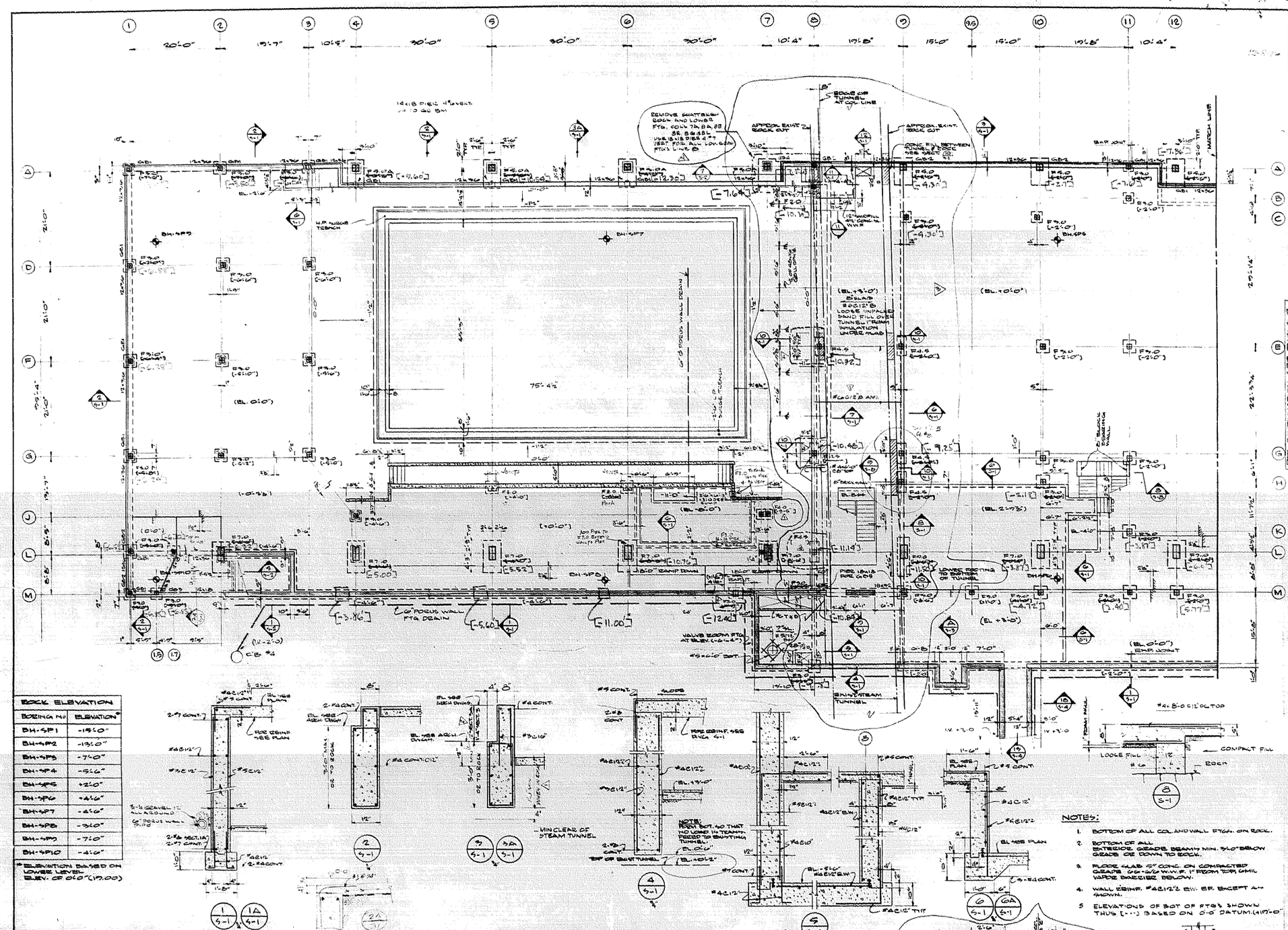
Request for Proposal #21-37333
Sportspark Renovation Multi-Phase Project

ADDENDUM #02

Attachment A



R	ADDL. ROCK CUT & F5.0 FTG'S	8-30-74
Q	REVISION TO MEET SITE CONDITIONS	7-10-74
P	POST BID REVISIONS	7-03-74
O	BULLETIN 3 ADDENDA	7-23-74

