Analyte.
ND	NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL)
RL	REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
LOQ	LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses.
LOD	LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846.
MDL	METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods.
Reported to	This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only.
NR	Not reported
RPD	Relative Percent Difference
Wet	The data has been reported on an as-received (wet weight) basis
Low Bias	Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
High Bias	High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
Non-Dir.	Non-dir. flag (Non-Directional Bias) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two. For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the LOD/MDL, with values between the LOD/MDL and the LOQ being "J" flagged as estimated results.

For analyses by EPA SW-846-8270D, the Limit of Quantitation (LOQ) reported for benzidine is based upon the lowest standard used for calibration and is not a verified LOQ due to this compound's propensity for oxidative losses during extraction/concentration procedures and non-reproducible chromatographic performance.

27F0616

PCB SURVEY DATA SHEET/ CHAIN OF CUSTODY

WSP PROJ #: 31403475.058 CLIENT: Putnam Valley Central School District Project Site: Putnam Valley High School Project Manager: A. Smolyar				LOCATION(S) SURVEYED Roofs A, E, F, H PROPOSED PROJECT : Root Replacement DATE(S) OF INSPECTION: 5.12.2022 Inspector(s) Stephen Gruber, Liam Bristol			
WSP TELEPHONE NO. : (212) 612-7900 FAX NO.: (212) 363-4341 ADDRESS: 96 Morton Street, 8 Floor, New York, NY 10014				RESULTS TO: TURNAROUND TIME: <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 H R <input checked="" type="checkbox"/> 96 HR <input checked="" type="checkbox"/> 120 HR			
LAB SAMPLE NO.	HA	SAMPLE NO.	MATERIAL DESCRIPTION	SAMPLE LOCATION	APPROX. QUANTITY (LF/SF)	FIELD NOTES	
	A	01	[Caulking (Green) at]	Roof A			
	↓	02	[Metal Cap	↓			
	↓	03	Flushing (1st Layer)]				
	B	04	[Caulking (Gray) at	Roof A			
	↓	05	[Metal Cap Flushing (2nd Layer)	↓			
	↓	06	↓	Roof H		1st Layer on Roof H	
	C	07	Caulking (white) at	↓			
	↓	08	Expansion Joints / Window				
	↓	09	Wall	↓			

CHAIN OF CUSTODY

Requested by: STEPHEN GRUBER	(Sign) <i>z</i>	5/13/22	1085 AM/PM	Relinquished to: (print) Nail N York	(Sign) <i>Nail N York</i>	5/13/22	Relinquished by: (print) Tuan B	(Sign) <i>Tuan B</i>	5/13/22	209 AM/PM
Received by: Nail N York	(Sign) <i>Nail N York</i>	5/13/22	1022 AM/PM	Received by: (print) Tuan B	(Sign) <i>Tuan B</i>	5/13/22	Received by: (print) 1808	(Sign) <i>1808</i>	5/13/22	209 AM/PM

LAB INSTRUCTIONS: create one (1) composite sample of each homogeneous material from equal mass portions ($\pm 5\%$) of the three (3) sub-samples for extraction and analysis via EPA Method 8082 and report the Arochlors listed (Arochlor 1016, Arochlor 1221, Arochlor 1232, Arochlor 1242, Arochlor 1248, Arochlor 1254, Arochlor 1260). The laboratory shall target a PCB detection limit of 1 ppm



**APPENDIX G:
COMPANY LICENSE, PERSONAL CERTIFICATIONS AND
LABORATORY ACCREDITATIONS**



Final Report of Environmental Inspection Services

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

WSP USA Solutions Inc.
4th Floor
One Penn Plaza
New York, NY 10119

FILE NUMBER: 19-132876
LICENSE NUMBER: 132876
LICENSE CLASS: RESTRICTED
DATE OF ISSUE: 03/31/2022
EXPIRATION DATE: 03/31/2023

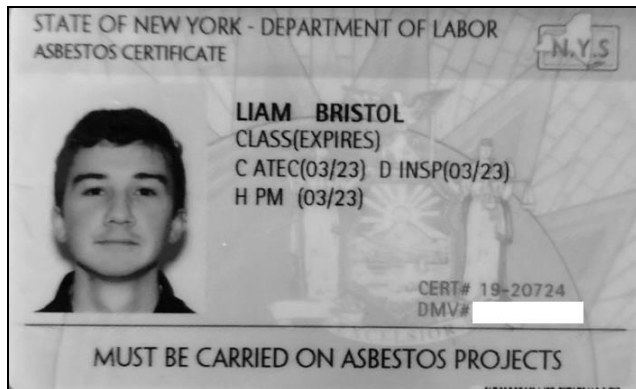
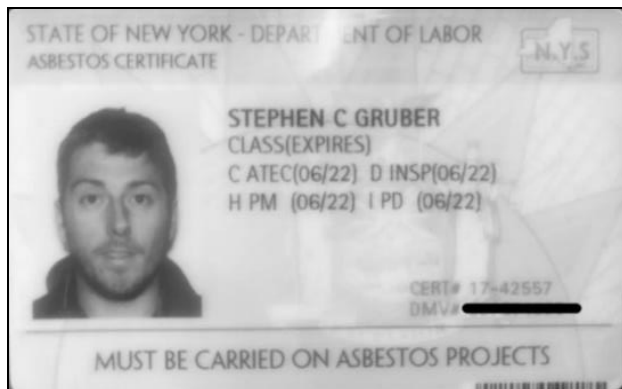
Duly Authorized Representative – Craig Napolitano:

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.

Amy Phillips, Director
For the Commissioner of Labor

SH 432 (8/12)





United States Environmental Protection Agency

This is to certify that



WSP USA Inc.

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint renovation, repair, and painting activities pursuant to 40 CFR Part 745.89

In the Jurisdiction of:

All EPA Administered States, Tribes, and Territories

This certification is valid from the date of issuance and expires November 12, 2025

NAT-103950-1

Certification #

October 29, 2020

Issued On

Michelle Price

Michelle Price, Chief

Lead, Heavy Metals, and Inorganics Branch





Final Report of Environmental Inspection Services



Department of Health

ANDREW M. CUOMO
Governor

HOWARD A. ZUCKER, M.D., J.D.
Commissioner

LISA J. PINO, M.A., J.D.
Executive Deputy Commissioner

MAY 06 2021

WSP USA Inc.
96 Morton Street, 8th Floor
New York, New York 10014

Attention: Michael Gelfand
Radiation Safety Officer

RE: NYS Dept. of Health Radioactive
Materials License No. C3093
DH No. 21-144

Dear Mr. Gelfand:

In accordance with the application, dated April 19, 2021, signed by you and Steven Eget, please find enclosed amendment No. 9 to New York State Department of Health Radioactive Materials License No. C3093, which changes the ownership of this license from The Louis Berger Group, Inc. to WSP USA Inc.

If I may be of assistance, please contact this office at berp@health.ny.gov or at:

New York State Department of Health
Bureau of Environmental Radiation Protection
Radioactive Materials Section
ESP – Corning Tower, Room 1245
Albany, New York 12237

Sincerely,

Daniel J. Samson, CHP, Chief
Radioactive Materials Section
Bureau of Environmental Radiation Protection

DJS/IA

enclosure: Amendment No. 9

cc: Steven Eget, PE, CEM, Managing Director



NEW YORK STATE DEPARTMENT OF HEALTH

RADIOACTIVE MATERIALS LICENSE

Pursuant to the Public Health Law, Part 16 of the New York State Sanitary Code, and in reliance on statements and representations heretofore made by the licensee designated below, a license is hereby issued authorizing radioactive material(s) for the purpose(s), and at the place(s) designated below. The license is subject to all applicable rules, regulations, and orders now or hereafter in effect of all appropriate regulatory agencies and to any conditions specified below.

1. NAME OF LICENSEE <div style="text-align: right;">FEIN 22-1754524</div> WSP USA Inc. <div style="text-align: right;">Phone (212) 612-7933</div>	3. LICENSE NUMBER <div style="text-align: center;">C3093</div> 4. EXPIRATION DATE <div style="text-align: center;">August 6, 2024</div>				
2. ADDRESS OF LICENSEE <div style="text-align: center;">96 Morton Street, 8th Floor New York, New York 10014</div>	<table border="0"> <tr> <td style="vertical-align: top;">5a. REFERENCE</td> <td style="vertical-align: top;">b. AMENDMENT NO.</td> </tr> <tr> <td style="text-align: center;">DH 21-144</td> <td style="text-align: center;">9</td> </tr> </table>	5a. REFERENCE	b. AMENDMENT NO.	DH 21-144	9
5a. REFERENCE	b. AMENDMENT NO.				
DH 21-144	9				

This license is subject to the following conditions:

Conditions 6 through 9 – Authorized Materials, Form, Possession Limits and Uses
Condition 10 – Radiation Safety Officer, Medical Physicists, and Radiation Safety Committee
Condition 11 – Documents Incorporated by Reference
Conditions 12 and beyond – License Conditions

In accordance with the application dated April 19, 2021, signed by Steven Eget and Michael Gelfand, New York State Department of Health Radioactive Materials License No. C3093 is hereby amended.

Only the amended sections are included, with specific changes indicated in bold type. All previous license conditions not specifically addressed in this amendment shall remain valid and enforceable.

**NEW YORK STATE DEPARTMENT OF HEALTH****RADIOACTIVE MATERIALS LICENSE****3. License Number C3093****5a. Reference DH 21-144****b. Amendment No. 9****DOCUMENTS INCORPORATED BY REFERENCE**

11. Except as specifically provided otherwise in this License, the licensee shall conduct its program in accordance with the statements, representation and procedures contained in the documents, including any enclosures, listed below:

- A. Application for New York State Department of Health Radioactive Materials License dated October 26, 2012, signed by Craig Napolitano, Director.
- B. Letter dated December 12, 2012, signed by Michael Gelfand.
- C. Letter dated December 7, 2017, signed by Michael Gelfand.
- D. **Letter dated April 19, 2021, signed by Steven Eget and Michael Gelfand.**

The New York State Department of Health's regulations shall govern the licensee's statements in applications or letters unless the statements are more restrictive than the regulations.

FOR THE NEW YORK STATE DEPARTMENT OF HEALTH

Date: MAY 06 2021

DJS/IA

By

Daniel J. Samson, CHP, Chief
Radioactive Materials Section
Bureau of Environmental Radiation Protection



Final Report of Environmental Inspection Services

United States Environmental Protection Agency

This is to certify that



Stephen C Gruber

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Inspector

In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires

December 12, 2023

LBP-I-1219874-1

Certification #

November 28, 2020

Issued On



Ben Conetta, Chief

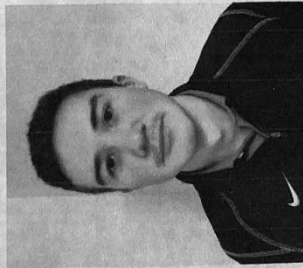
Chemicals and Multimedia Programs Branch



United States Environmental Protection Agency

This is to certify that

Liam R Bristol



has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Inspector

In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires February 21, 2023

LBP-I-1212175-1

Certification #

February 07, 2020

Issued On



Susan Schulz, Acting Chief

Chemicals and Multimedia Programs
Branch



Final Report of Environmental Inspection Services

NEW YORK STATE DEPARTMENT OF HEALTH WADSWORTH CENTER



Expires: 12:01 AM April 01, 2023
Issued: April 01, 2022

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. JACKIE DARVISH
ATLAS ENVIRONMENTAL LABS CORP
255 W. 36TH STREET SUITE 1503
NEW YORK, NY 10018

NY Lab Id No: 11999

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
Asbestos-Vermiculite-Containing Material	Item 198.8 of Manual
Lead in Dust Wipes	EPA 7000B
Lead in Paint	EPA 7000B

Sample Preparation Methods

EPA 3050B

Serial No.: 64911

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) 485-5670 to verify the laboratory's accreditation status.



Final Report of Environmental Inspection Services

United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 500092-0

Atlas Environmental Lab (Asbestos in Bulk)
New York, NY

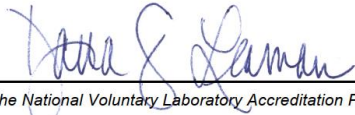
*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:*

Asbestos Fiber Analysis

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).*

2021-10-01 through 2022-09-30
Effective Dates




For the National Voluntary Laboratory Accreditation Program



AIHA Laboratory Accreditation Programs, LLC

acknowledges that

Atlas Environmental Lab

255 W 36th Street, Suite 1503, New York, NY 10018

Laboratory ID: LAP-208306

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA LAP), LLC accreditation to the ISO/IEC 17025:2017 international standard, General Requirements for the Competence of Testing and Calibration Laboratories in the following:

LABORATORY ACCREDITATION PROGRAMS

<input checked="" type="checkbox"/>	INDUSTRIAL HYGIENE	Accreditation Expires: August 01, 2023
<input checked="" type="checkbox"/>	ENVIRONMENTAL LEAD	Accreditation Expires: August 01, 2023
<input checked="" type="checkbox"/>	ENVIRONMENTAL MICROBIOLOGY	Accreditation Expires: August 01, 2023
<input type="checkbox"/>	FOOD	Accreditation Expires:
<input type="checkbox"/>	UNIQUE SCOPES	Accreditation Expires:

Specific Field(s) of Testing (FoT) Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached Scope of Accreditation. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2017 and AIHA LAP, LLC requirements. This certificate is not valid without the attached Scope of Accreditation. Please review the AIHA LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

Cheryl O. Morton

Cheryl O. Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Revision 19.1: 07/28/2021

