

Contract Documents for:

N. Smithfield Fire Station **Re-Roofing**

**St. Paul St,
N. Smithfield, RI**

November 2, 2016



Architecture - Site - Planning

P. O. Box 598, 185 Tinkham Lane
Harrisville, RI 02830

401-710-7788 Fax: 710-7848

North Smithfield North Fire & Rescue Re-Roofing

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Base Bid:

The Bidder accepts all of the Terms and Conditions of the Bidding Requirements and all other Contract Documents, including Town of North Smithfield bid documents attached. (if none are attached please inquire) The Bidder, in compliance with your invitation for bids for the above mentioned project, having examined the Contract Documents and the existing conditions, hereby proposes to furnish all labor, materials, and supplies, to construct the project including all expenses incurred in accordance with the Contract Documents within the time set forth below, and at the prices stated below.

The Bidder hereby agrees to perform the work.

The Bidder acknowledges the following addenda (if any):

The Bidder agreed to perform the work described in these Contract Documents for the total sum of:

Base Bid: \$ _____ (Including allowances)

(Written Words): \$ _____

The Bid shall be based on the drawings and the attached specifications and form of contract.

Submitted by:

Company: _____

Address: _____

Signed: _____

Printed Name: _____

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Base Bid Breakdown:

EPDM Roofing and associated insulation and flashings: \$ _____

Asphalt Roofing, Gutters, & Downspouts: \$ _____

Dog-House Dormer removal: \$ _____

All other Carpentry: \$ _____

Asbestos Abatement Allowance: \$ _____

Total: \$ _____

Alternates:

Remove **ALL** exist. fascias, rakes, & soffits, including alum. wrappings and replace w/ new per details 4 & 5 on sheet A2: \$ _____

Perform all work scope in Spring of 2017 vs. Fall of 2016: \$ _____

Allowances:

None

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INFORMATION TO BIDDERS:

DEFINITIONS:

The *North Smithfield Fire Department*, and the *Owner* shall be used interchangeably to have the same meaning.

TIME FRAME:

The project is ideally intended to be started and completed during the fall of 2016 per the contract time stated later in this document. Each bidder shall submit their proposed work schedule for the project. Refer to alternates for alternative work scope timeframe.

INTERPRETATIONS AND ADDENDA:

No interpretations of the meaning of the drawings, specifications, or other Contract Documents will be made to the Bidder orally. Every request for such interpretation shall be made in writing, addressed to the Architect, and to be given consideration must be received at least **five** calendar days prior to the receipt of bids. Any and all such interpretations and any supplemental instructions shall be in the form of written addenda to the specifications which, duly issued, and mailed to all prospective bidders (at the respective address furnished by the Bidder for such purposes), not later than **three** calendar days prior to the date fixed for the opening of bids.

In submitted bids, no oral instructions, no matter by whom given, requiring changes in the Contract Documents will be recognized as authorized by the Owner or by Architect. Failure of the Bidder to receive any such addendum or interpretation shall not relieve such Bidder from any obligation under his Bid submitted. All addenda so issued shall become part of the Contract Documents. All addenda received prior to the bid date shall be acknowledged in the proposal form.

EXAMINATION OF SITE AND CONTRACT DOCUMENTS:

Each Bidder shall inform himself of the conditions relating to the construction and the labor under which the work will be performed. Failure to do so will not relieve the Successful Bidder of his obligation to furnish all materials and all labor necessary to carry out the provisions of the Contract Documents and to complete the work for the sum set forth in his Bid.

The Bidder must satisfy himself by his own investigation and research regarding all conditions affecting the work to be done and the labor and materials needed, and make his Bid in sole reliance thereon, and shall not at any time after the submission of the Bid, assert that there was any misunderstanding in regard to the nature or amount of the work to be done.

The Bidder shall thoroughly examine and be familiar with the drawings and specifications. The failure or omission of any Bidder to receive or examine any form, instrument, or document or to visit the site shall not relieve any Bidder from any obligation with respect to his Bid.

RIGHT OF THE OWNER TO TERMINATE CONTRACT:

In the event that any of the provisions of this contract are violated by the Contractor, the *Owner* may serve written notice upon the Contractor and the Surety of its intention to terminate the Contract. Notice is to contain the reasons to terminate the Contract, and unless within five days after the serving of such notice upon the Contractor, such violation or delay shall cease and

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satisfactory arrangement of corrections made, the Contract shall, upon the expiration of said five days, cease and terminate.

CONTRACTOR RECORDS:

The Contractor shall maintain records in accordance with all applicable laws.

SUBSTITUTE MATERIAL AND EQUIPMENT:

No substitution will be considered prior to the receipt of Bids unless written request for approval has been received by the Architect/Owner at least seven days prior to the date for receipt of Bids. Such requests shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitution including drawings, performance and test data, and other information necessary of an evaluation. A statement setting forth changes in other materials, equipment or other portions of the Work including changes in the work of other contracts that incorporation of the proposed substitution would require shall be included. The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution is final. Refer also to General Conditions, Supplementary General Conditions, and Division 1 requirements.

If the Architect/Owner approves a proposed substitution prior to the receipt of Bids, such approval will be set forth in an Addendum. Bidders shall not rely upon approvals made in any other manner. No other substitutions shall be considered after the Contract award unless specifically provided in the Contract Documents.

CONTRACT TIME:

Work is to be substantially complete within 45 days of the signing of the Contract.

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DIVISION 1: GENERAL REQUIREMENTS

The Contractor is responsible for all personnel involved in the work, including those of his direct employ, his subcontractors and suppliers of materials and equipment and/or labor.

The project is to be performed in accordance with all applicable National, State, and Local Codes, Laws, and Standards.

Except as specifically noted, provide and pay for: labor, materials and equipment, tools, construction equipment and machinery required for construction, and other facilities required for proper execution and completion of the work.

The Contractor agrees to make good with out cost to the Owner any defects in the work or parts of the work furnished by him and any damage due to faulty workmanship on his part or due to faulty or imperfect material or equipment furnished by him, which may appear within one year from the date of completion of the work done under this contract.

Contractor may connect to Owner's existing water & electrical supplies.

The Contractor shall notify the Owner when unanticipated or apparently dangerous conditions are uncovered or develop during construction. Discrepancies shall be brought to the attention of the Owner prior to proceeding with that portion of the work.

Provide safety equipment and/or procedures required for the proper execution of the work.

Replace or rectify work or materials damaged by workmen, by the elements, or by any other cause to the satisfaction of the Owner.

Recondition any portions of the site disturbed or damaged during construction.

Disposal of materials and workmanship throughout the project shall conform to all federal, state, and local requirements and guidelines.

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DIVISION 2: SITE WORK/ DEMOLITION **Section 2A: Selective Building Demolition**

GENERAL

Related Documents:

The work of this section shall be performed in accordance with the requirements of the Contract Documents including the Drawings, Conditions set forth by and agreements made with the Owner, and all applicable portions of Division 1.