REVISIONS

DRAWINGS APPROVED

PRENTICE AND CHAN, OHLHAUSEN
ARCHITECTS - PLANNERS
500 FIFTH AVENUE
N.Y.C., N.Y. 10036
212 563-5207

GEIGER BERGER ASSOCIATES, P.C.
STRUCTURAL ENGINEERS
500 FIFTH AVENUE
N.Y.C., N.Y. 10036
212 354-7820

JACK GREEN ASSOCIATES
MECHANICAL ENGINEERS
101 PARK AVENUE
N.Y.C., N.Y. 10017
212 689-8330

VREELAND AND GUERRIERO
LANDSCAPE ARCHITECTS -
SITE PLANNERS
31 UNION SQUARE WEST
N.Y.C., N.Y. 10003
212 255-8071

ROOSEVELT ISLAND
DEVELOPMENT CORPORATION
DEVELOPER
1345 AVENUE OF THE AMERICAS
N.Y.C., N.Y. 10019
212 974-7380

PROJECT TITLE

ROOSEVELT ISLAND SPORTS PARK

ROOSEVELT ISLAND, NEW YORK

DRAWING TITLE

LOW LEVEL - EAST AND FOUNDATION - EAST

UDC PROJECT NO. 4-WIZ-007	SHEET NO. S.1
SCALE 8" = 1'-0"	DATE 5-1-74

7-346

Request for Proposal #21-37333
Sportspark Renovation Multi-Phase Project

ADDENDUM #02

Attachment B

JLC ENVIRONMENTAL CONSULTANTS, INC

243 West 30th St. Suite 701 New York, NY 10001

Phone: (212) 420-8119 - Fax: (212) 420-6092

Roosevelt Island Operarting Corporation
591 Main Street
Roosevelt Island, NY 10044

ELAP Lab Code: 11029

Project No:	20-6178
Analyte:	ASBESTOS
Date Received:	10/23/2020
Date Analyzed:	10/23/2020
Batch#:	459634
Analyst:	RB

SUMMARY OF ANALYTICAL RESULTS- PLM

SITE: 250 Main Street NY, NY 10044

SAMPLE# COLLECTED LAB#	DESCRIPTION/ LOCATION	Friable/Non-Friable	Color	Asbestos Detected?	Asbestos Constituents (%)	Non-Abestos Constituents (%)	
001 10/22/2020 459634-1	Top Layer Gym/ Floor ** NOTE: Recommend TEM	NF	Gray/Black	Inconclusive			
002 10/22/2020 459634-2	Top Layer Gym/ Floor ** NOTE: Recommend TEM	NF	Gray/Black	Inconclusive			
003 10/22/2020 459634-3	Foam Bottom Layer w/Mastic Gym/ Floor ** NOTE: Recommend TEM	NF	Black	Inconclusive			
004 10/22/2020 459634-4	Foam Bottom Layer w/Mastic Gym/ Floor ** NOTE: Recommend TEM	NF	Black	Inconclusive			
005 10/22/2020 459634-5	Cove Base Around Floor Gym/ Floor ** NOTE: Recommend TEM	NF	Black	Inconclusive			
006 10/22/2020 459634-6	Cove Base Around Floor Gym/ Floor ** NOTE: Recommend TEM	NF	Black	Inconclusive			
007 10/22/2020 459634-7	Compound Flooring Under Foam Gym/ Floor	F	Beige	No		Non-Fibrous Material	100%
008 10/22/2020 459634-8	Compound Flooring Under Foam Gym/ Floor	F	Red	No		Non-Fibrous Material	100%
009 10/22/2020 459634-9	Compound Flooring Under Foam Gym/ Floor	F	Red	No		Non-Fibrous Material	100%

*Insufficient material submitted

** TEM recommended

***Not Analyzed Positive Stop

Symbol Key: F = Friable, NF = Non-Friable

Sample Analysis by:

Polarized Light Microscopy-Dispersion Staining (PLM-DS)

Method of Sample Preparation and Analysis:

All friable samples were prepared and analyzed in accordance with ELAP 198.1

All non-friable samples were prepared and analyzed in accordance with ELAP 198.6

Instrumentation:

Olympus PLM, Model BH-2/VM Stereomicroscope Model VMZ 1x-4x.