Date Issued: 07/28/2021







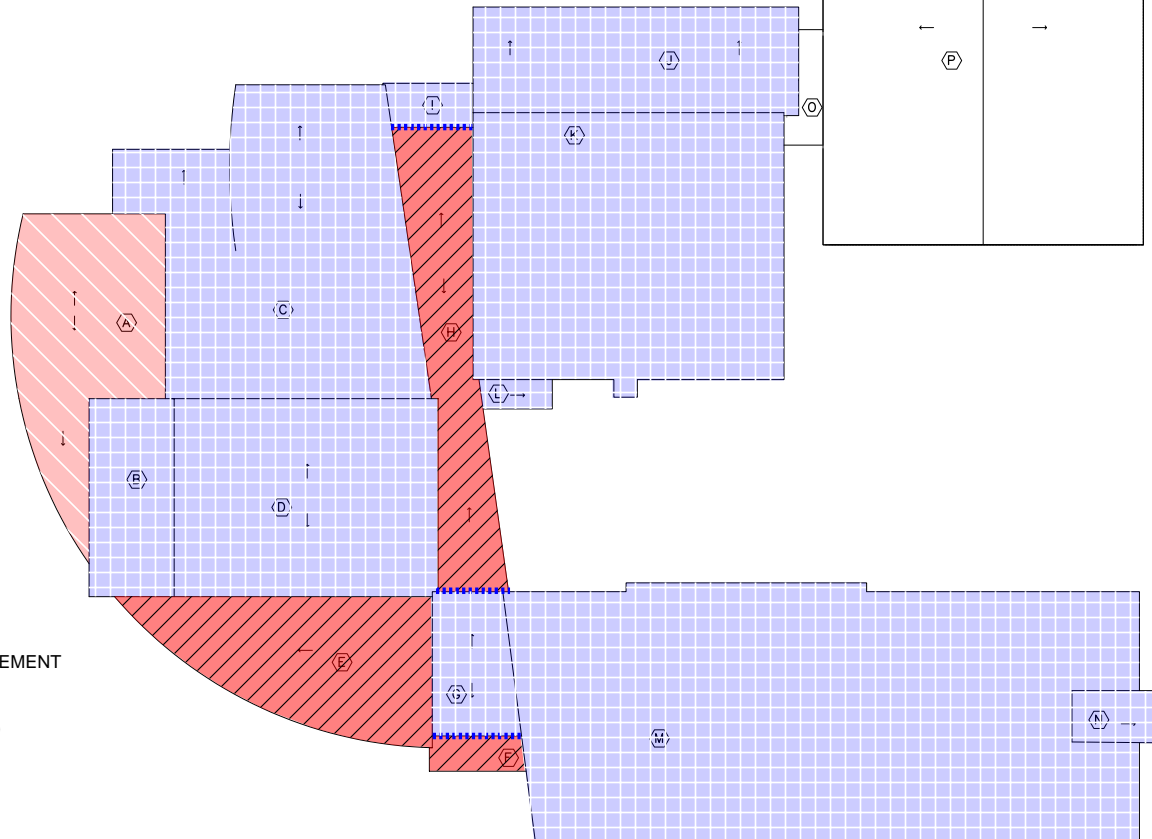
**APPENDIX H:
SCOPE OF WORK DRAWINGS**

ROOF AREA	S.F.	ROOF TYPE	MANUFACTURER	WARRANTY	INSTALLED	COND
A	4,455	MODIFIED BITUMEN	SIPLAST		1998	POOR
B	1,955	MODIFIED BITUMEN	SIPLAST		1998	POOR
C	9,635	MODIFIED BITUMEN	SIPLAST		1998	POOR
D	6,680	MODIFIED BITUMEN	SIPLAST		1998	POOR
E	4,200	MODIFIED BITUMEN	SIPLAST		1998	POOR
F	380	MODIFIED BITUMEN	SIPLAST		1998	POOR
G	1,470	MODIFIED BITUMEN	SIPLAST		1998	POOR
H	3,550	MODIFIED BITUMEN	SIPLAST		1998	POOR
I	475	MODIFIED BITUMEN	SIPLAST		1998	POOR
J	4,400	MODIFIED BITUMEN	SIPLAST		1998	POOR
K	9,695	MODIFIED BITUMEN	SIPLAST		1998	POOR
L	265	MODIFIED BITUMEN	SIPLAST		1998	POOR
M	17,710	MODIFIED BITUMEN	SIPLAST		1998	POOR
N	610	MODIFIED BITUMEN	SIPLAST		1998	POOR
O	415	EPDM	CARLISLE	2040	2020	GOOD
P	17,680	STANDING SEAM METAL			2020	GOOD
Q	990	EPDM	CARLISLE	2040	2020	GOOD
TOTAL	84,565					

LEGEND:
 ROOF AREA DESIGNATION
 DECK SLOPE

ROOF REPLACEMENT PRIORITY LEGEND

-  PRIORITY 1 - HIGHEST NEED
-  PRIORITY 2 - HIGH NEED
-  PRIORITY 3 - RECOMMENDED FOR REPLACEMENT WITHIN ~3 YEARS
-  WINDOW WALL REPAIRS (WITH PRIORITY 1)



ROOF PLAN
0' 5' 10' 20'
 PROJECT NORTH

PUTNAM VALLEY
CENTRAL SCHOOL
DISTRICT

2020 BUILDING CONDITION
SURVEYS

171 OSCAWANA LAKE ROAD
PUTNAM VALLEY, NY 10579



KG+D . ARCHITECTS PC

285 MAIN STREET MOUNT KISCO, NEW YORK, 10549

P914.666.5900 KODARCHITECTS.COM

SED#: 48-05-03-04-0010

KEY PLAN

NOTE: ALL AREA, PERIMETER, VOLUMES AND FINISHES ARE BASED ON INFORMATION PROVIDED BY THE OWNER AND SHOULD BE USED AS A GUIDE ONLY. THE ARCHITECT HAS CONDUCTED VISUAL GENERAL VERIFICATION OF THE INFORMATION PROVIDED AND HAS NOT CONDUCTED A DETAILED SURVEY. THE ARCHITECT HAS NOT CONDUCTED A DETAILED SURVEY OF THE PROJECT OR OF ANY PART OF THE PROJECT. THE ARCHITECT HAS NOT CONDUCTED A DETAILED SURVEY OF THE PROJECT OR OF ANY PART OF THE PROJECT. THE ARCHITECT HAS NOT CONDUCTED A DETAILED SURVEY OF THE PROJECT OR OF ANY PART OF THE PROJECT.

NOTES: THE INFORMATION ON THIS DRAWING SHALL BE USED AS A GUIDE ONLY. THE ARCHITECT HAS CONDUCTED VISUAL GENERAL VERIFICATION OF THE INFORMATION PROVIDED AND HAS NOT CONDUCTED A DETAILED SURVEY. THE ARCHITECT HAS NOT CONDUCTED A DETAILED SURVEY OF THE PROJECT OR OF ANY PART OF THE PROJECT. THE ARCHITECT HAS NOT CONDUCTED A DETAILED SURVEY OF THE PROJECT OR OF ANY PART OF THE PROJECT. THE ARCHITECT HAS NOT CONDUCTED A DETAILED SURVEY OF THE PROJECT OR OF ANY PART OF THE PROJECT.

ALTERNATES BY ANY PERSON IN ANY WAY OF ANY INFORMATION ON THIS DOCUMENT SHALL BE USED AS A GUIDE ONLY. THE ARCHITECT HAS CONDUCTED VISUAL GENERAL VERIFICATION OF THE INFORMATION PROVIDED AND HAS NOT CONDUCTED A DETAILED SURVEY. THE ARCHITECT HAS NOT CONDUCTED A DETAILED SURVEY OF THE PROJECT OR OF ANY PART OF THE PROJECT. THE ARCHITECT HAS NOT CONDUCTED A DETAILED SURVEY OF THE PROJECT OR OF ANY PART OF THE PROJECT. THE ARCHITECT HAS NOT CONDUCTED A DETAILED SURVEY OF THE PROJECT OR OF ANY PART OF THE PROJECT.

Professional Seal

No. Date Issue

Sheet Title

PUTNAM VALLEY
HIGH SCHOOL
ROOF PLAN

Job No. Date

2020-1023

Scale Drawn / Checked

Author

Sheet Number

HS-1

SECTION 04 0100
MASONRY MAINTENANCE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Applicable provisions of the Conditions of the Contract and Division 1, General Requirements, govern work in this Section.

1.2 SUMMARY

- A. All plant, labor, materials, equipment, testing and services necessary to complete the work shown on the drawings, schedules, and keynotes, as specified herein, and as may be required by conditions and authorities having jurisdiction, including, but not limited to, the following:

1. Remove and restore exterior masonry where new cap flashings are being installed.
2. Prepare and repoint mortar joints.
3. Clean and prepare the joints, and then install new sealant in masonry facade joints.
4. Remove and reset loose bricks and concrete masonry units under roof edge blocking.
5. Fill hollow core masonry units under roof edge blocking with mortar prior to installing the blocking - the blocking is specified elsewhere.

- B. Related Requirements

- | | |
|---------------------------------------|-------------------|
| 1. Carpentry | - Section 06 1000 |
| 2. Modified Bitumen Roofing | - Section 07 5226 |
| 3. PVC Roofing | - Section 07 5419 |
| 4. Sheet Metal Flashing & Specialties | - Section 07 6200 |
| 5. Roof Accessories | - Section 07 7200 |

1.3 QUALITY ASSURANCE

- A. Installer Qualifications:

1. A firm (Installer) with at least 5 continuous years experience performing work similar to that required for this project, employing personnel skilled in the work specified.
 - a. The Installer shall directly employ the personnel performing the work of this section.

- b. The Installer shall have a supervisor in the work area when work is in progress. The Supervisor shall have a minimum of 5 years experience with work similar in nature and scope to this project, and speak fluent English.
 - 1. Submit the Supervisor's resume upon request.
 - 2. The Installer shall provide a reference list of at least three previously completed projects of comparable size and similar design, within fifty miles of this project, which may be observed by representatives of the Owner:
 - a. The reference list shall include at a minimum, the completion date, a description of the work performed, the Owner's name - contact person - phone number and address and the Architect's name - contact person and phone number.
 - b. Submit the reference list upon request.
- B. Material Quality: Obtain each type of material from a single source to ensure consistent quality, color, pattern, and texture.
- C. Pre-construction conference: Attend the pre-construction meeting and discuss the following:
 - 1. How and when masonry work will be performed.
 - 2. How the masonry work will be coordinated with other work.
 - 3. How roof & building surfaces will be protected, and how the building will be kept watertight as masonry work progresses.
 - 4. Weather to anticipate during construction.
 - 5. The availability of materials, personnel, equipment and facilities needed to proceed and complete the work on schedule.
 - 6. A schedule for Manufacturer and Architect inspections.

1.4 SUBMITTALS

- A. Submit the following items far enough in advance to obtain approval prior to performing any other work on site:
 - 1. A pre-work site and building inspection report with photos, to document conditions before any other work starts on site.
 - 2. Manufacturer's technical literature for all materials.
 - 3. Test reports and certifications substantiating compliance with specification requirements if requested by the Architect.
 - 4. Samples to show sizes, grade and color, prior to mock-up erection, of each new exposed masonry material. Include the full range of colors and textures needed in the samples.
 - a. Bricks: four samples of solid colors, twelve samples of blended colors.
 - b. Mortar: four 6 inch long 1/2 inch wide strips set in metal or plastic channels.

- c. Anchors: four pieces of each type of anchor.
- B. Simultaneously provide all technical submittals needed for this project, for all technical sections, collated by section. Incomplete submittals will not be reviewed.
 - 1. Submittals shall be prepared and made by the firm that will perform the actual work.
 - 2. Provide electronic submittals via an on-line submittal exchange program if one is established for this project; if an on-line program isn't established, provide the submittals on portable USB drives in pdf format, organized in folders by Section.
 - a. Do not send the submittals via email.
 - 2. Safety Data Sheets: Simultaneously provide all Safety Data Sheets needed for this project, for all specification sections - collated by section, in three ring binders. Provide two binders for each building.
- C. Payment requisitions will not be processed until all submittals are received and approved.

1.5 JOB MOCK UPS

- A. Prepare mock-ups of masonry work in actual job locations.
 - 1. For brick rebuilding - provide 4 foot long mockups.
 - 2. For repointing - provide 2 foot square mockups to show how the joints will be cut, and 2 foot square mockups to show new pointing.
 - 3. For sealant joints - provide 2 foot long mockups to show how the joints will be prepared, and 2 foot long mockups to show new backer rod and sealant.
- B. Construct each mock up with its associated roof and wall flashings, to show the following:
 - 1. The color, size and type of each masonry unit and mortar used to set it.
 - 2. Workmanship quality.
 - 3. The size and spacing of weep inserts.
 - 4. Flashings built into the masonry.
 - 5. Related materials and their installation techniques to fully establish a quality standard for the work.
- C. Mock-ups shall be constructed to establish the minimum acceptable standard of materials and workmanship, and to assure that completed work which matches the mock ups will be fully functional and serve the purpose for which it was designed.
- D. Approved mock-ups may be left in place and incorporated into the permanent installation. Rejected mock-ups shall be removed and replaced until an acceptable mock up is approved.
- E. Do not proceed with masonry work until mock-ups are installed, inspected and approved in writing.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Carefully pack, handle, and ship masonry units and accessories in suitable packs or pallets or in heavy cartons.
- B. Deliver material to the site in the Manufacturer's original and unopened containers and packaging, bearing labels which identify the types and names of the products and Manufacturers. Unload and handle to prevent chipping and breakage.
- C. Protect masonry materials and aggregates during storage and construction from excess wetting by rain, snow or ground water, and from staining or intermixture with earth or other types of materials.
- D. Protect grout, mortar and cement products from deterioration by moisture and temperature. Store in a dry location or in waterproof containers. Protect liquid components from freezing.
- E. Do not overload the structure when storing materials on the roof.
- F. Protect roof surfaces where material and equipment are placed on them, and where construction traffic occurs, with 6 mil fire retardant polyethylene, covered with 1-1/2 inch thick foam insulation, overlaid with 2 by 10 wooden planks.

1.7 GUARANTEE

- A. Provide a written Contractor's Guarantee which guaranties that all work will remain free of material and workmanship defects and in a watertight condition for a five year period beginning upon Final Completion:
 - 1. Defects include but are not limited to the following: leakage, delamination, lifting, loosening, splitting, cracking, joint separation and movement.
 - 2. The Contractor shall make the repairs and modifications necessary to enable the work to perform as guaranteed at his own expense:
 - 3. Guarantee coverage shall include removing and replacing items installed as part of the original work, if removal is needed to make repairs.
- B. Provide one Guarantee that covers "all work performed" when a single contractor is awarded work specified in multiple Sections.
- C. The Guarantee shall take effect no more than 30 days before the satisfactory completion of all punch list work.
- D. The Contractor's Surety Company may add a rider to the Performance Bond which clarifies that Performance Bond Coverage expires two years after Final Completion; i.e., Performance Bond Coverage does not run for the entire five year term of the Contractor's Guarantee.

1.8 JOB CONDITIONS

- A. Perform masonry work only when the air temperature is 40 degrees F and above and will remain so until the masonry has dried, but for not less than 72 hours after work ends.
- B. Erect temporary covers over pedestrian walkways and at building entrances and exits which will remain active as the work progresses.
- C. Prevent mortar from staining the face of surrounding masonry and other building surfaces; immediately remove any which falls or spills. Protect sills, ledges and projections from mortar droppings.
- D. Protect roof surfaces where material and equipment are placed on them, and where construction traffic occurs, with 6 mil fire retardant polyethylene, covered with 1-1/2 inch thick foam insulation, overlaid with 2 by 10 wooden planks.
- E. Coordinate masonry removal and restoration with the installation of new flashings.
- F. Prevent masonry work from rapid drying during hot weather. Use burlap to shield fresh masonry from direct sunlight, and mist fresh masonry with potable water so it cures slowly for at least 72 hours.
 - 1. Remove and replace any new masonry that develops shrinkage cracks, or isn't bonded well to adjoining masonry.

PART 2 - PRODUCTS

2.1 MASONRY UNITS

- A. Face Brick: Severe weather (SW) grade face brick and accessories, including special bricks for lintels, arches, corners, and other special conditions, to match the color, surface texture, shape and size of existing bricks.