Scope of Work:

The scope of work shall generally include but is not limited to the legal removal and disposal off site of all material necessary to construct the new work. Included is selective demolition which is required to install the new work, whether or not specifically noted on the drawings or specified herein.

Submittals:

Dump receipts from licensed solid waste land fill. (To be received prior to release of payment).

Project Schedule:

All work shall be carefully scheduled in sequences which work within the framework of the entire work scope of the project.

EXECUTION

Work shall include the removal, transportation, and disposal of all material shall be accomplished in accordance with all applicable Federal, State, and Municipal laws, codes, and ordinances (including any material which may contain asbestos or lead). Follow safety and health precautions including removal, handling, disposal, transportation, and protection against exposure or environmental pollution as prescribed by governing safety and health agencies administering this project, including the inspections of existing structures, systems, surfaces, and materials.

Asbestos Abatement:

Refer to attached diagram at the end of this specification section for asbestos abatement plan. Remove asbestos in strict, complete compliance with all Federal, State, and Municipal regulations. Abatement plans shall be provided and filed by the contractor. All work shall be performed by licensed contractors and shall be done in accordance with the asbestos abatement plan to be provided by Owner's testing agency; (Vortex).

If additional materials are encountered which the Contractor has suspicion that may contain asbestos, notify the Owner's Representative prior to proceeding with its removal. The Contractor shall be prepared for, and shall allow within his bid price, the potential for delay while the Owner has the material tested, files an abatement plan, and has the material removed by a licensed abatement contractor. All painted wood material encountered shall be assumed to contain lead. These shall be removed and disposed of in accordance in accordance with all applicable codes and regulations.

The Contractor shall not be awarded any additional compensation due to analytical testing by Owner of discovered materials or other remediation action required by law, rather he shall have other work scheduled to occur during this potential time frame.

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Any proposed asbestos abatement plan waivers or alternate procedures accepted by the Owner shall be prepared and paid for by the Contractor.

Carefully examine all existing conditions, especially hidden conditions, including all electrical, mechanical, and structural systems. Care shall be taken to protect all existing finishes and systems to remain. All damaged areas shall be completely restored to their prior condition at the Contractor's own expense. Clean adjacent structures and improvements of all dust, dirt, and debris caused by demolition operations as directed by the owner's Representative.

Comply with all current regulations relative to fugitive dust. Install and make modifications to dust controls, and implement as directed by governing authorities having jurisdiction. Use water sprinkler, temporary enclosures, or other suitable methods as necessary to limit the amount of dust rising and scattering in to the air to the lowest level of air pollution practical for the condition of the work.

Unless otherwise specified, items to be removed shall offered to the Owner. If not desired to be retained by the Owner, all material shall become the property of the Contractor who shall maintain salvage rights. Items planned to be salvaged by the Owner shall be placed in an area agreed on site. Request a list of items from the Owner prior to beginning selective demolition work.

The Contractor shall not obstruct access to the building or driveways and parking areas. Install and maintain "no trespassing" signs and caution barrier tape as required. The facility is to remain fully operational during construction. Conduct work in such a manner as to minimize the daily disruptions to the Owner's normal operations. Provide notice to the Owner prior to beginning work in each specific area. Provide temporary barricades and dust barriers to protect the owner's personal property and equipment where necessary. Provide protective measures for the safe passage of the Owner, its employees and clients. (The use of explosives is not allowed).

Provide temporary weather protection as required. The Contractor shall be responsible for any weather damage due to selective demolition work to interior areas during construction.

Maintain existing utility services. Do no interrupt exiting utilities servicing occupied or used facilities except when authorized in writing by the authorities having jurisdiction. Make temporary arrangements as required to maintain in protected working order.

Provide and maintain all shoring as required to temporarily support all existing structural and non-structural materials.

Locate, identify, stub off, and disconnect utility services that are indicated not to remain. **Notify Dig Safe and EPA-NESHAPS as required.** Review with Owner's Representative in the field, prior to final cut off. Coordinate disconnecting and abandonment of all utilities as required.

If unanticipated mechanical, electrical, or structural elements which conflict with the intended function or design are encountered, investigate and measure both the nature and the extent of the conflict. Submit a report to the Architect, rearrange the selective demolition schedule as necessary to continue overall job progress without delay. Cover and protect furniture, flooring, equipment, etc. in all building areas to remain. Construct dust barriers as required.

Thoroughly clean site after demolition work is performed.

VORTEX

ASBESTOS ABATEMENT PLAN

**N. Smithfield Fire Station - Pitched Rooftop "A"
675 St. Paul St. n. Smithfield, RI**

**Rhode Island Department of Health
Notarized Certification of Asbestos Abatement Plan**

Facility: **N. SMITHFIELD FIRE STATION**
Address: **675 ST. PAUL ST.**
City/Town: **NORTH SMITHFIELD, RI**

Amend/Plan: **NEW PLAN**
Zip Code: **02896**

Abatement plan written by: **JOHN CARBONE**

Certification No: **177 PD/IS**

Summary of specific waivers/variances being requested:

Type of Asbestos Abatement:

Removal	Enclosure	Encapsulation	Other
Glovebag	<input checked="" type="checkbox"/> Asphalt Roofing	Demolition	

Is this plan being submitted in response to a Notice of Violation and/or Notice of Requirement to Submit an Asbestos Abatement Plan?

YES NO

If Yes, indicate Notice/Building Evaluation Number(s):

Contractor: **TO BE DETERMINED**
Estimated starting date: **UPON PLAN APPROVAL**

License #: LAC – - **000**

Pre-Abatement sampling information:

Bulk samples collected by: **JOHN CARBONE**
Bulk samples analyzed by: **EMSL**
Air samples analyzed by: **N/A**

Certification #: AAC- **177IS**
Certification #: AAL- **075T3**
Certification #: AAL-

Clearance air sampling information: N/A

Air samples to be collected by:
Air samples to be analyzed by:

Certification #: AAL-

CERTIFICATION

I certify that: this asbestos abatement plan is prepared and submitted under the provisions of Section 23-24.5-6 of the RI Asbestos Control Act and Parts A and C of the RI Rules and Regulations for Asbestos Control; all abatement/management activities performed in conjunction with this plan must be in compliance with the specifications prescribed in this plan (when approved) and the most current revision of all applicable federal and state regulations; and the asbestos abatement/management activities described in this plan must be performed by a RI licensed asbestos abatement contractor.

Certified by: _____ Title: _____
(Signature of building owner or agent)

(typed/printed name of Certifier) Date: ____/____/____

Subscribed and sworn before me this _____ day of _____, 201____

_____ My Commission expires: _____

AFFIX NOTARY SEAL HERE

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
Department of Health
Division of Occupational and Radiological Health

APPLICATION FOR APPROVAL OF AN ASBESTOS ABATEMENT PLAN

1) Building Owner's name:

3) Building Owner's Mailing Address and
Telephone Number:

2) Application prepared by:

JOHN CARBONE
RI Cert. #: 177PD
(401) 738-7710

Street: _____

City, State: _____

Zip code: _____

Tel. #: _____

4) Person to be contacted regarding
this application:

Name: _____

Tel. #: _____

5) Location where abatement work will be performed:

Facility: **NORTH SMITHFIELD FIRE STATION**
Address: **675 ST. PAUL ST.**
City/Town: **NORTH SMITHFIELD, RI**

Zip Code: **02896**

6) is this application being submitted in response to a "Notice of Requirement to Submit and Asbestos Abatement Plan?"