Analytical results reflect the make up of the materials only in the areas sampled. This "Summary of Analytical Results" shall not be reproduced except in full, without the written approval of JLC Laboratory, and it must not be used by client to claim product endorsement by NVLAP or any agency of the U.S. Government. This method is not applicable to samples containing large amounts of fine fibers below the resolution of the light microscope. The value of this method is limited to the quantitative identification of asbestos and the semi-quantitative determination of asbestos content of bulk samples, expressed as a percentage of the projected area. Quantitation of asbestos content was determined with a visual volume estimate, a calibrated visual area estimate, and/or point counting procedure. CAUTION: Other fibers with optical properties similar to asbestos may give positive interferences and will be considered asbestos under this methodology. Also, PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

Approved Signatory

Report Date: October 25, 2020

ASBESTOS FIELD SURVEY DATA SHEET/ CHAIN OF CUSTODY

0459634

JLC PROJECT No: 20-6178
CLIENT: Roosevelt Island Operation Corporation
PROJECT SITE: 250 Main Street Roosevelt Island, NY
Technician: Konrad Dolinski

Property Owner:
Start Time: 10:30 **End Time:** 12:00
Date of Inspection: 10/22/2020

FUNCTIONAL SPACE		Sample No.				ApproximateQuantity (LF/SF)	Assessment		Asbestos Content %
Floor	Area Description		ID	Material Description	Color		COND	FRIAB	
Gym	Gym floor	1	A	Top layer	Green/Black	2000sf	1, 2, 3, 4, 5, 6, 7 G/MD/P	F NF	PLM: TEM:
		2	↓	↓	↓		1, 2, 3, 4, 5, 6, 7 G/MD/P	F NF	PLM: TEM:
		3	B	Foam - bottom	Black		1, 2, 3, 4, 5, 6, 7 G/MD/P	F NF	PLM: TEM:
		4	↓	layer with mastic	↓	↓	1, 2, 3, 4, 5, 6, 7 G/MD/P	F NF	PLM: TEM:
		5	C	Cove base around	Black	100 sf	1, 2, 3, 4, 5, 6, 7 G/MD/P	F NF	PLM: TEM:
		6	↓	floor	↓	↓	1, 2, 3, 4, 5, 6, 7 G/MD/P	F NF	PLM: TEM:
		7	D	Compound flooring	Beige/Red	2000 sf	1, 2, 3, 4, 5, 6, 7 G/MD/P	F NF	PLM: TEM:
		8	↓	under foam	↓	↓	1, 2, 3, 4, 5, 6, 7 G/MD/P	F NF	PLM: TEM:
↓	↓	9	↓	↓	↓	↓	1, 2, 3, 4, 5, 6, 7 G/MD/P	F NF	PLM: TEM:
							1, 2, 3, 4, 5, 6, 7 G/MD/P	F NF	PLM: TEM:

Physical Condition Assessment
1 Damaged or Significantly Damaged Friable TSI
2 Damaged Friable Surfacing ACM
3 Significantly Damaged Friable Surfacing ACM
4 Damaged or Significantly Damaged Friable Misc. ACM
5 ACBM with potential for Damage
6 ACBM with potential for Significant Damage
7 Remaining Friable or Suspect ACBM

G – Good / MD – Minor Damage
P –Poor

FRIABLE: A- Assumed (Not Sampled)

PLM – POLARIZED LIGHT MICROSCOPY
TEM – TRANSMISSION ELECTRON MICROSCOPY

Yes (Y) No (N)

CHAIN OF CUSTODY

Type of Analysis: PLM / PLM-NOB / TEM / TEM-NOB
Turnaround Time: 24 hrs 48 hrs 72 hrs

		DATE	TIME	
Relinquished by: (print) Konrad Dolinski	(Sign)	10/23/20	AM/PM	
Received by: (print)	(Sign)	10/23/20	AM/PM	
Relinquished by: (print)	(Sign)	/ /20	AM/PM	
Analyzed by: (print) R Bailey	(Sign) R Bailey	10/23/20	AM/PM	1PM
Relinquished by: (print)	(Sign)	/ /20	AM/PM	
Received by: (print)	(Sign)	/ /20	AM/PM	

FIELD NOTES:

CERTIFICATE NO.: 04-02489

INSPECTOR: Konrad Dolinski

TELEPHONE NO. : (212) 420-8119 FAX NO. :(212) 420-6092
ADDRESS: JLC Environmental Consultants, Inc.
243 W. 30th St., New York, NY 10001

TASKS COMPLETED:
1.A visual determination of accessible suspect materials and condition.
2.Collect bulk samples of suspect building materials.
3.A physical "Hand Pressure" test for determining friability and condition.
4.Assessment of suspect friable and non-friable materials and locations.
5.Quantify the amount of suspect materials in their respective locations.
6.Submit bulk samples for analysis by PLM and/or TEM Method.
7.Bulk Sample locations and suspect materials were identified on the appropriate building floor plan diagram with the sample number (optional).
8.A Chain of Custody record accompanied the samples to the laboratory.