2.2 MORTAR

A. General Construction Mortar:

- 1. Type S, custom colored, non-staining masonry cement containing Type I Portland cement meeting ASTM C150 and Type S hydrated lime meeting ASTM C207.
- 2. Natural or manufactured sand aggregate selected to match the size, texture, gradation and color of the existing mortar aggregate, meeting ASTM C 144.
- 3. Clean potable water, free of oils, acids, alkalis and organic matter.

B. Pointing Mortar:

- 1. Factory blended Type N masonry cement, aggregate and custom coloring agent, ready to use when mixed with clean potable water, as supplied by Spec-Mix.

2.3 MISCELLANEOUS MATERIALS

- A. Anchors: Fabricated from Type 304 stainless steel to match existing.
- B. Sealant: High performance, solvent free, formulated and moisture curing silyl-terminated polyether sealant, ASTM C-920, Type S, Grade NS, Class 25, NovaLink construction sealant by ChemLink, color as selected.
- C. Backer Rod: Closed cell polyethylene foam, non-absorbent, compressible, chemically inert rod.
- D. Weep Inserts: Full height head joint inserts formed of a polypropylene honey comb, three-eighths inch thick, Hohmann & Barnard, Inc. #QV Quadro-Vent.

PART 3 - EXECUTION

3.1 GENERAL

- A. Carefully perform work so the structural integrity of masonry adjoining the work is preserved. Simultaneously remove only limited sections of existing masonry; support and protect masonry remaining next to and above the removal areas.
- B. Completely remove and replace any existing masonry that moves, or if cracks form in the mortar joints between the masonry units, or within the masonry units.
- C. Cure all mortar by misting it with potable water to maintain it in a damp condition for not less than 72 hours. Shield fresh mortar from direct sunlight with wet burlap, and prevent fresh mortar from prematurely drying during the curing period. Remove and replace mortar joints that dry pre-maturely.
- D. Cut and remove existing masonry using hand and machine methods. Equip each cutting machine with a separate dedicated vacuum and manufacturer's blade guard vacuum attachment, and control the amount of dust produced so there are no visible plumes. Comply with OSHA crystalline silica standards for construction.
- E. Do not overcut brick head joints and allow the blade to nick the bricks; remove and replace bricks damaged during the cutting and repointing preparation process at no cost to the Owner.

3.2 MORTAR MIXES

- A. Measurement and Mixing:
 - 1. Measure general construction mortar materials when dry by volume using a pail or similar container. Do not measure with a shovel.
 - a. Mix mortar using 1 part mortar cement and 3 parts sand aggregate.
 - b. Thoroughly mix cement and aggregate in a clean mechanical batch mixer before adding water; then continue mixing and add only enough water to produce a workable mix.

- c. Do not mix mortar by hand.
 - 2. Mix factory blended pointing mortar in a clean mechanical batch mixer, adding only enough water to produce a workable mix.
 - a. Do not mix mortar by hand.
 - 3. Use mortar within 45 minutes of final mixing; do not re-temper or use partially hardened material.
- B. Mix and install mortar with the same ingredients used to produce the approved mock-up. Do not adjust the color or proportions without written approval. Do not use admixtures of any kind in the mortar unless specifically approved.

3.3 BRICK REMOVAL AND REPLACEMENT

- A. Simultaneously remove only limited sections of existing brick masonry; support and protect masonry remaining next to and above the removal areas.
- B. Carefully remove bricks on a piece-by-piece basis. Cut out full units from joint to joint and to permit replacement with full size units. Clean the edges of the remaining bricks, to remove all mortar, dust, and loose debris in preparation for rebuilding.
- C. Install new cap flashings and wall flashing extensions, properly lapped under and connected to the existing wall flashings, as indicated on the drawings and specified elsewhere, before installing new bricks. Install the flashings so a full wythe of new brick will fit flush with the existing wall surface.
- D. Wet bricks which have initial rates of absorption (suction) greater than 30 grams per 30 square inches per minute, (in accordance with ASTM C 67), to ensure the bricks are nearly saturated with water, but surface dry when laid.
- E. Install new brick to replace removed brick. Fit replacement bricks to match the original bond and course pattern. Use a motor driven diamond blade wet saw to cut bricks with clean, sharp unchipped edges.
- F. Lay replacement brick with completely filled bed, head and collar joints. Butter the ends with sufficient mortar to fill the head joints and shove the bricks into place.
- G. Install new bricks with mortar joints to match the width of the adjoining brick joints. Tool the new joints to match existing joints in surrounding brickwork.
- H. Do not cut off the backs of the new bricks if a full wythe of brick doesn't fit. Notify the Architect and obtain his direction before proceeding further.

3.4 REPOINTING EXISTING MASONRY

- A. Joint Preparation:
 - 1. Remove existing mortar and foreign material from the mortar joints to a minimum depth of 1 inch, and deeper where needed to expose sound unweathered mortar.

2. Remove mortar from the sides of the joints to provide joints with square backs and to expose the masonry for contact with the pointing mortar. Brush or vacuum the joints to remove dirt and loose debris.
3. Remove mortar and other foreign material from the surface of masonry adjacent to the joint.
4. Do not spall the edges of adjacent masonry or widen the joints. Replace any masonry which is damaged.

B. Joint Pointing:

1. Rinse the joint surfaces with water to remove dust and mortar particles just prior to repointing. Time the rinse, so when repointing occurs, excess water has evaporated and the existing masonry is damp but free of standing water.
2. Apply pointing mortar in 1/2 inch thick layers, and thoroughly compact each layer before adding the next layer, to completely fill each joint.
3. Slightly recess pointing mortar from the face of the adjacent masonry units. Do not spread mortar on the edges or faces of the masonry. Do not featheredged the mortar.
4. Tool repointed joints when the mortar is thumbprint hard. Remove excess mortar from the edges of the joints with a soft bristle brush.

C. Cleaning:

1. Immediately after the mortar has fully hardened, thoroughly clean masonry surfaces of excess mortar and foreign matter using stiff nylon or bristle brushes and clean water.
2. Do not use metal scrapers or brushes. Do not use acid or alkali cleaning agents. Do not pressure-wash the masonry or new pointing mortar.

3.5 SEALANT JOINTS

- A. Carefully remove existing sealant and back up material from within the joints to a minimum depth of 1-1/2 inches, and from the surface of adjoining masonry at the edges of the joints.
 1. Use hand tools and work to avoid damage to adjoining masonry.
 2. Replace adjoining masonry damaged during sealant removal work.
- B. Install new backer rod without puncturing or tearing it, to snugly fill the joint at a depth to yield a sealant joint twice as wide as it is deep.

1. Do not twist backer rods, or install multiple pieces of undersized rod, when the correct size rod is not onsite.
- C. Mask the edges of all joints prior to installing sealant.
1. Push sealant into the joint to completely fill it, tool the sealant to produce a slightly concave, neat recessed joint, and remove joint masking before excess sealant sets.

3.6 CLEANING, PROTECTION AND WATERTIGHTNESS

- A. Inspect the interior and exterior of the building and grounds, and submit a written report with photos to document any existing leaks or damage, prior to performing any work on site.
- B. The Owner will conduct a similar inspection at the completion of the work, and the Contractor will be charged for all leaks and damage that weren't documented in the Contractor's report, or repaired to the Owners satisfaction at the Contractor's expense.
- C. Provide any equipment, material and labor necessary to protect the site, the building, its contents and occupants, pedestrians, and surrounding landscaped and paved areas from damage due to the construction work or from inclement weather during construction.
- D. Do not perform work during inclement weather. Protect incomplete work and the building from damage by inclement weather - which may occur unexpectedly. Make all work areas watertight at the end of each day's work.
- E. Clean up all litter, refuse, rubbish, scrap materials and debris at least twice a day; at noon and at the end of the work day, so the roof and site are neat, orderly and workmanlike. Place the debris in a dumpster, and remove the dumpster from the site as soon as it is full or no longer being used.
- F. Carefully and thoroughly clean the entire roof to remove all residual debris when all work is complete. After cleaning the roof, thoroughly clean all drain sumps, drain lines, leader heads and leaders. Do not allow debris to enter the drainage system.

END OF SECTION

SECTION 06 1000
CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Applicable provisions of the Conditions of the Contract and Division 1, General Requirements, govern work in this Section.

1.2 SUMMARY

- A. All plant, labor, materials, equipment, testing and services necessary to complete the work shown on the drawings, schedules and notes, as specified herein, and as may be required by conditions and authorities having jurisdiction, including, but not limited to, the following:

1. Roof related wood nailers, blocking, shims, plywood, soffits and fascia boards.
2. Light gauge metal framing.
3. Re-secure existing roof related blocking; remove and separate multiple layers of blocking, and secure each layer individually.

- B. Related Requirements

- | | |
|---------------------------------------|-------------------|
| 1. Masonry Maintenance | - Section 04 0100 |
| 2. Modified Bitumen Roofing | - Section 07 5226 |
| 3. PVC Roofing | - Section 07 5419 |
| 4. Sheet Metal Flashing & Specialties | - Section 07 6200 |
| 5. Roof Accessories | - Section 07 7200 |

1.3 QUALITY ASSURANCE

- A. Installer Qualifications:

1. A firm (Installer) with at least 5 continuous years experience performing work similar to that required for this project, employing personnel skilled in the work specified.
 - a. The Installer shall directly employ the personnel performing the work of this section.
 - b. The Installer shall have a supervisor on the roof when work is in progress. The Supervisor shall have a minimum of 5 years experience with work similar in nature and scope to this project, and speak fluent English.
 1. Submit the supervisor's resume upon request.
2. The Installer shall provide a reference list of at least three previously completed projects of comparable size and similar design, within fifty miles of this project, which may be observed by representatives of the Owner:

- a. The reference list shall include at a minimum, the completion date, a description of the work performed, the Owner's name - contact person - phone number and address and the Architect's name - contact person and phone number.
 - b. Submit the reference list upon request.
- B. Material Quality: Obtain each type of material from a single source to ensure consistent quality, color, pattern, and texture.
- C. Pre-Construction Conference: Attend the pre-construction meeting and discuss how and when carpentry work will be performed and coordinated with other work, and how the building will be kept watertight as work occurs.

1.4 SUBMITTALS

- A. Submit the following items far enough in advance to obtain approval prior to performing any work on site:
 - 1. A pre-work site and building inspection report with photos, to document conditions before work starts on site.
 - 2. Manufacturer's technical literature for all materials.
 - 3. Test reports and certifications substantiating compliance with specification requirements if requested by the Architect.
 - 4. 2 foot long on-site samples which show the size, shape, configuration and method of fastening for all wood blocking assemblies, and which show how the blocking assemblies will relate to and fit on adjoining work.
- B. Simultaneously provide all technical submittals needed for this project, for all technical sections, collated by section. Incomplete submittals will not be reviewed.
 - 1. Submittals shall be prepared and made by the firm that will perform the actual work.
 - 2. Provide electronic submittals via an on-line submittal exchange program if one is established for this project; if an on-line program isn't established, provide the submittals on portable USB drives in pdf format, organized in folders by Section.
 - a. Do not make submittals via email
- C. Safety Data Sheets: Simultaneously provide all Safety Data Sheets needed for this project, for all specification sections - collated by section, in three ring binders. Provide two binders for each building.
- D. Payment requisitions will not be processed until all submittals are received and approved.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver and store materials dry at all times. Cover with tarps and protect against exposure to weather and contact with damp or wet surfaces.
- B. Do not overload the structure when storing material on the roof.
- C. Protect roof surfaces where material and equipment are placed on them, and where construction traffic occurs, with 6 mil fire retardant polyethylene, covered with 1-1/2 inch thick foam insulation, overlaid with 2 by 10 wooden planks.

1.6 GUARANTEE

- A. Provide a written Contractor's Guarantee which guaranties that all work will remain free of material and workmanship defects and in a watertight condition for five years beginning upon Final Completion:
 - 1. Defects include but are not limited to the following: leakage, delamination, lifting, loosening, splitting, cracking, joint separation and movement.
 - 2. The Contractor shall make the repairs and modifications necessary to enable the work to perform as guaranteed at his own expense:
 - 3. Guarantee coverage shall include removing and replacing items installed as part of the original work, if removal is needed to make repairs.
- B. Provide one Guarantee that covers "all work performed" when a single contractor is awarded work specified in multiple Sections.
- C. The Guarantee shall take effect no more than 30 days before the satisfactory completion of all punch list work.
- D. The Contractor's Surety Company may add a rider to the Performance Bond which clarifies that Performance Bond Coverage expires two years after Final Completion; i.e., Performance Bond Coverage does not run for the entire five year term of the Contractor's Guarantee.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. WOOD, including shims, nailers, blocking, furring and similar members, in the sizes indicated, worked into the shapes shown, and as follows:
 - 1. Lumber: Douglas Fir dimension lumber, free of large knots and other imperfections.
 - 2. Plywood: Exterior grade APA rated Type CDX underlayment plywood.
 - 3. Fascia Boards:
 - a. 3/4 inch APA rated plywood.
 - 4. Beveled Siding: Utility grade cedar, redwood, or synthetic siding, 1/2 inch by 6 inches and 3/4 inch by 10 inches wide, tapered to 1/8 inch thick.

- B. METAL, including light gauge metal channel and stud sections factory formed of minimum 24 gauge cold rolled galvanized steel.

2.2 FASTENERS

- A. Hot dipped galvanized steel, stainless steel, or steel covered with a proprietary rust inhibiting coating.
 - 1. Do not use un-coated steel nails. Remove and replace carpentry components installed with un-coated steel nails.
- B. Use screws wherever possible, minimum size diameter #12. If nails are used, they shall be annular ring shank type.
 - 1. Do not use dry wall screws to secure wood blocking assemblies. Remove and replace carpentry components installed with drywall screws.

2.3 CARPENTRY ACCESSORIES

- A. Gypsum board & related accessories: 5/8 inch thick Type X Firecode gypsum board, galvanized drywall screws, asbestos free factory pre-mixed joint compound, joint tape, and galvanized steel J, L and corner beads.
- B. Fiberglass batt insulation: un-faced fiberglass insulation, minimum thickness 6 inches, and as needed to fill the expansion joints.

PART 3 - EXECUTION

3.1 INSTALLATION – GENERAL

- A. Coordinate carpentry work with the installation of the roofing system, insulation, flashings, and other similar items.
- B. Shim and set carpentry work plumb and true, except provide slope at the top surfaces of horizontal members as indicated.
- C. Stagger joints in built up assemblies at least 2 feet to obtain maximum strength. Provide the shapes needed and adjust wood blocking to suit the existing conditions and achieve full bearing and secure attachment. Discard defective material, and pieces which are too small, and fabricate the work with a minimum of joints and an optimum joint arrangement.
- D. Securely attach carpentry work to resist a force of 275 pounds per lineal foot in any direction. Countersink all fasteners flush unless otherwise shown.
- E. Space fasteners to achieve adequate holding power, and generally 12 inches apart.:
 - 1. Space nails in wood blocking 8 inches apart.
 - 2. Install two rows of fasteners on blocking wider than 5 inches.
- F. Fit carpentry work neatly scribed and cut to fit within 1/8 inch of adjoining materials. Position furring, nailers, blocking, shims and similar supports for the proper attachment of subsequent work.