YES

NO

If yes, what is the due date for submittal of Asbestos Plan?

Evaluation Number on the notice:

7) Contractor who will be performing abatement work (if selected):

Name: **TO BE DETERMINED**

RI License #: LAC - **- 000**

8) Estimated starting date of abatement work:

UPON PLAN APPROVAL

9) Estimated completion date of abatement work:

WITHIN 10 DAYS

10) Type of Asbestos Abatement (Check all that apply)

Removal
Encapsulation
Other

Enclosure
Demolition
Glovebag Removal

Asphalt Roofing
Operations & Maintenance only

11) Type of Building:

School Building
Privately owned building
 Publicly owned building
Residence
Other (specify)

12) Building Access:

Public Access (>25% of building area)
Limited Public Access (<25% of building area)
 No Public Access

13) Bulk Sample collection and analysis

A) Person collecting bulk samples

Name: **JOHN CARBONE**

RI Certification #: **177IS**

B) Sampling Methodology:

EPA AHERA Sampling Requirements [40 CFR 763.86]

EPA's Asbestos containing Material in Buildings: A Guidance Document (EPA-450/2-78-014) or Guidance for Controlling Asbestos Containing Materials – 1985 Edition (EPA-560-5-85-024).

Other (specify below)

C) Laboratory performing the analysis of the bulk samples.

Name: **EMSL**

RI Cert. #: **075T3**

D) Analytical Methodology

EPA Interim Method for the determination of Asbestos in Bulk Insulation samples [PLM Method only]

Other (specify below)

14) Pre-abatement Air Sampling Collection and Analysis: **N/A**

- A) Person collecting pre-abatement air samples:
Name: Affiliation:
- B) Laboratory performing analysis of pre-abatement air samples:
Name: RI Cert. No: AAL-
- C) Methodology used in the collection and analysis of pre-abatement samples:

NIOSH Method 7400 [Most Current Revision]
OSHA 29 CFR 1926.1101 – Appendix A & B
Other (specify below)

15) A) Indicate how the asbestos containing material (ACM) will be removed from the abatement site. If a hauler or broker will be used to transport the ACM to the disposal site, they must be identified.

REMOVED IN A CLOSED DUMPSTER, NO HAULER SELECTED YET.

B) Provide the name and location of the authorized asbestos waste facility to which the removed material will be transferred for disposal (if known)

UNKNOWN

16) Person designated as compliance monitor for abatement work. (Not required)

Name: **N/A**

Affiliation:

17) In-process & clearance air sampling **REFER TO ATTACHMENT #1**

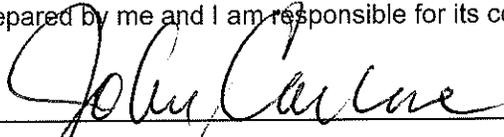
- a) Describe on an attachment the type, number and location of air samples that will be collected outside the work area during the abatement project.
- b) Describe on an attachment, the plan of action to be followed if the Indoor Non-Occupational Air Exposure Standard for Asbestos (<0.01 f/cc) is exceeded outside the work area during the abatement project.
- c) Describe on an attachment the type, number and location of air samples that will be collected as part of the final clearance testing.
- d) Describe on an attachment, the plan of action to be followed if the Indoor Non-Occupational Air Exposure Standard for Asbestos (<0.01 f/cc) is exceeded during final clearance testing.
-

18) A separate and fully completed Form ASB-16A must be submitted for each area to be abated. List below the entry in Item #1 from each attached ASB-16A.

PITCHED ROOFTOP "A"

19) I certify that this plan was prepared by me and I am responsible for its content:

Signature: _____



Date: _____

11, 2, 16

Name: **JOHN CARBONE**

Affiliation: **VORTEX INC.**

20) Asbestos Abatement Plan Application Fee:

	Operations and Maintenance only	\$75
	Up to one (1) NESHAP Units	\$75
	Between one (1) and ten (10) NESHAP Units	\$300
X	Between ten (10) and fifty (50) NESHAP Units	\$600
	Over fifty (50) NESHAP Units	\$900
	Amendment Fee	\$150
	Waiver of Application Fee	

Agency Use only

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
Department of Health
Division of Occupational and Radiological Health

APPLICATION FOR APPROVAL OF AN ASBESTOS ABATEMENT PLAN
Supplemental Information: Area Description and Proposed remedy

BUILDING LOCATION: **ROOFTOP [PITCHED]**

Instructions: All items on this form must be addressed. All references to attachments must be clearly identified. All attachments must be marked with the specific item numbers on this form to which they pertain.

(1) Area Location/Identification (Room Name, Evaluation number, etc.)

ROOFTOP "A"

(2) Attach a description of each type (e.g. pipe, ceiling, etc.) of regulated asbestos containing material (RACM) in this area, including condition, location, quantity and asbestos content. Attach a copy of the laboratory report(s) for all samples. (NOTE: All laboratory reports must include the name of the building(s) and the location(s) of the sample(s).

REFER TO ATTACHMENT #2

(3) Attach a current scale drawing of this area, showing direction of North and East, which has been clearly annotated to show the type, location and quantity of all RACM in this area. This drawing must include a legend which acts as a guide to the scale, symbols and nomenclature used in the drawing. If a master plan or multiple drawings are provided, indicate the specific location(s) and drawing number(s) which depict this area. The location of the decontamination chamber must also be so indicated on the appropriate drawing(s).

REFER TO ATTACHED DRAWING A1

(4) Proposed remedies:

A) Attach a description of the Operations and Maintenance Plan that will be implemented in accordance with C.1.2(b).

REFER TO ATTACHMENT #3

4) Proposed remedies [continued]

B) Will any portion of this area be abated by use of B.8 Work Procedures?

YES

NO

If yes, indicate below which ACM in this area will be abated by use of the following B.8 Work Procedures:

B.8.2 & B.8.3 (REMOVAL)

B.8.2 & B.8.4 (ENCAPSULATION)

B.8.2 & B.8.5 (ENCLOSURE)

B.8.6 (DEMOLITION)

B.8.7 (GLOVEBAG)

B.8.8 (ASPHALT ROOFING) -

TOTAL OF 3,720 S.F. OF ENTIRE ROOF [FLASHING & FIELD]

C) Are you proposing any waivers to the above selected B.8 procedures for any of the abatement activities in this area.

YES

NO

If yes, attach a detailed description of the waivers requested and/or the alternative procedures you are proposing to utilize. All items must be keyed to the specific section(s) of the regulations for which waivers are requested.