- G. Fasten wood blocking to underlying steel members at gypsum and structural wood fiber deck areas, with self tapping screws. Pre-drill holes in the steel members or utilize self drilling/tapping screws.
- H. Fasten wood and metal blocking assemblies to metal decks with #12 screws.
- I. Fasten wood and metal blocking assemblies to concrete decks and masonry walls with 1/4 inch diameter Spike or Drive fasteners. Pre-drill the holes.

3.2 CLEANING, PROTECTION AND WATERTIGHTNESS

- A. Inspect the interior and exterior of the building and grounds, and submit a written report with photos to document any pre-existing leakage or damage, prior to performing any work.
- B. The Owner will conduct a similar inspection at the completion of the work, and the Contractor will be charged for all leaks and damage that weren't documented in the Contractor's report, or repaired to the Owners satisfaction at the Contractor's expense.
- C. Provide any equipment, material and labor necessary to protect the site, the building, its contents and occupants, pedestrians, and surrounding landscaped and paved areas from damage due to the construction work or from inclement weather during construction.
- D. Do not perform work during inclement weather. Protect incomplete work and the building from damage by inclement weather - which may occur unexpectedly. Make all work areas watertight at the end of each day's work.
- E. Clean up all litter, refuse, rubbish, scrap materials and debris at least twice a day; at noon and at the end of the work day, so the roof and site are neat, orderly and workmanlike. Place the debris in a dumpster, and remove the dumpster from the site as soon as it is full or no longer being used.
- F. Carefully and thoroughly clean the entire roof to remove all residual debris when all work is complete. After cleaning the roof, thoroughly clean all drain sumps, drain lines, leader heads and leaders. Do not allow debris to enter the drainage system.

END OF SECTION

SECTION 07 5216
SBS MODIFIED BITUMEN ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Applicable provisions of the Conditions of the Contract and Division 1, General Requirements, govern work in this Section.

1.2 SUMMARY

- A. All plant, labor, materials, equipment, testing and services necessary to complete the work shown on the drawings, schedules and keynotes, as specified, and as required by conditions and authorities having jurisdiction, including, but not limited to, the following:
1. Install SBS target patches, to repair blisters and ridges on sections of the existing roof that are not being replaced.
 2. Install new SBS flashings and eave stripping along three sections of gutter eave on the existing roof, where new fasciae, drip edges and gutters are being installed.
 3. Install a green tinted acrylic coating on the target patches installed on sections of existing green colored roofing; install a blue tinted acrylic coating on the target patches and flashings installed on blue colored roof areas.
 4. Provide miscellaneous mechanical, electrical, hoisting and other work needed, and remove, adjust, modify, reset and reconnect all roof-mounted and roof-penetrating equipment.
 5. Protect existing and new roof surfaces where material and equipment are placed on them, and where construction traffic occurs, with 6 mil fire retardant polyethylene covered with 1-1/2-inch-thick foam insulation, overlaid with 2 by 10 wooden planks.
- B. Related Requirements
- | | |
|---------------------------------------|-------------------|
| 1. Masonry Maintenance | - Section 04 0100 |
| 2. Carpentry | - Section 06 1000 |
| 3. Sheet Metal Flashing & Specialties | - Section 07 6200 |
| 4. Roof Accessories | - Section 07 7200 |

1.3 CODE APPROVAL REQUIREMENTS

- A. Install roofing and insulation system components to meet the following minimum requirements:
1. New York State Uniform Fire Prevention and Building Code, which includes by reference the New York State Energy Conservation Code.

2. Underwriters Laboratories Inc. Class A External Fire Rating for roof assemblies tested in accordance with ASTM E108 or UL 790.
3. Underwriters Laboratories Inc. Standard 1256 for roof assemblies with foam insulation.
- B. Provide written certification from the Manufacturer, before beginning work, to confirm the roofing system meets these requirements.

1.4 QUALITY ASSURANCE

A. Installer Qualifications:

1. A firm ("Installer") with at least 5 continuous years of experience performing work similar to that required for this project, employing personnel skilled in the work specified.
 - a. The Installer shall directly employ the personnel performing the work of this section.
 - b. The Installer shall have a supervisor/foreman on the roof when work is in progress. The Supervisor shall have a minimum of 5 years experience in roofing work similar in nature and scope to this project, and speak fluent English.
 1. Submit the supervisor's resume upon request.
 2. The Installer shall provide a reference list of at least three previously completed projects of comparable size and similar design, within fifty miles of this project, which may be observed by representatives of the Owner:
 - a. The reference list shall include at a minimum, a description of the work performed, the Owner's name - contact person - phone number and address and the Architect's name - contact person and phone number.
 - b. Submit the reference list upon request.
 3. The Installer shall be acceptable to or licensed by the Manufacturer of the primary roofing materials, and provide written certification from the Manufacturer to confirm this prior to award if requested.
- B. Material Quality: Obtain each product, including the insulation, cover board, base, ply, cap and flashing sheets, and the cements, primers and adhesives from a single Manufacturer which has manufactured the same products in the United States of America for not less than 5 continuous years.

- #### 1.5 Pre-Construction Conference: Meet at the project site approximately two weeks prior to starting work, with the Architect, Owner and other representatives to discuss the following:

1. How the building will be kept watertight as the repairs are performed and the work progresses.
2. Generally accepted industry practice and the Manufacturer's instructions for handling and installing his products.
3. Incomplete submittals; note that progress payments will be not processed until all submittals are received and approved.
4. The construction schedule, weather forecast, availability of materials, personnel, equipment and facilities needed to proceed and complete the work on schedule.
5. A schedule for Architect inspections.

1.6 SUBMITTALS

- A. Submit the following items far enough in advance to obtain approval prior to performing any work on site:
 1. A pre-work site and building inspection report with photos to document conditions before work starts.
 2. Written certification from the Manufacturer which states that the Installer is acceptable or licensed to install the specified roofing; if not previously provided.
 3. Manufacturer's technical literature for all materials.
 4. Samples of the Contractor's Guarantee and Manufacturer's warranty forms.
 5. Test reports and certifications substantiating compliance with specification requirements if requested by the Architect.
- B. Simultaneously provide all technical submittals needed for this project, for all technical sections, collated by section. Incomplete submittals will not be reviewed.
 1. Submittals shall be prepared and made by the firm that will perform the actual work.
 2. Provide electronic submittals via an on-line submittal exchange program if one is established for this project; if an on-line program is not established, provide the submittals on portable USB drives in pdf format, organized in folders by Section.
 - a. Do not make submittals via email
- C. Safety Data Sheets: Simultaneously provide all Safety Data Sheets needed for this project, for all specification sections - collated by section, in three ring binders. Provide two binders for each building.
- D. Payment requisitions will not be processed until all submittals are received and approved.

1.7 JOB CONDITIONS - CAUTIONS AND WARNINGS

- A. Exercise extreme caution when working on the roof, and with bituminous adhesives, cements and solvents. Avoid excessive exposure to bitumen vapors and fumes. Note that many of the products are flammable.
- B. Observe OSHA requirements and local codes.

1.8 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to the site in unopened original containers identified with the Manufacturer's name and brand and labeled with pertinent information regarding grades, quantities and types.
- B. Cover stored materials, except sealed cans of primers, cements and asphalt blocks, with watertight tarpaulins immediately upon delivery.
- C. Immediately and permanently remove from the site insulation, cants, felts, rolls and similar materials which get wet.
- D. Do not overload the structure when storing materials on the roof.
- E. Do not store material within 10 feet of a roof edge. Secure all material immediately upon delivery.
- A. Protect existing and new roof surfaces where material and equipment are placed on them, and where construction traffic occurs, with 6 mil fire retardant polyethylene, covered with 1-1/2-inch-thick foam insulation, overlaid with 2 by 10 wooden planks.

1.9 GUARANTEE/WARRANTY

- A. Provide a written Contractor's Guarantee which guaranties that all work will remain free of material and workmanship defects and in a watertight condition for five years beginning upon Final Completion:
 - 1. Defects include but are not limited to the following: leakage, adhesive separation, delamination, lifting, loosening, splitting, cracking, joint separation, movement and undue expansion or shrinkage.
 - 2. The Contractor shall make the repairs and modifications necessary to enable the work to perform as guaranteed at his own expense:
 - 3. Guarantee coverage shall include removing and replacing materials installed as part of the original work, if removal is needed to affect guaranteed repairs.
 - 4. Guarantee coverage shall remain in effect for gust wind speeds up to 72 miles per hour, measured at ground level at the site.
 - 5. Guarantee coverage shall have no dollar value limit.

- B. Provide one Contractor's Guarantee that covers "all work performed" when a single contractor is awarded work specified in multiple Sections.
- C. The Contractors Guarantee shall take effect no more than 30 days before the completion of all punch list work.
- D. The Guarantee shall include the removal and replacement of items or materials installed with the original roof, if removal and replacement is needed to make warranty repairs.
- E. The Contractor's Surety Company may add a rider to the Performance Bond which clarifies that Performance Bond Coverage expires two years after Final Completion; i.e., Performance Bond Coverage does not run for the entire five year term of the Contractor's Guarantee.
- F. Guarantee and Warranty coverage may be cancelled, for the affected portion of the roof, if the work is damaged by winds in excess of 72 mph, by hail, lightning, insects or animals, by failure of the structural substrate, by exposure to harmful chemicals, by other trades on the roof, or by vandalism, or if the Owner fails to maintain the roof in accordance with, or makes roof alterations contrary to, the Manufacturer's printed recommendations.
 - 1. Guarantee and Warranty coverage shall be reinstated, for the remainder of the original period; if the Owner restores the roof to the condition it was in prior to the damage occurring.

1.10 SUBSTITUTIONS

- A. The following factors will be considered when evaluating a possible alternative to the roofing system specified:
 - 1. The wording and intent of the warranty to be issued.
 - 2. The financial status, number of years in business and stability of the entity's that will issue the warranty and guaranty.
 - 3. A reference list of at least five projects of comparable size, with a successful functional history of at least five years, within an approximate fifty mile radius of the Project.
 - 4. Technical aspects of the system, especially relating to durability, serviceability and performance.
 - 5. The capacity and history of the Manufacturer in providing technical response, on-site inspections and assistance.
 - 6. The availability of local authorized applicators to install and maintain the proposed alternate system.

7. The Manufacturer's willingness and history responding to warranty claims previously made by the Owner, Architect, or any Consultant involved in this project.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Siplast roof system components are specified as the basis of design to establish a standard of quality. Equal products and systems will be considered if offered as a substitute with sufficient technical data to establish that the substitute products meet the criteria established in this specification.
- B. Primary products include:
 1. Primer
 2. Asphalt Cement
 3. Cap Sheet
 4. Flashing Sheet

2.2 MATERIALS

- A. Primer: Low VOC solvent based asphalt primer meeting ASTM D41 Type II.
- B. Cap Sheet: Torch grade fire resistant SBS modified granular surfaced polyester and glass scrim reinforced cap sheet meeting ASTM D 6163 Type I, Grade G – Siplast: Paradiene 30 FR TG BW.
- C. Flashing Sheet: Torch Grade fire resistant SBS modified granular surfaced polyester and glass scrim reinforced cap sheet meeting ASTM D 6163 Type II, Grade G – Siplast: Paradiene 40 FR TG BW.
- D. Cold Applied Liquid Flashings: High performance, multi-component, fast curing liquid membrane, trade name Parapro.
- E. Asphalt Cement:
 1. Flashing cement - Two component urethane based, trowel grade elastomeric asphalt cement.
- F. Acrylic Color Coating: Latex based acrylic coating containing 67% solids by weight, resistant to heat, cold water, ozone, ultraviolet rays, and intended for installation on granular surfaced SBS modified bitumen roll roofing. Custom green and blue colors to match the adjoining roof surfaces.

PART 3 - EXECUTION

3.1 GENERAL

- A. Perform SBS roofing work in a watertight, workmanlike manner, in accordance with the drawings and in conformance with the Manufacturer's recommendations, except as enhanced by the drawings and specifications.
- B. Perform work in areas with roof mounted mechanical equipment to coincide with shutdown periods of the equipment. Temporarily cover mechanical equipment air openings and windows adjacent to the work area with polyethylene sheeting so dirt, dust and odors do not enter the equipment or building. Remove the polyethylene covers at the end of each workday.
- C. Clean substrate surfaces of all laitance, dirt, oil, grease or other foreign matter.
- D. Install roof system components on dry surfaces only. Do not install any components when the weather and outside temperatures are not suitable in accordance with the Manufacturer's recommendations.
- E. Complete all work, including the flashings, in sequence as quickly as possible so the smallest area possible is under construction at any one time. Complete the entire area of work begun each day, the same day, and make all exposed edges watertight at the end of each day's work.
- F. Protect roof surfaces where material and equipment are placed on them, and where construction traffic occurs, with 6 mil fire retardant polyethylene, covered with 1-1/2 inch thick foam insulation, overlaid with 2 by 10 wooden planks.

3.2 SUBSTRATE INSPECTION AND DECK REPAIR

- A. Remove blisters and ridges from the existing roof – where indicated on the roof surface with spray paint.
- B. Immediately notify the Architect and Owner by telephone and in writing if defects in the underlying roof assembly are discovered.
- C. Maintain the building watertight in the interim, but do not install permanent target patches until the defects have been corrected.

3.3 PRIMER

- A. Apply asphalt primer after the blisters and ridges are removed, and allow it to dry.

3.4 SBS MODIFIED BITUMEN TARGET PATCHES

- A. Torch apply the modified bitumen cap sheet target patches where blisters and ridges were removed, extending a minimum of 6 inches onto the adjoining roof surfaces.
- B. Lap sheets no less than 4 inches at the ply overlap and no less than 6 inches at the ends. Fully adhere all surfaces and butter all laps. Offset end laps between layers a minimum of 18 inches.

3.5 FLASHING AND STRIPPING

- A. Install primer on metal flashing and masonry wall surfaces, and allow it to dry before installing bituminous flashings and stripping.
- B. Carefully position and adhere each ply of flashing to extend a minimum of 6 inches onto the adjoining roof surface.
- C. Overlap adjacent pieces of flashing a minimum of 6 inches.
- D. Roll all membrane flashing and flashing seams to achieve complete adhesion.

3.6 ACRYLIC COATING

- A. Install two roller applied coats of acrylic color coating, only after the SBS target patches and related roof flashings are complete and by the Architect.
- B. Custom tint the acrylic coating to match the blue and green colors of the existing roof surface. Batch mix each color in a large drum to obtain a consistent color for the entire job.
- C. Apply the coating to achieve a neat uniform color coated surface free of roller and brush marks or adhesive bleed through.

3.7 MISCELLANEOUS

- A. Provide any miscellaneous roofing, flashing, caulking, and metal work shown or otherwise needed to leave the Work complete and watertight.
- B. Perform work on mechanical and electrical items using workers skilled in these trades. Provide new material, couplings, transition pieces, blocking, fasteners and the like needed to complete the work.

3.8 CLEANING, PROTECTION AND WATERTIGHTNESS

- A. Inspect the interior and exterior of the building and grounds, and submit a written report with photos to document any existing leaks or damage, prior to performing any work on site.
- B. Pay to repair all leaks or damage which was not documented in the pre-work report, or repaired to the Owners satisfaction.
- C. Provide any equipment, material and labor necessary to protect the site, the building, its contents and occupants, pedestrians, and surrounding landscaped and paved areas from damage due to the construction work or from inclement weather during construction.

- D. Do not perform work during inclement weather. Protect incomplete work and the building from damage by inclement weather which may occur unexpectedly. Make all work areas watertight at the end of each day's work.
- E. Clean up all litter, refuse, rubbish, scrap materials and debris at least twice a day; at noon and at the end of the work day, so the roof and site are neat, orderly and workmanlike. Place the debris in a dumpster, and remove the dumpster from the site as soon as it is full or no longer being used.
- F. Carefully and thoroughly clean the entire roof to remove all residual debris when all work is complete. After cleaning the roof, thoroughly clean all drain sumps, drain lines, leader heads and leaders. Do not allow debris to enter the drainage system.

END OF SECTION

SECTION 07 5419
PVC ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Applicable provisions of the Conditions of the Contract and Division 1, General Requirements, govern work in this Section

1.2 SUMMARY

- A. All plant, labor, materials, equipment, testing and services necessary to complete the work shown on the drawings, schedules, and keynotes, as specified herein, and as may be required by conditions and authorities having jurisdiction, including, but not limited to, the following:
 - 1. Inspect the underside of the roof deck before starting work, and periodically each day as work occurs, to determine if there are conduits, pipes, ceiling hangers or fixtures next to the deck or fastened to the deck that could be affected as roof removal work occurs.
 - a. Perform roof removal and installation work so any conduits, pipes, ceiling hangers or fixtures are not disturbed.
 - b. Replace and reset any conduits, pipes, ceiling hangers or fixtures that are affected by the work.
 - 2. Remove existing roofing, insulation, the vapor barrier, underlayment, wood blocking, and flashing.
 - a. Clean all residual material from the surface of the decks, and from within the flutes of the steel decks.
 - b. The work may include removing asbestos containing roofing materials. Refer to the asbestos abatement specification for additional information and asbestos removal requirements.
 - 3. Install a new fully adhered reinforced 60 mil thick PVC roofing system, including insulation, a cover board, flashings, stripping and related accessories.
 - 4. Install standing seam PVC ribs heat welded to the surface of the sloped PVC roofs.
 - 5. Install 2 pipe snow guard assemblies on the sloped roofs.
 - a. Install sections of solid wood blocking as shown on the drawings in place of the roof insulation, to support the snow guard brackets.

1. Install the gypsum cover board over the blocking.
 6. Protect roof surfaces where material and equipment are placed on them, and where construction traffic occurs, with 6 mil fire retardant polyethylene covered with 1-1/2 inch thick foam insulation, overlaid with 2 by 10 wooden planks.
 7. Provide any mechanical, electrical, hoisting and other work needed, and remove, adjust, modify, reset and reconnect all roof-mounted and roof-penetrating devices.
 8. Install new flashings at the roof drains, and all roof-mounted and roof-penetrating equipment.
 9. Disconnect and remove abandoned mechanical equipment and curbs, and infill the roof deck.
 10. Refasten loose sections of the existing deck as Base Bid work.
 11. Replace deteriorated portions of the existing deck in accordance with the Unit Prices.
- B. Related Requirements:
- | | |
|---------------------------------------|-------------------|
| 1. Masonry Maintenance | - Section 04 0100 |
| 2. Carpentry | - Section 06 1000 |
| 3. Modified Bitumen Roofing | - Section 07 5226 |
| 4. Sheet Metal Flashing & Specialties | - Section 07 6200 |
| 5. Roof Accessories | - Section 07 7200 |

1.3 CODE APPROVAL REQUIREMENTS

- A. Install roofing and insulation system components to meet the following minimum requirements:
1. New York State Uniform Fire Prevention and Building Code, which includes by reference the New York State Energy Conservation Code.
 2. Underwriters Laboratories Inc. Class A External Fire Rating for roof assemblies tested in accordance with ASTM E 108 or UL 790.
 3. Underwriters Laboratories Inc. Standard 1256 for roof assemblies with foam insulation.
 4. Minimum wind uplift pressure calculated using ASCE 7 and a safety factor of 2:
 - a. Field Zone – 90 psf
 - b. Perimeter Zones – 135 psf
 - c. Corner Zone - 150 psf
- B. Provide written certification from the Manufacturer, before beginning work, to confirm the roofing system meets these requirements.

1.4 QUALITY ASSURANCE

A. Installer Qualifications:

1. A firm (Installer) with not less than 5 continuous years of experience performing work similar to that required for this project, employing personnel skilled in the specified work.
 - a. The Installer shall directly employ the personnel performing the work of this section.
 - b. The Installer shall have a supervisor on the roof when work is in progress. The Supervisor shall have a minimum of 5 years of experience with work similar in nature and scope to this project, and speak fluent English.
 - a. Submit the supervisor's resume upon request.
2. The Installer shall provide a reference list of at least three previously completed projects of comparable size and similar design, within fifty miles of this project, which may be observed by representatives of the Owner:
 - a. The reference list shall include at a minimum, the completion date, a description of the work performed, the Owner's name - contact person - phone number and address and the Architect's name - contact person and phone number.
 - b. Submit the reference list upon request.
3. The Installer shall be acceptable to or licensed by the Manufacturer of the primary roofing materials, and provide written certification from the Manufacturer to confirm this prior to award if requested.

- B. Material Quality: Obtain each product, including the insulation, cover board, PVC roofing and flashing, and the cements, primers and adhesives from a single Manufacturer, which has manufactured the same products in the United States of America for not less than 5 continuous years.

1.5 PRE-CONSTRUCTION CONFERENCE:

- A. Meet at the project site approximately two weeks prior to starting work, with the Architect, Owner and other representatives concerned about the work, to discuss the following:
1. How the building will be kept watertight as the work progresses.
 2. How roofing will be coordinated with the installation of the insulation, cover board, flashings, roof top equipment and other items to provide a watertight installation.
 3. Generally accepted industry practice and the Manufacturer's instructions for handling and installing his products.

4. The condition of the substrate (deck), curbs, penetrations and other preparatory work needed.
5. Incomplete submittals; note that progress payments will be not processed until all submittals are received and approved.
6. The construction schedule, forecast weather, availability of materials, personnel, equipment and facilities needed to proceed and complete the work on schedule.
7. A schedule for Manufacturer and Architect inspections.

1.6 SUBMITTALS

- A. Submit the following items far enough in advance to obtain approval prior to performing any work:
 1. A pre-work site and building inspection report with photos to document conditions before work starts.
 2. Written certification from the Manufacturer which states that the Installer is acceptable or licensed to install the specified roofing; if not previously provided.
 3. Manufacturer's technical literature for all materials.
 4. Samples of the Contractor's guarantee and Manufacturer's warranty forms.
- B. Simultaneously provide all technical submittals needed for this project, for all technical sections, collated by section. Incomplete submittals will not be reviewed.
 1. Submittals shall be prepared and made by the firm that will perform the actual work.
 2. Provide electronic submittals via an on-line submittal exchange program if one is established for this project; if an on-line program isn't established, provide the submittals on portable USB drives in pdf format, organized in folders by Section.
 - a. Do not make submittals via email.
- C. Safety Data Sheets: Simultaneously provide all Safety Data Sheets needed for this project, for all specification sections - collated by section, in three ring binders. Provide two binders for each building.
- D. Payment requisitions will not be processed until all submittals are received and approved.

1.7 JOB CONDITIONS (CAUTIONS & WARNINGS)

- A. Do not use oil base or plastic roof cement with PVC roofing. Do not allow waste products, (petroleum grease or oil, solvents, vegetable or mineral oil, animal fat) or direct steam venting to come in contact with any roofing, insulation or flashing product. Do not expose PVC roofing and accessories to a temperature in excess of 175 degrees Fahrenheit.

- B. Splice cleaner, primers, cements and bonding adhesives are flammable. Do not breathe vapors or use near fire or flame or in a confined or unventilated area. Dispense only from a UL listed or approved safety can.
- C. Remove empty adhesive and solvent containers and contaminated rags from the roof daily and legally dispose of them daily.
- D. Do not apply adhesives next to open ventilation system louvers, or windows. Temporarily cover the louvers and windows with 6 mil fire retardant polyethylene and prevent adhesive odors from entering the building. Remove temporary covers at the end of each day's work.

1.8 DELIVERY, STORAGE AND HANDLING

- A. Deliver material to the site in the Manufacturer's original and unopened packaging, bearing labels which identify the type and names of the products and Manufacturers, with the labels intact and legible.
- B. Cover all stored materials, except rolls of PVC and sealed cans of adhesives, with watertight tarpaulins installed immediately upon delivery.
- C. Immediately remove any insulation which gets wet from the job site.
- D. Store and install all material within the Manufacturer's recommended temperature range.
- E. Do not overload the structure when storing materials on the roof.
- F. Protect roof surfaces where material and equipment are placed on them, and where construction traffic occurs, with 6 mil fire retardant polyethylene, covered with 1-1/2 inch thick foam insulation, overlaid with 2 by 10 wooden planks.

1.9 GUARANTEE AND WARRANTY

- A. Provide a written Manufacturer's "Full System Warranty" which warrants that the roofing system, including the insulation, PVC roofing and flashings, will remain in a watertight condition for twenty years beginning upon Final Completion.
 - 1. Warranty coverage shall remain in effect for wind speeds up to 72 miles per hour measured at ground level at the site.
 - 2. Warranty coverage shall have no dollar value limit.
- B. Provide a written Contractor's Guarantee which guaranties that all work will remain free of material and workmanship defects and in a watertight condition for five years beginning upon Final Completion:
 - 1. Defects include but are not limited to the following: leakage, adhesive separation, delamination, lifting, loosening, splitting, cracking, movement and undue expansion.

2. The Contractor shall make the repairs and modifications necessary to enable the work to perform as guaranteed at his own expense:
 3. Guarantee coverage shall include removing and replacing items installed as part of the original work, if removal is needed to make guaranteed repairs.
 4. Guaranty coverage shall remain in effect for wind speeds up to 72 miles per hour measured at ground level at the site.
 5. Guaranty coverage shall have no dollar value limit.
 6. The Contractor's Surety Company may add a rider to the Performance Bond which clarifies that Bond Coverage expires two years after Final Completion; i.e., Performance Bond Coverage does not run for the entire five year term of the Contractor's Guarantee.
- C. Provide one Guarantee that covers "all work performed" when a single contractor is awarded work specified in multiple Sections.
- D. The Manufacturer's Warranty and Contractor's Guarantee shall take effect no more than 30 days before the satisfactory completion of all punch list work.
- E. Guarantee and Warranty coverage may be cancelled, for the affected portion of the roof, if the work is damaged by winds in excess of 72 mph, by hail, lightning, insects or animals, by failure of the structural substrate, by exposure to harmful chemicals, by other trades on the roof, or by vandalism, or if the Owner fails to maintain the roof in accordance with, or makes roof alterations contrary to, the Manufacturers printed recommendations.
- F. Guarantee and Warranty coverage shall be reinstated, for the remainder of the original term, if the Owner restores the roof to the condition it was in prior to the damage occurring.

1.10 SUBSTITUTIONS

- A. The following factors will be considered when evaluating a possible alternative to the roofing system specified:
1. The wording and intent of the warranty to be issued.
 2. The financial status, numbers of years in business and stability of the entity that will issue the warranty.
 3. A reference list of at least five completed similar projects of comparable size, with a successful functional history of at least five years, within fifty miles of the Project.
 4. Technical aspects of the system, especially relating to durability, serviceability and performance.

5. The capacity and history of the Manufacturer in providing technical response, on-site inspections and assistance.
6. The availability and prior experience of local authorized applicators to install and maintain the proposed alternate system.
7. The willingness and history of the Manufacturer in responding to warranty claims previously made by the Owner, Architect or any Consultant involved in this project.

PART 2 - PRODUCTS

2.1 GENERAL

- A. PVC system components are specified as products of Sika Sarnafil Inc. to establish a standard of quality. Equal products and systems will be considered, if offered as a substitute with sufficient data to establish that the substitute meets the criteria established in this specification.
- B. Primary products required for this project include:
 1. Roof insulation
 2. Gypsum cover board
 3. PVC roofing
 4. PVC Décor ribs
 5. Primers and adhesives
 6. Sealants
 7. PVC flashing
 8. Fasteners

2.2 MATERIALS:

- A. Insulation:
 1. Isocyanurate – Rigid cellular polyisocyanurate boards with fibrous felt/fiberglass mat facers, minimum compressive strength 20 psi, meeting ASTM C1289-01, Type II, Class 1, Grade 2, as manufactured by Sarnafil under the trade name Sarnatherm.
 - a. Tapered insulation sloping 1/8 and 1/4 inch per foot, minimum starting thickness as indicated on the roof plan.
 - b. Crickets sloping 1/2 inch per foot.
 - c. Flat insulation to be installed on areas with sloping decks consisting of multiple layers, total 5-1/2 inches thick.
 - d. Isocyanurate tapered edge strips installed at transitions and the drain sumps.
- B. Gypsum Cover Board: 1/4 inch thick fire resistant gypsum board decking with inorganic glass mat facers and a water resistant core, formulated in 48 x 48 inch square edge boards, UL Class A, meeting ASTM C-1177, manufactured under the trade name Dens-Deck Prime.

- C. Insulation adhesive: Two component low rise elastomeric foam adhesive, installed with a mixing extruding dispenser (a Pace Cart or Heated Pleural Extruding Spray Rig) intended for application at the temperatures that will be encountered.
- D. PVC for the roofs: minimum .060 inches thick, fire retardant, fiberglass reinforced, PVC (polyvinyl chloride) G410 lacquer coated sheet membrane conforming to the following minimum physical properties:

<u>Properties</u>	<u>ASTM Test Method</u>	<u>Minimum Property</u>
Fiberglass Reinforcing Material		
Overall Thickness, min., inches	D638	0.060
Tensile Strength, min., psi	D638	1500
Elongation at Break, min. (machine x transverse)	D638	250% X 230%
Seam strength, min. (% of tensile strength)	D638	75
Properties after Heat Aging per D3045	-	-
Tensile Strength, min. % of original	D638	90
Elongation, min. % of original	D751	90
Tearing Resistance, min., lbf	D1004	10
Low Temperature Bend @ -40°F	D136	Pass
Accelerated Weathering Test, Xenon Arc	D2565	5,000 Hrs
Cracking @ 7x magnification	-	None
Discoloration by observation	-	Negligible
Crazing @ 7 x magnification	-	None
Linear Dimensional Change, max.	D1204	0.10%
Weight Change after Immersion in Water, max.	D570	± 3.0%
Static Puncture Resistance, 33 lbf	D5602	Pass
Dynamic Puncture Resistance, 7.3 ft-lbf	D5635	Pass
Color: Evergreen.		