D) Are you proposing alternative procedures under B.11 for any of the abatement activities in this area?

YES

NO

If yes, attach a detailed description of the alternate procedures requested you are proposing to utilize. Alternate procedures must include a justification for not following specific section(s) of the regulations and be as protective of public health.

E) Will any RACM remain in this area after abatement?

YES

NO

Beyond scope of inspection

If Yes, attach a description of the RACM that will remain and the details of the on-going Operations and Maintenance Plan that will be implemented in accordance with C.1.2(b).

AGENCY USE ONLY

ATTACHMENT # 1

WAIVER OF PRE-ABATEMENT, IN-PROCESS & FINAL AIR CLEARANCE TESTING

Due to abatement being performed from the exterior and on the roof, we are requesting a waiver of pre-abatement, in-process and final-air clearance. In lieu of area testing, we are requesting the asbestos contractor perform the required OSHA personal air sampling in place of area testing and submit those results to the RIDOH as part of the close-out submittal package.

ATTACHMENT #2

DESCRIPTION OF ACM ROOF MATERIAL

ROOFTOP "A"

There is a total of approximately **3,720 s.f.** of ACM roof flashing (edge, penetration, vertical) and field material [*entire pitched roof membrane*] requires abatement. The roofing material is in fair condition.

The adjoining "flat" Rooftop "B" membrane does not contain asbestos.

ATTACHMENT #3

On-Going Operations and Maintenance Program - The custodial staff and maintenance personnel, building staff, outside contracting personnel, and other building occupants have been or will be made aware of the presence, amount, location and condition of the asbestos-containing building materials within this roofing material. These people have been or will be educated and advised not to disturb the asbestos-containing materials due to the potential health effects if asbestos fibers become airborne.

Employee Notification - All building employees as well as outside contractors have been or will be notified as to the presence of asbestos-containing roofing materials. Any outside contractor will sign a document stating that he has been made aware of the presence and location of the asbestos-containing materials within these areas. Also, the building owner representative(s) are responsible for presenting information to the building occupants of any asbestos abatement activities being conducted. This will be accomplished by posting memo's and/or posting of caution/warning signs at the all entrances to the building during such activities.

Accidental Disturbance of Asbestos-Containing Materials - The building owner representatives were, at the time of the inspection, aware of the presence of ACBM roofing material. The information below outlines the procedures that will be followed in an event of an accidental asbestos fiber release within the building. If an asbestos-containing material becomes disturbed within the criteria of a minor fiber release (less than 10 linear feet or 25 square feet of ACBM), a trained "R.I. Competent Person" may perform the clean-up, removal, encapsulation, or enclosure abatement activities utilizing spot repair/removal techniques. During these spot abatement techniques, access to the area shall be restricted to only those trained individuals, signs shall be posted, and HVAC (if applicable) shall be shut down and locked out. If a major fiber release occurs (greater than 10 linear feet or 25 square feet of ACBM), the clean-up, removal, encapsulation, or enclosure abatement activities must be completed by a R.I. Department of Health (R.I. DOH) certified asbestos abatement contractor. Regardless of the amount of asbestos to be abated, the effected area must be isolated and entry to the area restricted to only those trained/certified personnel.



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order: 041624357
Customer ID: VORT50
Customer PO:
Project ID:

Attention: John Carbone
Vortex, Inc.
PO Box 6060
Warwick, RI 02887-6060
Phone: (401) 640-9331
Fax: (401) 738-7869
Received Date: 08/31/2016 8:00 AM
Analysis Date: 08/31/2016
Collected Date:
Project: O'Heare *Mc Switzer's Fire Station*

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
1 041624357-0001	Roof Slope <i>Roof "A"</i>	Black Fibrous Homogeneous	25% Cellulose	73% Non-fibrous (Other)	2% Chrysotile
2 041624357-0002	Roof Flat	Black Non-Fibrous Homogeneous	60% Cellulose	40% Non-fibrous (Other)	None Detected

Analyst(s)

Keishla Vazquez Caraballo (2)

[Signature]
Benjamin Ellis, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-triable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%
Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AHA-LAP, LLC-ILAP Lab 100194, NYS ELAP 10672, NJ DEP 03036, PA ID# 66-00367

Initial report from: 08/31/2016 16:04:30



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077
 Tel/Fax: (800) 220-3675 / (856) 786-5974
 http://www.EMSL.com / cinnaslab@EMSL.com

EMSL Order: 041629865
 Customer ID: VORT50
 Customer PO:
 Project ID:

Attention: John Carbone Phone: (401) 640-9331
 Vortex, Inc. Fax: (401) 738-7869
 PO Box 6060
 Warwick, RI 02887-6060
 Received Date: 10/28/2016 9:30 AM
 Analysis Date: 10/28/2016 - 10/29/2016
 Collected Date: 10/27/2016

Project: 16-376 *N. SWIMMER'S FORD STATION*

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy
"B" ROOF SAMPLES

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
E1 <i>041629865-0001</i>	E1 - Material Under Rubber	Black Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
E2 <i>041629865-0002</i>	E2 - Material Under Rubber	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
E3 <i>041629865-0003</i>	E3 - Rubber	Black Fibrous Homogeneous	12% Cellulose 5% Glass	83% Non-fibrous (Other)	None Detected
F4 <i>041629865-0004</i>	F4 - Rubber	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
F5 <i>041629865-0005</i>	F5 - Rubber <i>Shingle, Tar Paper and Rubber membrane composited as per client's request.</i>	Black Fibrous Homogeneous	25% Cellulose 7% Synthetic	68% Non-fibrous (Other)	None Detected
F6 <i>041629865-0006</i>	F6 - Rubber	Black Fibrous Homogeneous	7% Cellulose	93% Non-fibrous (Other)	None Detected

Analyst(s) _____
 Michael Orsini (6)


 Benjamin Ellis, Laboratory Manager
 or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%
 Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036, PA ID# 68-00367

Initial report from: 10/29/2016 07:50:42

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DIVISION 6: WOOD **Section 6A: Carpentry**

GENERAL

Related Documents:

The work of this section shall be performed in accordance with the requirements of the Contract Documents including the General Conditions, the Supplementary General Conditions, and all applicable portions of Division 1. *See other Division 6 specifications for Prefabricated Wood Trusses, Finish Carpentry and Exterior Restoration Carpentry*

Scope of Work:

The scope of work shall generally include but is not limited to all rough carpentry to complete the project, (including but not limited to framing with dimensional lumber, Exterior trim, wood grounds, nailers, blocking, wood furring, sheathing).

Qualifications:

The Contractor/ subcontractors performing the work shall have a minimum of 5 years proven successful experience with carpentry work.

Standards:

All work shall meet the highest quality standards of the trade.