2.3 RELATED MATERIALS

- A. Cleaners, adhesives, sealants, caulking and fasteners furnished by the PVC system Manufacturer and as listed below. Use low VOC adhesives and cleaners as required by regulations in effect at the time of application.
1. Wall and Curb Flashing: G410 fiberglass reinforced PVC, color to match the color of the roof
 2. Pitch Pocket Filler: Two component urethane sealant.
 3. Corners: Prefabricated outside and inside flashing corners made of 60 mil thick unreinforced PVC, color to match the color of the roof.
 4. Sealant: One component acrylic-based resin blended with solvent and inorganic adhesives.
 5. PVC Adhesive: Solvent-based reactivating-type adhesive, Sarnacol 2170.
 6. Insulation Plates: 3 inch square, 26 gauge stamping of SAE 1010 steel with an AZ 55 Galvalume coating.

7. Fasteners: #14 corrosion-resistant screws.
8. Aluminum Tape: 2 inch wide pressure-sensitive aluminum tape.
9. Solvent Cleaner: One component liquid for the general cleaning of residual asphalt, scuff marks, etc., from the membrane surface and to clean seam areas prior to hot-air welding.
10. Décor Ribs: 1 inch high factory formed extruded PVC ribs to create faux standing seams on the finished PVC roof, provided by the roof material manufacturer, to match the color of the roof.

PART 3 - EXECUTION

3.1 GENERAL

- A. Perform the work in a watertight, workmanlike manner, meeting the guarantee requirements specified herein; in accordance with the drawings and in conformance with the Manufacturer's requirements, except as enhanced in this specification.
- B. Perform work in areas with roof mounted mechanical equipment, so the work coincides with equipment shutdown periods and does not affect building occupants. Temporarily cover and protect equipment openings, and windows adjoining the work area, with 6 mil fire retardant polyethylene, so dirt, dust and odors do not enter the equipment or building. Remove covers at the end of each workday, and as soon as roof work is complete.
- C. Remove debris daily and as it is generated. Do not stock-pile debris on the roof. Do not leave any debris on the roof at the end of the day. Do not overload the roof structure when moving debris.
- D. Install roof system components on clean, dry surfaces only. Do not install any items when weather conditions and outside temperatures are not suitable in accordance with the Manufacturer's recommendations.
- E. Complete all work in sequence as quickly as possible so that as small an area as practicable is in the process of construction at any one time. Complete the entire area of work begun each day, the same day, and make all exposed edges watertight at the end of each day's work.

3.2 SUBSTRATE INSPECTION

- A. Remove existing roofing, insulation, flashings, underlayment material, and the vapor barrier and carefully check the existing deck. To be an acceptable surface for the new roofing system, it is to be well secured to the underlying structure and not rotted or otherwise deteriorated.
- B. Immediately notify the Architect and Owner by telephone and in writing if defects in the substrate are discovered.

- C. Maintain the building watertight in the interim, but do not proceed with the installation of new roofing until defects have been corrected.

3.3 DECK REPAIRS

- A. Steel deck repairs:
 - 1. Remove damage decking across the entire width of individual sections by a length equal to a minimum of two joist bays.
 - 2. Install new galvanized steel deck of thickness, gauge and cross section to match existing.
 - 3. Fasten new deck to the joists with #12 screws spaced 6 inches on center in each joist.
 - 4. Fasten side seams of steel deck with #10 screws spaced 24 inches apart.

3.4 INSULATION AND COVER BOARD

- A. Install tapered insulation neatly cut at all miters and transitions. Do not lace corner boards.
- B. Install insulation in at least two layers, with joints offset between rows and layers a minimum of 12 inches. Cut insulation to fit neatly at penetrations and joints. Fill any gap which is greater than 1/4 inch.
- C. Fasten all layers of insulation only to the top flute of steel decks, with screws and discs which penetrate through the deck a minimum of 3/4 inch and a maximum of 1-1/2 inches.
 - 1. Install 16 fasteners per 4 by 8 foot insulation board in the field of the roof.
 - 2. Install 28 fasteners per 4 by 8 foot insulation board in 8 foot wide perimeter zones.
 - 3. Install 32 fasteners per 4 by 8 foot insulation board in 8 foot square corner zones.
- D. Install the gypsum cover board in low rise polyurethane foam adhesive applied in accordance with the Manufacturer's recommendations and to achieve the specified minimum uplift resistance.
 - 1. Install 3/4 inch diameter adhesive beads spaced 12 inches on center in the field of the roof.
 - 2. Install 3/4 inch diameter adhesive beads spaced 6 inches on center in 8 foot wide perimeter zones.
 - 3. Install 3/4 inch diameter adhesive beads spaced 4 inches on center in 8 foot square corner zones.

- E. Place 5 gallon pails half full of gravel or concrete on the insulation and gypsum cover board to hold it firmly in position while the low rise foam adhesive sets. Position the pails no more than approximately 24 inches apart in all directions.

3.5 PVC

- A. Apply adhesive to the substrate using solvent-resistant 3/4 inch nap paint rollers, in a smooth, even coating with no gaps, globs, puddles or similar inconsistencies. Only apply adhesive to those areas that will be completely covered the same day. Allow the adhesive to dry completely prior to installing the PVC.
 - 1. Open each can of adhesive and stir it with an electric paddle mixer for at least 5 minutes before applying the adhesive. Re-stir adhesive that isn't used within two hours of initial mixing.
 - 2. Do not punch holes in cans of adhesive and use them in a "better spreader" without mixing.
 - 3. Replace roller covers each day; discard covers after each day's use.
- B. Unroll the PVC when the adhesive on the substrate is dry, overlapping adjacent sheets a minimum of 4 inches. Turn back one-half of the sheet's length and roller coat the underside of the sheet with adhesive. Roll the PVC onto the adhesive coated substrate when the adhesive has dried slightly to produce strings when touched with a dry finger. Do not allow the adhesive on the underside of the PVC to dry completely before bonding the sheet to the substrate.
- C. Firmly press the sheet into the adhesive, and roll it with a water-filled, foam-covered lawn roller by frequent rolling in two directions.
- D. Fold the un-bonded half of the sheet back and repeat the procedure.
- E. Do not apply adhesive to seam areas.
- F. Roofing installed over improperly applied adhesive, and roofing installed with blisters, ridges, mole runs and similar deficiencies shall be removed and replaced at the Contractor's expense.
- G. Count and prepare a written log to show the number of pails of adhesive used in each roof area, each day, to verify to correct amount of adhesive is being applied. Provide copies of the log to the Manufacturer, and to the Architect with each Payment Requisition.

3.6 SEAMS

- A. General:
 - 1. Clean PVC surfaces prior to hot-air heat welding. Weld dry surfaces only.
 - 2. Hot-air weld all PVC roof and flashing seams to finish 3 inches wide when automatic machine welded and 4 inches wide when hand welded.

3. Use welding equipment that is provided by or approved by the material Manufacturer.
4. Perform welding only using personnel that have successfully completed a training course provided by a Manufacturer's Technical Representative.
5. Allow hot air welding equipment to warm up for at least one minute prior to welding.

B. Hand Welding:

1. Complete hand welded seams in two stages.
2. Form a narrow but continuous weld to close the back edge of the seam, and prevent loss of hot air during the final welding.
3. Insert the nozzle into the seam at a 45 degree angle to the edge of the membrane. Heat the PVC until it begins to "flow," then press the PVC sheets together, and use a hand roller to rub the seam.
4. Use a 1-1/2 inch wide nozzle for straight seams. Use a 3/4 inch wide nozzle for corners and compound seams.

C. Machine Welding:

1. Form machine welded seams using automatic welding equipment. Follow the machine Manufacturer's instructions and local codes for electric current supply, grounding and over current protection. Utilize a dedicated circuit if connected to house power, or provide a dedicated portable generator. Do not run other equipment off the generator used to power the automatic welding machine.
2. Use metal tracks laid on the membrane, under the machine welder if needed to eliminate wrinkles.

D. Quality Control of Welded Seams:

1. Visually inspect all seams as they are formed, and then check the entire length of each seam for continuity using a rounded cotter pin removal tool.
 - a. Evidence that welding is proceeding correctly, is visible smoke during the welding operation, shiny membrane surfaces, and an uninterrupted flow of a small amount of dark gray material from the underside of the top PVC sheet.
2. Evaluate all welded seams each day as they are formed, and at locations as directed by the Owner's or the Manufacturer's representatives.
 - a. Cut and examine 1 inch wide cross section samples of welded seams at least three times a day. Correct welds display failure from shearing of the PVC sheet, prior to separation of the weld. Install a target patch over each test cut.

3.7 FLASHING

- A. Install flashings daily with the PVC roof as the job progresses. Do not install temporary flashings.

- B. Fully adhere flashings to compatible, dry, smooth, and solvent-resistant surfaces, by applying adhesive in smooth, even coats with no gaps, globs or similar inconsistencies. Press the sheet firmly in place and thoroughly roll it with a hand roller.
- C. Do not apply adhesive in seam areas that are to be welded. Overlap edges of adjoining flashing sheets a minimum of 4 inches. Hot air weld all flashing seams.
- D. Install factory prefabricated corners on all inside and outside corners.
- E. Mechanically fasten the top edge of all flashings 6 inches on center.

3.8 STANDING SEAM RIBS

- A. Install the standing seam ribs on the sloped roof in neat straight lines spaced uniformly and approximately 16 inches on center, continuously heat welded to the PVC roof.
- B. Carefully layout and center the seams on each roof area before starting to install them. It is not necessary to install the ribs over the roof seams.

3.9 WALKWAY PADS

- A. Install walkway pads heat welded to the roof surface to provide a path where shown on the drawings, around all HVAC units and rooftop equipment.

3.10 PIPE SNOW GUARD ASSEMBLIES

- A. Install snow guard assemblies over the PVC roof, and over solid wood blocking installed in place of the roof insulation. Install support brackets spaced 4 feet on center, and fasten each bracket plate to the blocking with six #14 flat head stainless steel screws. Set the bracket plate in sealant over a 10 inch by 12 PVC pad and cover it with a 16 inch by 18 inch PVC target patch.
- B. Join pipe sections with couplings, and install end caps onto each end of all pipes. Secure each length of pipe by drilling a 3/16 inch diameter hole in the pipe on each side of the center snow guard bracket, and inserting a 3/16 inch stainless steel cotter pin into the holes.
- C. Install Ice Flags bolted to the top pipe spaced 8 inches on center, positioned 1/4 inch above the PVC roof surface. Install two flags between each set of ribs.

3.11 MISCELLANEOUS

- A. Provide any miscellaneous roofing, flashing, caulking, and metal work needed to leave the work complete and entirely watertight, neatly and carefully executed in a thorough and workmanlike manner.
- B. Perform work on mechanical and electrical items using mechanics skilled and licensed in these trades. Provide new material, couplings, transition pieces, blocking, fasteners and the like needed to complete the work.

3.12 CLEANING, PROTECTION AND WATERTIGHTNESS

- A. Inspect the interior and exterior of the building and grounds, and submit a written report with photos to document any pre-existing leakage or damage, prior to performing any work.
- B. The Owner will conduct a similar inspection at the completion of the work, and the Contractor will be charged for all leakage or damage which was not documented in the Contractor's report, or repaired to the Owners satisfaction at the Contractor's expense.
- C. Provide any equipment, material and labor necessary to protect the site, the building, its contents and occupants, pedestrians, and surrounding landscaped and paved areas from damage due to the construction work or from inclement weather during construction.
- D. Do not perform work during inclement weather. Protect incomplete work and the building from damage by inclement weather which may occur unexpectedly. Make all work areas watertight at the end of each day's work.
- E. Clean up all litter, refuse, rubbish, scrap materials and debris at least twice a day; at noon and at the end of the work day, so the roof and site are neat, orderly and workmanlike. Place the debris in a dumpster, and remove the dumpster from the site as soon as it is full or no longer being used.
- F. Carefully and thoroughly clean the entire roof to remove all residual debris when all work is complete. After cleaning the roof, thoroughly clean all drain sumps, drain lines, leader heads and leaders. Do not allow debris to enter the drainage system.

3.13 ROOF INSPECTIONS BY MANUFACTURER

- A. Arrange for the roofing Manufacturer, or his authorized representative, to make a minimum of four inspections in accordance with the following schedule and submit a written report of each inspection to the Architect within one week following each inspection.
 - 1. First inspection during the first two days of new roof installation.
 - 2. Second inspection when roofing is approximately one third complete.
 - 3. Third inspection when roofing is approximately two thirds complete.
 - 4. Fourth inspection when all roofing and flashings are installed.
- B. Provide 48 hours advance written notice to the Architect, so he may have a representative attend the inspections.
- C. Payment requisitions will not be reviewed nor approved until the inspection reports are received.

END OF SECTION

SECTION 07 6200
SHEET METAL FLASHINGS & SPECIALTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Applicable provisions of the Conditions of the Contract and Division 1, General Requirements, govern work in this Section.

1.2 SUMMARY

- A. All plant, labor, materials, equipment, testing and services necessary to complete the work shown on the drawings, schedules and keynotes, as specified herein, and as may be required by conditions and authorities having jurisdiction, including, but not limited to, the following:

- 1. Sheet metal work that is compatible with the roofing systems specified, including cap and through wall flashings, hook strips, fascia, drip edges, gravel stops, gutters, wall panels and miscellaneous flashings.

- B. Related Requirements

- | | |
|-----------------------------|-------------------|
| 1. Masonry Maintenance | - Section 04 0100 |
| 2. Carpentry | - Section 06 1000 |
| 3. Modified Bitumen Roofing | - Section 07 5226 |
| 4. PVC Roofing | - Section 07 5419 |
| 5. Roof Accessories | - Section 07 7200 |

1.3 CODE APPROVAL REQUIREMENTS

- A. Fabricate and install roof perimeter flashings that comply with the NY State Uniform Fire Prevention and Building Code and with ANSI/SPRI ES-1 "Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems" requirements.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications:

- 1. A firm (Installer) with at least 5 continuous years experience performing work similar to that required for this project, employing personnel skilled in the work specified.
 - a. The Installer shall directly employ the personnel performing the work of this section.
 - b. The Installer shall have a supervisor on the roof when work is in progress. The Supervisor shall have a minimum of 5 years experience with work similar in nature and scope to this project, and speak fluent English.
 - 1. Submit the supervisor's resume upon request.