Lumber Grading Rules & Wood Species: PS20

Grading rules of the following associations shall apply:

Southern Pine Inspection Bureau (SPIB)

West Coast Lumber Inspection Bureau (WCLIB)

Western Wood Products Association (WWPA)

Plywood Grading Rules: Softwood Plywood; PS1

Submittals:

1. Submit product data for the following:
2. Metal framing anchors
3. Construction adhesives
4. Dimensional lumber: material certificate indicating species, grade, design values.
5. Wood treatment data: certification by treating plant including type of preservative & pressure processed used and net amount of preservative used.

Delivery, Storage, and Handling:

Keep materials under cover and dry. Protect against exposure to weather and contact with wet or damp surfaces. Stack lumber as well as plywood and other panels to provide for air circulation, within and around stacks and under temporary coverings including polyethylene and similar materials.

Inspection of Existing conditions:

The Contractor/ subcontractors shall carefully review all existing conditions. Lack of knowledge of any existing conditions shall not relieve the Contractor/ subcontractor from the obligation to complete the work to the standards and scope outlined for the price as bid.

MATERIALS

Weather Resistance:

All wood in contact with concrete or masonry, and all exterior exposed work or blocking, shall be pressure treated with wood preservative.

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All fasteners shall be galvanized.

Lumber:

Furnish lumber manufactured to comply with PS 20 "American Softwood Lumber Standard" and with applicable grading rules of inspection agencies certified by American Lumber Standard's Committee Board of Review.

Grade stamped according to the American Lumber Standards Committee.

Moisture Content: MC-15 or KD. Maximum allowed shall be 15%.

Dimensional Lumber:

Light framing (up to 4"x4"): Standard grade Spruce, hemlock, fir,.

Structural light framing: Number 2 Douglas Fir-larch, Hem-fir, Southern pine

Boards:

Exposed boards: MC-15 or KD 15

Painted finish applications: Number 1 (SPIB), Select Mercantile Boards (WCLIB) or #2 Common boards or better (WWPA)

Concealed boards: MC-15 or KD 15

Redwood Construction common (RIS), Southern Pine #2 boards (SPIB), any species graded Construction Boards or #3

Common

(WCLIB or WWPA)

Construction Panels:

Furnish construction panels that are each factory marked with APA trademark providing evidence of compliance with grading requirements, and complying with PS 1 US Product Standard for Construction and Industrial Plywood (or APA RRP-108).

Roof sheathing: APA exterior rated sheathing, span as required to match joist spacing.

Backing for Electrical/ Telephone Equipment: Fire treated plywood with grade designation, APA C-D Plugged Exposure 1 (15/32" min.).

Exterior Finish Wood products

New exterior finish trim shall be: *Boral TruExterior Trim*

All new blocking required shall be: *Pressure treated*

Air Infiltration Barrier:

15 lb. felt paper.

Fasteners:

Nails, wire, brads, staples: FS FF-N-105.

Power driven fasteners: NER-272

Wood screws: ANSI B18.6.1

Lag bolts: ANSI B18.2.1

Bolts: Steel bolts, ASTM A 307, Grade A. A 563 hex nuts, flat washers.

All exterior exposed or embedded fasteners shall be hot dipped galvanized, copper, or stainless steel.

Metal Framing Anchors:

Provide products for which model code evaluation/ research reports exist that are acceptable to authorities having jurisdiction and that provide evidence for compliance with building codes for the specific application.

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Provide products for which manufacturer publishes allowable design loads that are determined from empirical data or by rational engineering analysis and that are demonstrated by comprehensive testing data performed by a qualified independent testing laboratory.

Misc. Materials:

Adhesives for filed gluing panels to framing: APA AFG-01 that is approved for use with type of construction panel indicated by both adhesive and panel manufacturers.

Water Repellent preservative: NWWDA tested and accepted formulation containing IPBC as its active ingredients.

INSTALLATION

General:

All materials shall be set plumb. Scribe fit and adjust to fit existing conditions. Provide fastening for application required to provide secure attachment. Conceal fasteners wherever possible. Use common nails typically, use finishing nails for finish work. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish material. Make tight connections between members. Install fasteners without splitting wood, pre-drill as required.

All exterior wood shall be back primed.

Discard units which are unsound, warped, bowed, twisted, improperly treated, not adequately seasoned, or too small to fabricate work with a minimum number of joints or optimum jointing arrangements, or which are of a defective manufacture with respect to surface, size, or pattern.

Wood Grounds, nailers, Blocking, & Sleepers:

Install wood grounds, nailers, blocking, and sleepers where shown and where required for screeding or attachment of other work. Form to shapes as shown and cut as required for true line and level of work to be attached. Coordinate location with other work involved. Attach to substrates as required to support applied loading. Countersink bolts and nuts flush with surfaces, unless otherwise indicated. Build into masonry during installation of masonry work. Where possible, anchor to form work prior to concrete placement.

Strike Plates:

P&I strike plates to withstand the force of a power driven fastener. All water lines penetrated by and damaged by fasteners shall be replaced by the Contractor during the guarantee period. Any damage caused by leaks or defective heating/electrical lines damaged by fasteners shall be compensated for by the Contractor.

Solid Blocking:

P&I solid blocking at all points of attachment for finish items such as closet shelving and poles, rest room accessories including grab bars, etc.

Wood Furring:

Install plumb and level with closure strips at edges and openings. Shim with wood as required to tolerance for finish work. Fire stop furred spaces on walls at each floor level and at ceiling line of top story, with wood blocking or noncombustible materials, accurately fitted to close furred spaces. Furring shall be installed at 1"x2" at 16" oc.

Wood Framing:

Comply with NFPA "Manual for Wood Frame Construction" unless otherwise indicated. Install framing members of size and spacing indicated.

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Anchor and nail to comply with the following:

National Evaluation Report No. NER-272 for pneumatic or mechanical driven staples, P-Nails, and allied fasteners.

Published requirements of manufacturer of metal framing anchors.

"Recommended Nailing Schedule" of referenced framing standard and with N.F.P.A. "National Design Specifications for Wood Construction."

"Table No. 11 - Recommended Nailing Schedule" of the Uniform Building Code.

"Appendix C - Recommended Nailing Schedule" of the BOCA National Building Code.

"Table 1705. 1 - Fastening Schedule," of the Standard Building Code.

Do not splice structural members between supports.

Fire stop concealed spaces of wood framed walls and partitions at each floor level and at the ceiling line of the top story. Where firestops are not automatically provided by the framing system used, use closely fitted wood blocks of nominal 2-inch-thick lumber of the same width as framing members.

Rafter and Ceiling Joist Framing:

Ceiling Joists: Install ceiling joists with crown up and to comply with requirements specified above for floor joists. Face nail to ends of parallel rafters.

Rafters: Notch to fit exterior wall plates and toe nail or use special metal framing anchors.

Double rafters to form headers and trimmers at openings in roof framing (if any), and support with metal hangers. Where rafters abut at ridge, place directly opposite each other and nail to ridge member or use metal ridge hangers.