2. The Installer shall provide a reference list of at least three previously completed projects of comparable size and similar design, within fifty miles of this project, which may be observed by representatives of the Owner:
 - a. The reference list shall include at a minimum, the completion date, a description of the work performed, the Owner's name - contact person - phone number and address and the Architect's name - contact person and phone number.
 - b. Submit the reference list upon request.
- B. Material Quality:
 1. Obtain each product from a single Manufacturer which has manufactured the same product in the United States of America for not less than 5 continuous years.
 2. Obtain copper and pre-finished sheet metal items from the same mill run to maintain consistent color hue and surface finish.
- C. Pre-Construction Conference: Meet at the project site between one and two weeks prior to starting work, with the Architect, Owner and other representatives concerned about the work, to discuss the following:
 1. How the building will be kept watertight as work progresses.
 2. How sheet metal work will be coordinated with the installation of the vapor barrier, thermal barrier, insulation, cover board, roofing, flashings, roof accessories and other items to provide a watertight installation.
 3. Generally accepted industry practice and the Manufacturer's instructions for handling and installing his products.
 4. The condition of the substrate, curbs, penetrations and other preparatory work needed.
 5. Incomplete submittals; note that progress payments will not be processed until all submittals are received and approved.
 6. The construction schedule, weather forecast, availability of materials, personnel, equipment and facilities needed to proceed and complete the work on schedule.
 7. A schedule for Manufacturer and Architect inspections.

1.5 SUBMITTALS

- A. Submit the following items far enough in advance to obtain approval prior to performing any work on site:

1. A pre-work site and building inspection report with photos to document conditions before work starts.
 2. Manufacturer's technical literature for all materials.
 3. Test reports and certifications substantiating compliance with specification requirements if requested by the Architect.
 4. Shop drawings, or 2 foot long samples, for each sheet metal item, to show how it relates and fits on adjoining masonry and wood blocking assemblies, and with the roof, stripping, and flashings.
 5. 6 inch square pieces of each type of sheet metal to show surface finish, texture and color.
 6. A sample of the Contractor's guarantee form.
- B. Simultaneously provide all technical submittals needed for this project, for all technical sections, collated by section. Incomplete submittals will not be reviewed.
1. Submittals shall be prepared and made by the firm that will perform the actual work.
 2. Provide electronic submittals via an on-line submittal exchange program if one is established for this project; if an on-line program isn't established, provide the submittals on portable USB drives in pdf format, organized in folders by Section.
 3. Do not make submittals via email.
- C. Safety Data Sheets: Simultaneously provide all Safety Data Sheets needed for this project, for all specification sections - collated by section, in three ring binders. Provide two binders for each building.
- D. Payment requisitions will not be processed until all submittals are received and approved.

1.6 JOB MOCK-UPS

- A. After the submittals are approved, prepare in actual job locations, mock-ups of cap and through wall flashings, hook strips, drip edges, fascia, gravel stops, gutters, metal panels, and all other items of sheet metal and related work, for inspection and approval by the Architect.
- B. Construct each mock-up of two full lengths of metal, fastened, connected and stripped-in to the related roofing system, to show the following:
1. Type, gauge, color, cross-sectional dimensions and shape, and joint and mitering techniques.

2. Related masonry work, wood blocking, and the attachment techniques and fasteners for all wood and metal components.
 3. Other sheet metal related materials and their installation techniques to fully define the detailing of each mock-up.
- C. Mock-ups shall be constructed to establish the minimum standard of materials and workmanship, and to assure that completed work which matches the mock-ups will be fully functional and serve the purpose for it has been designed.
 - D. Approved mock-ups may be left in place and incorporated into the permanent installation. Rejected mock-ups shall be removed and replaced until an acceptable mock-up is approved.
 - E. Do not purchase or fabricate sheet metal items until mock-up installation, inspection and approval are completed and approval is documented in writing.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver material to the site in the Manufacturer's original and unopened packaging, with intact and legible labels which identify the products and Manufacturers,
- B. Cover all stored materials with watertight tarpaulins installed immediately upon delivery.
- C. Do not overload the structure when storing materials on the roof.
- D. Protect roof surfaces where material and equipment are placed on them, and where construction traffic occurs, with 6 mil fire retardant polyethylene, covered with 1-1/2 inch thick foam insulation, overlaid with 2 by 10 wooden planks.

1.8 GUARANTEE

- A. Provide a written Contractor's Guarantee which guarantees that all work will remain free of material and workmanship defects and in a watertight condition for five years beginning upon Final Completion:
 1. Defects include but are not limited to the following: peeling paint, leakage, adhesive separation, delamination, lifting, loosening, splitting, cracking, and undue expansion.
 2. The Contractor shall make the repairs and modifications necessary to enable the work to perform as warranted at his own expense.
 3. Guarantee coverage shall include removing and replacing materials installed as part of the original work, if removal is needed to affect guaranteed repairs.
 4. Guarantee coverage shall have no dollar limit.

- B. Provide one Contractor's Guarantee that covers "all work performed" when a single contractor is awarded work specified in multiple Sections.
- C. The Guarantee coverage shall take effect no more than 30 days before the completion of all punch list work.
- D. The Contractor's Surety Company may add a rider to the Performance Bond which clarifies that Bond Coverage expires two years after Final Completion; i.e., Performance Bond Coverage does not run for the entire five year term of the Contractor's Guarantee.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Copper sheet: ASTM B370, 99.0 % pure copper, thickness 16 ounces per square foot. Use copper for all metal items not otherwise indicated
- B. Solder: 50-50 tin and lead for plain copper, supplied in one pound bars with the alloy mixture stamped into the bar by the Manufacturer.
- C. Flux: Water-Soluble Liquid Flux, Kester #3345 for iron soldering of brass and copper.
- D. Shop fabricated aluminum fascias, hook strips, and miscellaneous trim for all other roof areas with #3105-H14 alloy aluminum, minimum thickness .040 inches unless otherwise indicated, factory finished with a Fluoropolymer Kynar 500 finish, color as selected by the Architect, from the full range of custom and standard colors.
- E. Fasteners: fabricated of stainless steel, or material that matches the sheet metal being fastened.
- F. Glass Cloth: open mesh glass fabric coated on each side with plasticized asphalt as manufactured by Karnak Corporation or equal.
- G. Asphalt cement: Federal Specification SS-C-153B, Type 1, asbestos free grade.
- H. Exterior mounted gutters: 7 inch wide, .050 inch thick aluminum seamless gutters, factory finished with a baked acrylic enamel Kynar 500 finish, supported with concealed aluminum fascia brackets spaced 12 inches on center fastened with 1-1/2 inch long stainless steel screws.
- I. Sealant: High performance, solvent free, formulated and moisture curing silyl-terminated polyether sealant, ASTM C-920, Type S, Grade NS, Class 25, NovaLink construction sealant by ChemLink, color as selected.
- J. Metal panels: .040 inch thick Atas Design Wall DWF120 Panels, 12 inches wide, with interlocking joints and concealed fasteners, and a baked acrylic enamel paint finish, to match the existing blue panels.

- K. Ice and Water Shield: high temperature 30 mil thick slip resistant buytl based adhesive coated sheet, with a plastic release layer for peel and stick application directly to a prepared roof deck: Grace Ultra.

PART 3 - EXECUTION

3.1 GENERAL

- A. Accurately reproduce the details and design shown, and form profiles, bends and intersections, sharp, true and even. Fabricate sheet metal in the shop whenever possible, and form joints, laps, splices and connections to shed water and condensation in the direction of flow.
- B. Provide any miscellaneous flashing and sheet metal work not shown on the drawings but otherwise needed to leave the project complete and entirely watertight, neatly and carefully executed in a thorough and workmanlike manner.

3.2 INSPECTION

- A. Examine surfaces to receive work of this section and report any defects to the Owner. Commencement of work will be construed as complete acceptance of surfaces.

3.3 INSTALLATION GENERAL

- A. Fabricate and install copper work in accordance with the current edition of "Copper and Common Sense" as published by the Revere Copper and Brass Company, unless otherwise indicated.
 - 1. Form all joints, except loose locked sealant filled expansion joints, to overlap 2 inches.
 - 2. Secure the joints with rivets spaced 1 inch on center positioned about 1/2 inch from the top edge of the joint, then sweat solder the joint.
 - 3. Use solder only to fill and seal the joint, not for mechanical strength. Form soldered joints continuous, strong and free from defects, with well heated soldering irons. Do not use open flame torches for soldering.
 - 4. Clean soldered joints daily, immediately after soldering, by washing them with soap and water applied with a soft bristle brush, then rinsing with clear water.
- B. Securely fasten and anchor all work, and make provisions for thermal expansion. Submit details of expansion joints for approval. Install fasteners through one edge of metal only, use a hook strip on the other edge.
- C. Use stainless steel pin Zamac type nail-in fasteners, or stainless steel screws and washers with neoprene inserts where fasteners will be exposed.

3.4 CAP FLASHINGS

- A. Install new copper cap flashings above all roof and roof flashing components, including copings, wall penetrating ducts and gravel stops. Install cap flashings built into masonry walls; as they are partially dismantled and rebuilt - properly joined to all related materials in a watertight manner.
 - 1. Solder all joints in the new cap flashing, except form 2 inch wide flat locked sealant filled expansion joints a maximum of 32 feet on center.
 - 2. Secure the joints with rivets spaced 1 inch on center positioned about 1/2 inch from the top edge of the joint, then sweat solder the joint.
 - 3. Form the flashing to extend through the cavity turn up 2 inches against the surface of the back-up the wall, and finish with a hem on the bottom exposed edge.
 - 4. Fasten the top edge of the cap flashing to the back-up wall or masonry 12 inches on center.
 - 5. Install the new cap flashing under flexible type wall flashings where possible. Where it is not possible to lap the new cap flashing under an existing wall flashing, install a ply of glass cloth set in and coated with asphalt cement to connect the new cap flashing to the existing wall flashing.
 - 6. In the absence of an existing wall flashing, or at a solid masonry wall, turn up the new cap flashing 2 inches behind the first wythe of masonry.
 - 7. Install new cap flashings where shown on the drawings, and at a height of 10 to 12 inches above the roof surface.
 - 8. Install new cap flashings above parapet flashings and above eave metal at transitions with higher walls.
- B. Install new aluminum cap flashings on skylight and equipment curbs.
 - 1. Form the cap flashing to extend at least 2 inches under the equipment or skylight, 4 inches over the base flashing, and finish with a 1/2 inch hem on the bottom edge.
 - 2. Install a 1/2 inch thick by 2 inch wide continuous foam gasket between the cap flashing and mechanical equipment or skylight. Do not set the equipment or skylight in sealant.
 - 3. Secure the equipment or skylight to the curb with stainless steel screws spaced 12 inches on center.

3.5 DRIP EDGES

- A. Fabricate drip edges to extend 1-1/2 inches past the roof edge, and turn down to ensure water cannot track back and run down the fascia. Secure the drip edge with

roofing nails along the top edge, spaced 4 inches apart along the raw metal edge. Form joints in the drip edge with 6 inch wide concealed under plates which duplicate the profile of the drip edge. Set the underplates in a full bed of sealant.

3.6 HOOK STRIPS

- A. Form continuous hook strips with locks that engage the superimposed trim piece a minimum of 3/4 inch, and to cover the entire underside edge of the wood blocking and neatly extend to the building wall.
- B. Fasten hook strips along their bottom edge, just above the 45 degree bend, with nails spaced 4 inches on center into underlying wood blocking; Zamac type nail-in type fasteners spaced 8 inches on center into masonry surfaces, or screws spaced 8 inches on-center into sheet metal surfaces.

3.7 FASCIA

- A. Fabricate new fascia to engage the hook strip 3/4 inch minimum and extend to the top of the wood fascia blocking. Secure the fascia with a continuous hook strip along the bottom edge and roofing nails along the top edge spaced 8 inches apart, positioned to be covered by the roof edge trim. Form joints in the fascia with 6 inch wide concealed under plates which duplicate the profile of the fascia. Set the underplates in a full bed of sealant.

3.8 GRAVEL STOPS

- A. Fabricate new gravel stops with 4 inch wide nailing flanges. Secure the gravel stop with a continuous hook strip and by nailing the flange 4 inches apart along the raw edge with roofing nails. Form joints in the gravel stop with a 6 inch wide underplates set in a full bed of sealant. Form the gravel stop to turn up 5 inches at rising walls, extend the stripping up the wall and terminate it under a cap flashing.

3.9 ICE & WATER SHIELD

- A. Install fully adhered ice and water shield to cover the change in elevation walls at the clerestories.
 - 1. Lap the ice and water shield over the window head drip edge, to shed water, and turn the ice and water shield onto the sides of the window frames.

3.10 WALL PANELS

- A. Install the panels plumb, level, and straight with seams parallel, to achieve an aesthetic design appearance.
- B. Fasten the panels to the window drip edge flashing flange, and to the eave hook strip flashing flange with concealed stainless steel screws in each seam.

3.11 GUTTERS AND DOWNSPOUTS

- A. Install seamless gutters that slope approximately 1/16 inch per foot.
 - 1. Secure the gutters with hidden extruded aluminum fascia brackets spaced 12 inches on center. Fasten each bracket with two #10 by 1-1/2 inch long stainless steel screws.
- B. Install the downspouts plumb and straight.
 - 1. Secure the downspouts approximately 7 feet on center, with .050 inch thick by 1-1/4 inch wind straps - color to match the downspouts. Fasten each strap with 1/4 inch diameter Zamac nail-in anchors, with stainless steel pins.
 - 2. Install aluminum wire basket strainers at all leader drop tube outlets.

3.12 CLEANING, PROTECTION AND WATERTIGHTNESS

- A. Inspect the interior and exterior of the building and grounds, and submit a written report with photos to document any pre-existing leakage or damage, prior to performing any work.
- B. The Owner will conduct a similar inspection at the completion of the work, and the Contractor will be charged for all leaks and damage that weren't documented in the Contractor's report, or repaired to the Owners satisfaction at the Contractor's expense.
- C. Provide any equipment, material and labor necessary to protect the site, the building, its contents and occupants, pedestrians, and surrounding landscaped and paved areas from damage due to the construction work or from inclement weather during construction.
- D. Do not perform work during inclement weather. Protect incomplete work and the building from damage by inclement weather - which may occur unexpectedly. Make all work areas watertight at the end of each day's work.
- E. Clean up all litter, refuse, rubbish, scrap materials and debris at least twice a day; at noon and at the end of the work day, so the roof and site are neat, orderly and workmanlike. Place the debris in a dumpster, and remove the dumpster from the site as soon as it is full or no longer being used.
- F. Carefully and thoroughly clean the entire roof to remove all residual debris when all work is complete. After cleaning the roof, thoroughly clean all drain sumps, drain lines, leader heads and leaders. Do not allow debris to enter the drainage system.

END OF SECTION

SECTION 07 7200

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Applicable provisions of the Conditions of the Contract and Division 1, General Requirements, govern work in this Section

1.2 SUMMARY

- A. All plant, labor, materials, equipment, testing and services necessary to complete the work shown on the drawings, schedules and keynotes, as specified herein, and as may be required by conditions and authorities having jurisdiction, including, but not limited to, the following:

- 1. Roof specialties that are compatible with the roofing systems specified, including:
 - a. Glass skylights
 - b. Drains, drain pipes and couplings.
 - c. Pipe insulation and fitting covers.
 - d. Roof walkway pads.
 - e. Snow guard assemblies.
- 2. Prepare, prime and paint all roof top equipment, the access ladders, equipment support dunnage, bulkhead doors and frames (inside and outside) and miscellaneous rooftop items indicated.