Install collar ties as shown, or if not shown, install 2 -inch by 6-inch boards between every pair of rafters, Locate below ridge member, one-third of distance to ceiling joists. Cut ends to fit slope and nail to rafters.

Install special framing as shown for eaves, overhangs, dormers and similar conditions, if any.

Installation of construction Panels:

Comply with applicable recommendations contained in Form No. E30, "APA Design/Construction Guide - Residential & Commercial," for types of construction panels and applications indicated

Fastening Methods: Fasten panels as indicated below:

Sheathing: Nail to framing.

Adhesive:

Surfaces shall be clean, dry and free from all foreign materials which would adversely affect positive adhesion.

Apply adhesive in a continuous bead to joists, studs or back side of siding or panels, whichever is appropriate. Be certain that all outer edges and centers are adequately supplied with adhesive to assure a complete and total bond.

Use nails - sparingly - for support and as an aid to alignment during installation. Be careful not to smear adhesive beads. A full 3/8 inch bead will assure proper bonding. Do not apply at temperatures below 10 deg. F. Allow 48 hours for curing and before additional coverings are placed over adhered surfaces.

Exterior Trim & Siding:

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Install standing and running trim with the minimum number of joints possible, using full length pieces from maximum lengths of lumber available to the greatest extent possible. Stagger joints in adjacent and related members. Cope at returns, miter at corners, to produce tight fitting joints with full surface contact throughout the length of the joint. Use scarf joints for end to end joints. Make exterior joints weather resistant by careful fitting. Apply flat grain lumber with bark side exposed to the weather.

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DIVISION 7: THERMAL AND MOISTURE PROTECTION Section 7A: EPDM Roofing & Insulation

PART 1 GENERAL

GENERAL NOTES

- A. Preceding job start up, contractor shall decide to his satisfaction that all specifications contained herein are workable.
- B. Contractor will perform all work by competent, trained, and properly equipped personnel in strict accordance with good roofing practices and applicable industry standards.
- C. Contractor will observe all published safety prevention policies and practices relating to application of roofing system and related work. All federal, state, and local codes shall be followed.

1.01 SECTION INCLUDES

- A. Substrate preparation.
- B. Wood nailer installation.
- C. Membrane installation.
- D. Membrane flashing installation.

1.02 WORK SCOPE

- A. Work under this section covers the installation of a new Fully Adhered EPDM roofing system on North Smithfield Fire Department North, N. Smithfield, RI. In addition, contractor shall include all related items of work as noted herein required to complete the specified elements of work and provide the necessary warranties for this work.
- B. Contractor shall tear off existing EPDM and tar & gravel roof systems down to the existing wood deck. Contractor will dispose of all materials properly. Any material removal shall comply with state and local codes and requirements and shall be disposed of in a legal manner.
- C. Contractor shall provide unit cost for wood deck replacement

1.03 DEFINITIONS

- A. Roofing Terminology: Refer to ASTM D1079 for definition of terms related to roofing work not otherwise defined in the section
- B. Firestone: Firestone Building Products Co., Headquarters, 525 Congressional Blvd., Carmel, IN 46032-5607
- C. American Society for Testing and Materials (ASTM): 1916 Race Street, Philadelphia, PA 19103

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1.04 SYSTEM DESCRIPTION

- A. EPDM membrane fully adhered to high density coverboard polyisocyanurate insulation that is mechanically fastened over insulation into the existing wood deck.

1.05 SUBMITTALS

- A. Product Data:
 - 1. Submit copies of Technical Information Sheets (TIS) for primary products used including roof membrane, splice tape, insulation, and coverboard.
 - 2. Submit product sample of each item to be installed.

1.06 QUALITY ASSURANCE

- A. Applicator:
 - 1. Shall be a licensed contractor of the manufacturer.
 - 2. Shall have a fully staffed office within 50 miles of the job site.
 - 3. Shall have at least five years experience in installing specified system.

1.07 REGULATORY REQUIREMENTS

- A. Conform to applicable local building code requirements.
- B. Factory Mutual Research Corporation (FM): Roof Assembly Classification, FM Construction Bulletin 1-28 and 1-29.

1.08 QUALITY INSPECTION/OBSERVATION

- A. Inspection by Manufacturer: Provide a final inspection of the roofing system by a Technical Representative employed by roofing system manufacturer.
 - 1. Technical Representative shall not perform any sales functions.
 - 2. Contractor shall complete any necessary repairs required for issuance of warranty.

1.09 PRE-INSTALLATION CONFERENCE

- A. Before start of roofing work, attend a conference to discuss the proper installation of materials. Attendees shall include all parties directly affecting work of this Section.

1.10 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in manufacturer's original containers dry, undamaged, seals and labels intact and legible.
- B. Store all materials clear of ground and moisture with weather protective covering.
- C. Keep all combustible materials away from **ALL** ignition sources.

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- D. All items shall be kept clear from all building entries and overhead door openings.

1.11 ENVIRONMENTAL REQUIREMENTS

- A. Install roofing membrane only when surfaces are clean, dry, smooth and free of snow or ice.
- B. Do not apply roofing membrane during inclement weather or when ambient conditions will not allow proper application.

1.12 WARRANTY

- A. Type/Term:
 - 1. Provide 20-year Firestone Red Shield Roofing System Warranty. Warranty shall include membrane, roof insulation, coverboard, edge metal, and all other products supplied by roof system manufacturer.
- B. Coverage:
 - 1. Limit of liability: No Dollar Limitation
 - 2. Scope of coverage:
 - Repair any leak in the EPDM Roofing System caused by the ordinary wear and tear of the elements, manufacturing defect in materials, and the workmanship used to install these materials.

PART 2 PRODUCTS

2.01 NAILERS FOR FLANGES AND ROOF ACCESSORIES

- A. Description: Structural Grade No. 2 or better Southern Pine, Douglas Fir, or Exterior Grade plywood. All wood shall be pressure treated for rot resistance.
 - 1. Nailer width: Minimum 3 1/2 in. (nominal) wide or as wide as the nailing flange of each roof accessory.
 - 2. Nailer thickness: Thickness of roof insulation.
- B. Reference Standards:
 - 1. Southern Pines: PS 20; SPIB Grading Rules.
 - 2. Western Woods: PS 20; WWPA Grading Rules.
 - 3. Plywood: PS 1; APA Grade Stamps.
 - 4. Pressure preservative treatment: AWPB LP2.