- B. Related Requirements

- | | |
|---------------------------------------|-------------------|
| 1. Masonry Maintenance | - Section 04 0100 |
| 2. Carpentry | - Section 06 1000 |
| 3. Modified Bitumen Roofing | - Section 07 5226 |
| 4. PVC Roofing | - Section 07 5419 |
| 5. Sheet Metal Flashing & Specialties | - Section 07 6200 |

1.3 CODE APPROVAL REQUIREMENTS

- A. Fabricate and install roof accessories that comply with the NY State Uniform Fire Prevention and Building Code.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications:

- 1. A firm (Installer) with at least 5 continuous years experience performing work similar to that required for this project, employing personnel skilled in the work specified.
 - a. The Installer shall directly employ the personnel performing the work of this section.

- b. The Installer shall have a supervisor on the roof when work is in progress. The Supervisor shall have a minimum of 5 years experience with work similar in nature and scope to this project, and speak fluent English.
 - 1. Submit the supervisor's resume upon request.
 - 2. The Installer shall provide a reference list of at least three previously completed projects of comparable size and similar design, within fifty miles of this project, which may be observed by representatives of the Owner:
 - a. The reference list shall include at a minimum, the completion date, a description of the work performed, the Owner's name - contact person - phone number and address and the Architect's name - contact person and phone number, and the Contractor's Supervisor's name.
 - b. Submit the reference list upon request.
- B. Material Quality: Obtain each product from a single Manufacturer which has manufactured the same product in the United States of America for not less than 5 continuous years.
- C. Pre-Construction Conference: Meet at the project site between one and two weeks prior to starting work, with the Architect, Owner and other representatives concerned about the work, to discuss the following:
 - 1. How the building will be kept watertight as work progresses.
 - 2. How roof accessory work will be coordinated with the installation of the vapor barrier, thermal barrier, insulation, cover board, roofing, flashings, and other items to provide a watertight installation.
 - 3. Generally accepted industry practice and the Manufacturer's instructions for handling and installing his products.
 - 4. The condition of the substrate, curbs, penetrations and other preparatory work needed.
 - 5. Incomplete submittals; note that progress payments will not be processed until all submittals are received and approved.
 - 6. The construction schedule, forecast weather, availability of materials, personnel, equipment and facilities needed to proceed and complete the work on schedule.
 - 7. A schedule for Manufacturer and Architect inspections.

1.5 SUBMITTALS

- A. Submit the following items far enough in advance to obtain approval prior to performing any work:

1. A pre-work site and building inspection report with photos to document conditions before work starts.
 2. Manufacturer's installation instructions and technical data sheets for each item. Material sample submittals are not needed unless requested to show color and texture.
 3. Samples of the Contractor's and Manufacturer's guarantee/warranty forms.
 4. Test reports and certifications substantiating compliance with specification requirements if requested by the Architect.
- B. Simultaneously provide all technical submittals needed for this project, for all technical sections, collated by section. Incomplete submittals will not be reviewed.
1. Submittals shall be prepared and made by the firm that will perform the actual work.
 2. Provide electronic submittals via an on-line submittal exchange program if one is established for this project; if an on-line program isn't established, provide the submittals on portable USB drives in pdf format, organized in folders by Section.
 3. Do not make submittals via email.
- C. Safety Data Sheets: Simultaneously provide all Safety Data Sheets needed for this project, for all specification sections - collated by section, in three ring binders. Provide two binders for each building.
- D. Payment requisitions will not be processed until all submittals are received and approved.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver material to the site in the Manufacturer's original and unopened packaging, with intact and legible labels which identify the products and Manufacturers,
- B. Cover all stored materials with watertight tarpaulins installed immediately upon delivery.
- C. Do not overload the structure when storing materials on the roof.
- D. Protect roof surfaces where material and equipment are placed on them, and where construction traffic occurs, with 6 mil fire retardant polyethylene, covered with 1-1/2 inch thick foam insulation, overlaid with 2 by 10 wooden planks.

1.8 GUARANTEE

- A. Provide a written Contractor's Guarantee which guarantees that all work will remain free of material and workmanship defects and in a watertight condition for five years beginning upon Final Completion:

1. Defects include but are not limited to the following: peeling paint, leakage, adhesive separation, delamination, lifting, loosening, splitting, cracking, movement and undue expansion.
 2. The Contractor shall make the repairs and modifications necessary to enable the work to perform as warranted at his own expense.
 3. Guarantee coverage shall include removing and replacing materials installed as part of the original work, if removal is needed to affect repairs.
 4. Guarantee coverage shall have no dollar limit.
- B. Provide one Contractor's Guarantee that covers "all work performed" when a single contractor is awarded work specified in multiple Sections.
- C. The Guarantee shall take effect no more than 30 days before the satisfactory completion of all punch list work.
- D. The Contractor's Surety Company may add a rider to the Performance Bond which clarifies that Performance Bond Coverage expires two years after Final Completion; i.e., Performance Bond Coverage does not run for the five year term of the Contractor's Guarantee.
- E. Provide a Manufacturer's written warranty, which warrants the skylights will remain watertight for 5 years beginning upon final completion.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Provide Manufacturer's standard units, modified as necessary to comply with the specified requirements. Fabricate each unit in a shop to the greatest extent possible, using the following components:
1. Aluminum Sheet: ASTM B 209 alloy 3003, tempered for forming and performance; mill finish, except as otherwise noted.
 2. Extruded Aluminum: Standard extrusions alloy 6063-T52; 0.078 inch minimum thicknesses for primary framing and curb member legs, 0.062 inch thickness for secondary framing and covers; mill finish, except as otherwise indicated.
 3. Insulation: Rigid fiber glass boards where encapsulated inside metal skirts, rigid isocyanurate where covered with roof flashings on the exterior of curbs.
 4. Wood Nailers: Dimension grade Douglas Fir, not less than 1-1/2 inches thick.
 5. Fasteners: Nonmagnetic stainless steel or hot dipped galvanized steel, to match the finish of the material being fastened.
 6. Gaskets: Tubular neoprene or polyvinyl chloride, or block sponge neoprene.
 7. Sealant: Polyisobutylene; nonhardening, nonskinning, nondrying, nonmigrating sealant.

2.2 GLASS SKYLIGHT

A. Custom Structural Sloped Skylight

1. Factory fabricated, field assembled skylight assembly with extruded aluminum rafter tubes with a Kynar 500 finish, and 1-5/16 inch thick insulated glazing, consisting of a 1/4 inch thick tempered exterior lite, a 1/2 inch thick sealed air space, and a 9/16 inch thick clear heat strengthened laminated safety glass interior lite, with a .090 SGP layer, to fit on the field constructed curb.
2. Custom color window tint and UV blocking film.
3. Energy Performance: Maximum U-Factor 0.60, Solar Heat Gain coefficient 0.040.
4. Hurricane resistant and OSHA Fall Protection compliant.
5. Basis of design: Wasco Pinnacle HU (Hurricane Rated) Skylight

2.3 DRAINS, DRAIN PIPES, AND COUPLINGS

- A. Conventional cast iron bottom and side outlet roof drains, installed with drain receivers, under deck clamps, cast iron strainers, cast iron clamping rings and factory installed stainless steel gravel screens Series 1011 as manufactured by Jay R. Smith Manufacturing Company.
- B. Match the drain outlet size and style to the building drain line, except if the drain line is a copper pipe, then furnish the drain body with a threaded outlet and use a male adapter to connect the drain body to the drain line.
- C. Drain pipe: cast iron pipe with no hub fittings, minimum 3 inch diameter, and larger to match the existing building drain lines.
- D. No-hub couplings: heavy duty rubber neoprene sleeve couplings with full length Type 304 stainless steel shields and at least 4 worm drive clamps, conforming to ASTM A564.

2.4 PIPE INSULATION AND FITTING COVERS

- A. Insulation: minimum 1 inch thick pre-molded 3.5 lb. heavy density fiberglass pipe insulation with UL rated non-combustible service jackets.
- B. .030 inch thick factory fabricated white PVC "Smoke Safe" fitting and drain bowl covers as manufactured by the Speedline Corporation, with a maximum Flame Spread Value of 25 and a maximum Smoke Developed Value of 50 in accordance with ASTM E8450.

2.5 GAS LINE AND EQUIPMENT PIPE SUPPORTS

- A. Factory fabricated adjustable pipe supports as manufactured by Miro Industries, Inc. Model 20-Base Strut-12.

2.6 ROOF WALKWAY PADS AND CONCRETE PAVERS

- A. 96 mil thick, rolled-out, polyester reinforced heat-weldable protection mat, as manufactured by Sarnafil under the trade name SarnaTred, or approved equal.

2.7 SNOW GUARD ASSEMBLIES

- A. Pipe Snow Guard Assemblies: 2 pipe snow guard assembly consisting of 1 inch diameter aluminum pipes, a 6 inch by 8 inch by 11 gauge thick Type 302 stainless steel base plate, and milled 6061-T6 aluminum snow guard block and ice flags as manufactured by Alpine Snow Guards, Model #115 with #95 Ice Flags.
 - 1. Custom powder coat all snow guard components to match the color of the PVC roof.

2.8 PAINT AND PRIMER

- A. Alkyd base rust inhibiting exterior primer and high gloss finish paint for ferrous metal surfaces as manufactured by Rust Oleum or equal.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Field measure existing openings. Comply with manufacturer's instructions and recommendations. Coordinate with the installation of roof deck, other substrates to receive specialty units, vapor barriers, roof insulation, roofing and flashing to ensure that each element of the work performs and fits properly, and that combined elements are waterproof and weathertight. Anchor units securely to supporting structural substrates, adequate to withstand lateral and thermal stresses as well as inward and outward loading pressures.

3.2 SKYLIGHT

- A. Remove the existing skylight using care not to damage the roof deck or skylight well liner. Rework the curb to finish 10 inches above the roof surface. Install new base and cap flashings, and restore the shaft liner using 5/8 inch thick gypsum board to match the original construction. Install the new skylight over a foam gasket.

3.3 DRAINS, DRAIN PIPES AND COUPLINGS

- A. Remove and replace the existing drains where roof removal and replacement work are indicated:
 - 1. Remove the existing drains and flashings; use care not to break or disturb the drain pipes within the building.
 - 2. Modify the existing drain lines to properly connect to the new drain assemblies.
 - 3. Enlarge the hole in the deck and reinforce the deck to accommodate the new drain, and install the drain recessed below the roof surface to achieve maximum drainage.

4. Support the drain with a stamped sump drain receiver, secure it with an under deck clamp and patch the deck around the new drain.
 5. Connect the new drain to the existing drain line to conform to all applicable codes, and insulate the underside of the drain body and drain line.
- B. Connect the fittings and sections of cast iron pipe using heavy duty no-hub couplings; solvent weld PVC fittings and pipe, and use threaded connections to join steel fittings and pipe.
 - C. Install new drain pipes to slope 1/4 inch per foot, and support each section of pipe with a hanger, supported on a structural member or strut, on each side of every coupling. Do not rely on the couplings to support any weight. Do not hang the drain pipes from the roof deck.

3.4 PIPE INSULATION AND FITTING COVERS

- A. Install insulation on all horizontal drain piping, and on new vertical pipes installed to connect the new drains to the existing lines.
- B. Install insulation on the undersides of the new drains.
- C. Install white PVC fitting and drain bowl covers, and wrap the joints between fitting covers and pipe insulation jackets with 3 inch wide white PVC tape.

3.5 SITE LIGHTING BRACKETS AND CONDUIT

- A. Install electrical fixtures, boxes and conduits in accordance with applicable electrical codes.
- B. Remove, reposition and reinstall electrical conduit on top of new concrete pavers spaced a maximum of 5 feet on center. Fasten conduit to pavers with galvanized clips and stainless steel Zamac nail-ins.
- C. Secure the fixtures to the parapet / building walls with galvanized brackets and stainless steel expansion bolts, positioned above the level of roof flashings, and as appropriate for the weight of the fixture.
- D. Repair or replace existing conduits, boxes or similar accessories which cannot be properly reset. Install new fixtures only where specifically indicated.

3.6 ROOF WALKWAY PADS AND CONCRETE PAVERS

- A. Install walkway pads to provide a path 39 inches wide where shown on the drawings, and at all roof access points, i.e., ladders, doors and around all HVAC units. Fully adhere the walk pads and heat weld the perimeter of the pads to the roof surface.

3.7 SNOW GUARD ASSEMBLIES

- A. Install snow guard assemblies over solid wood blocking installed in place of the roof insulation. Install the cover board over the blocking. Install the brackets spaced 4 feet on center, and fasten each bracket plate to the underlying blocking with six #14, 3 inch long flat head stainless steel screws.
- B. Join pipe sections with couplings, and install end caps onto each end of all pipes. Secure each length of pipe with set screw collars or by inserting 3/16 inch cotter pins into holes drilled on each side of the center bracket.
- C. Install ice flags spaced 8 inches on center. Keep ice flags 1/2 inch above the roof membrane. Install two flags between each pair of ribs.

3.8 PAINTING

- A. Scrape and wire brush roof top equipment, ladders, access doors and frames (both sides), the guard rail, and the vent pipes to remove loose and peeling paint and surface rust.
- B. Install one coat of primer and two finish coats of paint using a brush or roller. Wait 24 hours for each coat of paint to dry before applying the next coat.
- C. Do not remove or paint over the manufacturer's name plates.

3.9 MISCELLANEOUS

- A. Provide and install any sealants needed, where shown or required.
- B. Perform mechanical and electrical work using skilled and licensed tradesmen.
- C. Provide new material, couplings, transition pieces, blocking, fasteners and the similar accessories needed to complete the work.

3.10 CLEANING, PROTECTION AND WATERTIGHTNESS

- A. Inspect the interior and exterior of the building and grounds, and submit a written report with photos to document any pre-existing leakage or damage, prior to performing any work.
- B. The Owner will conduct a similar inspection at the completion of the work, and the Contractor will be charged for all leaks and damage that weren't documented in the Contractor's report, or repaired to the Owners satisfaction at the Contractor's expense.
- C. Provide any equipment, material and labor necessary to protect the site, the building, its contents and occupants, pedestrians, and surrounding landscaped and paved areas from damage due to the construction work or from inclement weather during construction.

- D. Do not perform work during inclement weather. Protect incomplete work and the building from damage by inclement weather - which may occur unexpectedly. Make all work areas watertight at the end of each day's work.
- E. Clean up all litter, refuse, rubbish, scrap materials and debris at least twice a day; at noon and at the end of the work day, so the roof and site are neat, orderly and workmanlike. Place the debris in a dumpster, and remove the dumpster from the site as soon as it is full or no longer being used.
- F. Carefully and thoroughly clean the entire roof to remove all residual debris when all work is complete. After cleaning the roof, thoroughly clean all drain sumps, drain lines, leader heads and leaders. Do not allow debris to enter the drainage system.

END OF SECTION