2.02 MANUFACTURERS - MEMBRANE MATERIALS

- A. Firestone Fully Adhered EPDM roof system
- B. GenFlex Fully Adhered EPDM roof system

2.03 ELASTOMERIC SHEET ROOFING AND FLASHING MEMBRANE

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- A. Description: Non-reinforced, cured, synthetic single-ply membrane composed of Ethylene Propylene Diene Terpolymer (EPDM) conforming to the following physical properties:

1. Membrane Type: .060 LSFR EPDM

Property:	Specification:
Specific Gravity	1.15 +/- 0.05
Tensile Strength, Minimum, psi (MPa)	1305 (9)
Elongation, Minimum, %	300
Tear Resistance, lbf / in (kN / M)	150 (26.3)
Ozone Resistance, 166 hours @ 100 pphm @ 104°F with 50% extension	No Cracks
Heat Aging, 28 days @ 240°F	
Tensile Strength, Minimum psi (MPa)	1205 (8.3)
Elongation, Minimum %	200
Brittleness Point, max., °F, °C	-49 (-45)
Water Absorption, change in weight after immersion in water for 166 hours @ 158°F, %	+8, -2
Tolerance On Nominal Thickness, %	+/- 10
Water Vapor Permeability, Perm-Mils	2.0

- B. Reference Standards:

1. ASTM D4637-96: Standard Specification for EPDM Sheet used in single-ply roof membrane
2. ASTM D297: Methods for Rubber Products, Chemical Analysis.
3. ASTM D412, Die C: Test Methods for Rubber Properties in Tension.

2.04 POLYISOCYANURATE INSULATION

- A. Description: Roof insulation consisting of closed cell polyisocyanurate foam core and a perforated black glass reinforced mat laminated to the face.

1. Nominal Thickness: 4.0" R=23.6
2. Provide 1/8" slope tapered insulation as indicated on drawings
3. Provide 1/4" slope tapered insulation as indicated on drawings

- B. Reference Standards:

1. ASTM C 209 - Water Absorption.
2. ASTM E 96 - Water Vapor Transmission of Materials.
3. ASTM D 1622 - Density.

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7. ASTM E 84 - Flame Spread

NOTE: Provide 4' x 4' sumps areas at all drain locations

2.05 HIGH DENSITY COVERBOARD

- A. Description: IsoGard HD roof insulation coverboard consisting of a high density, closed cell polyisocyanurate foam core with coated glass facers.
1. Nominal Thickness: 1/2" R=2.5
 2. Nominal Size: 48 in. x 96 in.

2.06 INSULATION FASTENER

- A. Insulation fastener
1. Description: All Purpose fastener with 4-coat fluorocarbon polymer coating and drill point tip capable of penetrating 20 gauge steel. Length shall be sufficient to penetrate deck a minimum of 3/4" for steel and 1" for wood and concrete.

2.06 METAL FLASHING

- A. Edge Metal:
1. Description: Provide .040 UnaClad aluminum edge metal. Color to be selected by Architect or Owner

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine roof deck to determine that it is sufficiently rigid to support roofers and their mechanical equipment and that deflection will not strain or rupture roof components or deform deck.
- B. Verify that surfaces and site conditions are ready to receive work. Correct defects in the substrate before commencing with roofing work.
- C. Examine roof substrate to verify that it is properly sloped to drains.
- D. Start work with sealants and adhesives at 60° - 80° F.
- E. The surface must be clean, dry, smooth, and free of sharp edges, fins, loose or foreign materials, oil, grease and other materials which may damage the membrane. All roughened surfaces which could cause damage shall be properly repaired before proceeding.
- F. All surface voids of the immediate substrate greater than 1/4" wide must be properly filled with an acceptable insulation or suitable fill material.

3.02 PROTECTION OF OTHER WORK

- A. Protect metal, glass, plastic, and painted surfaces from adhesives and sealants.
- B. Protect neighboring work, property, cars, and persons from spills and overspray from adhesives, sealants and coatings.

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- C. Protect finished areas of the roofing system from roofing related work traffic and traffic by other trades.

3.03 MATERIAL STORAGE AND HANDLING

- A. Keep all adhesives, sealants, primers and cleaning materials away from all sources of ignition.
- B. Consult container labels and Material Safety Data Sheets (MSDS) for specific safety instructions.

3.04 WOOD NAILER LOCATION AND INSTALLATION

- A. Total wood nailer height shall match the total thickness of insulation being used and shall be installed with a 1/8" gap between each length and at each change of direction.
- B. Wood nailers shall be firmly fastened to the deck. Mechanically fasten wood nailers to resist a force of 200 lbs. per lineal foot.

3.05 MEMBRANE PLACEMENT AND ATTACHMENT

- A. Beginning at the low point of the roof, place the Firestone RubberGuard membrane without stretching over the acceptable substrate and allow to relax a minimum of 30 minutes before attachment or splicing.
- B. After making sure the sheet is placed in its final position, fold it back evenly onto itself so as to expose the underside.
- C. Sweep the mating surface of the membrane with a stiff broom to remove excess dusting agent (if any) or other contaminants from the mating surface.
- D. Apply bonding adhesive at about the same time to both the exposed underside of the sheet and the substrate to which it will be adhered so as to allow approximately the same drying time. Apply bonding adhesive so to provide an even and uniform film thickness. Do not apply bonding adhesive to areas that will be subsequently spliced.
- E. Allow bonding adhesive to flash off until tacky. Touch the adhesive surface with a clean, dry finger to be certain that the adhesive does not stick or string. As you are touching the adhesive, pushing straight down to check for stringing, also push forward on the adhesive at an angle to ensure that the adhesive is ready throughout its thickness. If either motion exposes wet or stringy adhesive when the finger is lifted, then it is not ready for mating.
- F. Starting at the fold, roll the previously coated portion of the sheet into the coated substrate slowly and evenly so as to minimize wrinkles.
- G. Compress the bonded half of the sheet to the substrate with a stiff push broom.
- H. Fold the unadhered half of the membrane sheet back onto itself, and repeat the bonding procedure to complete the bonding of the sheet.

3.06 FLASHING - PENETRATIONS

- A. General:

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1. If project is a tear-off or re-roof, remove all existing flashings (i.e. lead, asphalt, mastic, etc.).
 2. Flash all penetrations passing through the membrane.
 3. The flashing seal must be made directly to the penetration.
- B. Pipes, Round Supports, etc.
1. Flash with Pre-Molded EPDM Pipe Flashings where practical.
 2. Flash using FormFlash when Pre-Molded EPDM Pipe Flashing is not practical.
- C. Pipe Clusters and Unusual Shaped Penetrations:
1. Fabricate penetration pockets to allow a minimum clearance of 1" between the penetration and all sides.
 2. Secure penetration pockets per manufacturer's details.
 4. Fill penetration pockets with Pourable Sealer, so as to shed water. Pourable Sealer shall be a minimum of 2" deep.

3.07 FLASHING - WALLS, PARAPETS, MECHANICAL EQUIPMENT CURBS, SKYLIGHTS, ETC.

- A. General:
Using the longest pieces practical, flash all walls, parapets, curbs, etc., a minimum of 8" high per manufacturer's details.
Note: Saw cut reglet may be required at brick wall base flashings to
- B. Evaluate Substrate:
Evaluate the substrate and overlay per Firestone specifications as necessary.
- C. For tear-off or re-roof projects:
1. Remove loose or unsecured flashings.
 2. Remove mineral surfaced or coated flashings.
- D. Complete the splice between flashing and the main roof sheet with splice adhesive before adhering flashing to the vertical surface. Provide lap splices in accordance with manufacture's details.
- E. Apply bonding adhesive at about the same time to both the flashing and the surface to which it is being bonded so as to allow approximately the same flash off time.
- F. Allow bonding adhesive to flash off until tacky. Touch the adhesive surface with a clean, dry finger to be certain that the adhesive does not stick or string. While touching the adhesive, pushing straight down to check for stringing, also push forward on the adhesive at an angle to ensure that the adhesive is ready throughout its thickness. If either motion exposes wet or stringy adhesive when the finger is lifted, then it is not ready for mating. Flash off time will vary depending on ambient air conditions.
- G. Roll the flashing into the adhesive evenly and carefully so as to minimize wrinkles.
- H. Ensure proper contact of flashing by brooming in place.

3.08 TEMPORARY CLOSURE

- A. Temporary closures which ensure that moisture does not damage any completed section of the new roofing system are the responsibility of the

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roofing contractor. Completion of flashings, terminations, and temporary closures shall be completed as required to provide a watertight condition.

3.09 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed as required by the manufacturer.
- B. Correct identified defects or irregularities.

3.10 CLEAN-UP

- A. Clean all contaminants from building and surrounding areas.
- B. Remove trash, debris, equipment from project site and surrounding areas.
- C. Repair or replace damaged building components or surrounding areas to the satisfaction of the building owner.

END OF SECTION

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DIVISION 7 THERMAL AND MOISTURE PROTECTION

Section 7B: Asphalt Shingles

GENERAL

Related Documents:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

Description of work:

Extent of shingles is indicated on drawings and is hereby defined to include units employed as weather protection for walls as well as for steep roofs.

Quality Assurance:

UL Listing: Provide labeled materials which have been tested and listed by UL for Class and Rating indicated for each shingle type required.

Reference Standard:

All work shall meet or exceed the requirements of the Residential Asphalt Roofing Manual" produced by the "Asphalt Roofing Manufacturer's Association".

Submittals:

Samples: Submit full range of samples for color and texture selection. After selection, submit 2 full-size shingles for verification of each color/style/texture selected.

Maintenance Stock:

2% of each type/color/texture shingle used in the work.

Delivery, storage and handling:

Deliver materials in manufacturer's unopened, labeled bundles, rolls or containers. Store materials to avoid water damage, and store rolled goods on end. Comply with manufacturer's recommendations for job-site storage and protection.

Job Conditions:

Proceed with shingle work only after substrate construction and penetrating work have been completed.

Weather Conditions:

Proceed with shingle work only when weather conditions are in compliance with manufacturer's recommendations and when substrate is completely dry.

Specified Product Warranty:

Provide shingle manufacturer's warranty on installed work, agreeing to pay for repair or replacement of defective shingles as necessary to eliminate leaks. Period of warranty is 30 years from date of substantial completion.

PRODUCTS

Asphalt Shingle Materials: *"Landmark by Certaineed" or approved equal. Color to be "Weathered Wood". Type to be 300 lb., Class A fiberglass base ASTM D3018 type 1 - D34462.*

Asphalt Saturated Roofing Felt:

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No. 15, unperforated organic felt, complying with ASTM D 226 Type I, 36" wide, approximate weight 18 lbs./square.

Ice Dam Protection: Winter Guard Waterproofing Shingle Underlayment by Certaineed. or approved equivalent.

Asphalt Plastic Cement:

Fibrated asphalt cement complying with ASTM D 2822, designed for trowel application.

Hip and Ridge Shingles: As supplied by manufacturer.

Roofing Nails:

Aluminum or hot dip galvanized 11 or 12 gauge, sharp pointed, conventional roofing nails with barbed shanks, minimum 3/8" diameter head, and of sufficient length to penetrate 3/4" in to solid decking or to penetrate through plywood sheathing.

No staples allowed.

Ridge Vents:

Not Applicable

EXECUTION:

Inspection:

Examine substrate and conditions under which shingling work is to be performed and must notify Contractor in writing of unsatisfactory conditions. Do not proceed with shingling work until unsatisfactory conditions have been corrected.

Preparation of Substrate:

Substrate is a new plywood sheathed roof deck. Clean substrate of any projections and substances detrimental to shingling work. Cover knotholes or other minor voids in substrate with sheet metal flashing secured with roofing nails.

Coordinate installation of shingles with flashing and other adjoining work to ensure proper sequencing. Do not install shingle roofing until all vent stacks and other penetrations through roofing have been installed and are securely fastened against movement.

INSTALLATION:

General:

Comply with instructions and recommendations of shingle manufacturer, except to extent more stringent requirements are indicated.

Underlayment:

Apply one layer felt horizontally over entire surface, lapping succeeding courses 2" minimum and fastening with sufficient nails to hold in place until shingle application.

Ice Protection Underlayment:

Provide and install at least 3 ft at all valleys and at 3 ft roof edges. Refer to details for additional requirements.

Shingles:

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Install starter strip of roll roofing or inverted shingles with tabs removed; fasten shingles in pattern, weather exposure and number of fasteners per shingle as recommended by manufacturer. Use horizontal and vertical chalk lines to ensure straight coursing.

Comply with installation details and recommendations of shingle manufacturer and NRCA Steep Roofing Manual.

Flashing and Edge Protection:

Install metal flashing, vent flashing and edge protection as indicated and in compliance with details and recommendations of the NRCA Steep Roofing Manual.

Valleys: (Not applicable)

Install closed cut valleys in conformance with the Residential Asphalt Roofing Manual.

Ridge Vent: (Not applicable)

Install ridge vent according to manufacturer's recommendations.

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DIVISION 7: THERMAL & MOISTURE PROTECTION
Section 7C: Vinyl Siding

GENERAL

Scope of Work:

The scope of work shall be to provide vinyl siding and associated accessory trim pieces such as J channels, custom vinyl trim pieces including but not limited to corner lineal trim, etc. in locations as indicated.

Quality/ Tested Performance:

Material shall match ASTM D3679: Standard specification for rigid PVC siding. Meet or exceed requirements of the Rhode Island State Building Code, BOCA, and HUD-FHA minimum property standards.

Submittals:

Manufacturer's product literature. Submit samples showing profile, size, and color for review and approval.

Delivery, Storage, and Handling:

Store siding flat in a dry location, covered, and in accordance with Manufacturer's recommendations.

Manufacturer:

Provide systems from one of the following manufacturer's:

Certainteed: Main Street

Manufacturer's products must be able to match trim profiles indicated.

MATERIALS:

Provide Alcoa Silhouette, double 4, or approved equivalent.

Where the drawings call for decorative shingles, utilize vinyl companion product vinyl shakes at those areas as noted. *Not applicable.*

INSTALLATION:

Prior to beginning work, examine substrate and approve ready for vinyl application. Verify field dimensions.

Install in conformance with Rigid Vinyl Siding Application Manual published by the Vinyl Siding Institute of the Plastics Industry.

Correct all deficient areas as directed.