A A L
Asbestos Analytical Lab

Asbestos Analytical Lab
51 Gage Road
East Brunswick, NJ 08816
Tel. 917-478-7715
Fax: 800-718-3597

Client: JLC Environmental Consultants

Project **0459634**
Address: 250 Main Street
Roosevelt Island, NY

Collected Date: 10/22/2020
Date Received: 10/26/2020
Date Analyzed: 10/27/2020
AAL Batch #: 20-10167
Total Samples: 10
Report Date: 10/27/2020

TEM BULK ASBESTOS REPORT

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
1A	**20-10167-1**	**NO**	**NAD** (by NYS ELAP 198.4) NOB-TEM
Location:			
Sample Description:	Top Layer		
Analyst Description:	Green,Non-Friable,NonHomogeneous		
Asbestos Types:			
Other Material:	Non-fibrous 10.5%		
1B	**20-10167-2**	**NO**	**NAD** (by NYS ELAP 198.4) NOB-TEM
Location:			
Sample Description:	Top Layer		
Analyst Description:	Black,Non-Friable,NonHomogeneous		
Asbestos Types:			
Other Material:	Non-fibrous 3.2%		
2A	**20-10167-3**	**NO**	**NAD** (by NYS ELAP 198.4) NOB-TEM
Location:			
Sample Description:	Top Layer		
Analyst Description:	Green,Non-Friable,NonHomogeneous		
Asbestos Types:			
Other Material:	Non-fibrous 10.5%		
2B	**20-10167-4**	**NO**	**NAD** (by NYS ELAP 198.4) NOB-TEM
Location:			
Sample Description:	Top Layer		
Analyst Description:	Black,Non-Friable,NonHomogeneous		
Asbestos Types:			
Other Material:	Non-fibrous 3.1%		

See Reporting notes on last page

TEM BULK ASBESTOS REPORT

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
3A	**20-10167-5**	**NO**	**NAD** (by NYS ELAP 198.4) NOB-TEM
Location:			
Sample Description:	Foam - Bottom Layer W/ Mastic		
Analyst Description:	Grey,Non-Friable,NonHomogeneous		
Asbestos Types:			
Other Material:	Non-fibrous 12.8%		
3B	**20-10167-6**	**NO**	**NAD** (by NYS ELAP 198.4) NOB-TEM
Location:			
Sample Description:	Foam - Bottom Layer W/ Mastic		
Analyst Description:	Black,Non-Friable,NonHomogeneous		
Asbestos Types:			
Other Material:	Non-fibrous 4.6%		
4A	**20-10167-7**	**NO**	**NAD** (by NYS ELAP 198.4) NOB-TEM
Location:			
Sample Description:	Foam - Bottom Layer W/ Mastic		
Analyst Description:	Grey,Non-Friable,NonHomogeneous		
Asbestos Types:			
Other Material:	Non-fibrous 11.5%		
4B	**20-10167-8**	**NO**	**NAD** (by NYS ELAP 198.4) NOB-TEM
Location:			
Sample Description:	Foam - Bottom Layer W/ Mastic		
Analyst Description:	Black,Non-Friable,NonHomogeneous		
Asbestos Types:			
Other Material:	Non-fibrous 6.3%		
5	**20-10167-9**	**NO**	**NAD** (by NYS ELAP 198.4) NOB-TEM
Location:			
Sample Description:	Cove Base Around Floor		
Analyst Description:	Black/Yellow,Non-Friable,NonHomogeneous		
Asbestos Types:			
Other Material:	Non-fibrous 8.1%		
Comments:	Composite (Cove Base + Glue)		
6	**20-10167-10**	**NO**	**NAD** (by NYS ELAP 198.4) NOB-TEM
Location:			
Sample Description:	Cove Base Around Floor		
Analyst Description:	Black/Yellow,Non-Friable,NonHomogeneous		
Asbestos Types:			
Other Material:	Non-fibrous 6.8%		
Comments:	Composite (Cove Base + Glue)		

See Reporting notes on last page

TEM BULK ASBESTOS REPORT

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
	20-10167		

Reporting Notes:

TEM Analyzed by: Roman Peysakhov

Date Analyzed: 10/27/2020

*NAD/NSD- no asbestos detected; NA= not analyzed/positive stop; PLM Bulk Asbestos Analysis by EPA 600/ M4-82-020 per 40 CFR 763, 600/R-93/116, ELAP PLM Method 198.1 for NY Friable samples (NY ELAP LAB ID11938) (NVLAP 201041-0) NJ Dep. #12068; Note:
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 treated as non-asbestos containing in NY State (also see EPA Advisory for floor tile, FR 59, 146,38970/1/94). National Institute of Standards and Technology Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the lab. This report relates ONLY to the samples reported above.
The laboratory is not responsible for sample collection. The laboratory is not responsible for any procedures not performed by the laboratory. This report may not be used to claim product endorsement by NVLAP, ELAP or any other agency of the U.S. Government.

Reviewed by: _____ End of Report 10/27/20

LIMITED ASBESTOS INSPECTION REPORT

Prepared For:
Roosevelt Island Operation Corporation
c/o Michael Risbridges
Cameron Engineering & Associates of New York, PLLC
1411 Broadway, Suite 610
New York, NY 10018

Inspection Location:
RIOC Sportspark
250 Main Street
Roosevelt Island, NY 10044

SUBMITTED BY:

JLC Environmental Consultants, Inc.
243 W. 30th Street, Suite 701
New York, NY 10001
Tel.: (212) 420-8119
Fax: (212) 420-6092
www.jlcenvironmental.com

Date of Report: November 2, 2020

Project No.: 20-6178

TABLE OF CONTENTS

APPENDICES

November 2, 2020

Roosevelt Island Operation Corporation
c/o Michael Risbridges
Cameron Engineering & Associates of New York, PLLC
1411 Broadway, Suite 610
New York, NY 10018

Re: Asbestos Inspection RIOC Sportspark – 250 Main Street, Roosevelt Island, NY 10044

Dear Mr. Risbridges:

JLC Environmental Consultants, Inc. (JLC) was authorized to proceed with an inspection to determine the presence of Asbestos Containing Materials (ACM) at the above referenced location.

1.0 Introduction

An Asbestos inspection was conducted by NYS DOL Asbestos Inspector and NYC DEP Asbestos Investigator Konrad Dolinski on October 22, 2020 of the selected areas. The inspections included accessible areas and materials only. Bulk samples of these materials were taken from the below mentioned locations and analyzed via Polarized Light Microscopy (**PLM**) and Transmission Electron Microscopy (**TEM**), where applicable. The inspections were conducted in compliance with all applicable laws, rules and regulations.

2.0 Sampling Locations and Building Materials Sampled

Location	Building Materials Sampled
Gym/ Floor	Top Layer; Foam Bottom Layer with Mastic; Cove Base Around Floor; and Compound Flooring Under Foam.

Please see Appendix A – Laboratory Reports for detailed locations and building materials sampled.

3.0 Asbestos Containing Materials (ACMs) Summary

No Asbestos-Containing Material was found in the samples taken and analyzed on October 22, 2020.

4.0 Conclusions and Recommendations

No asbestos was found upon inspection and analyzation of sampled materials; therefore, no recommendations are applicable at this time.

JLC inspected and sampled materials as requested by the client. Any materials that have not been tested and/or found positive for asbestos must be assumed ACM.

JLC Environmental Consultants, Inc.
243 W. 30th Street, Suite 701 • New York, NY 10001 • T. 212 420-8119 F. 212 420-6092 • jlcenvironmental.com

5.0 Limitations

The Client recognizes that all surveying and testing methods have reliability limitations. No method or number of sampling locations can guarantee that a condition will be discovered within the performance of the services as authorized by the Client. Our recommendations and conclusions are based on our sampling of the selected areas only on October 22, 2020.

Feel free to contact me with any questions at (212) 420-8119 or via email at kduer@jlcenvironmental.com.

Respectfully,
JLC Environmental Consultants, Inc.

Keith Duer
Senior Environmental Project Manager

APPENDIX A

LABORATORY REPORTS

JLC ENVIRONMENTAL CONSULTANTS, INC

243 West 30th St. Suite 701 New York, NY 10001

Phone: (212) 420-8119 - Fax: (212) 420-6092

Roosevelt Island Operarting Corporation
591 Main Street
Roosevelt Island, NY 10044

ELAP Lab Code: 11029

Project No:	20-6178
Analyte:	ASBESTOS
Date Received:	10/23/2020
Date Analyzed:	10/23/2020
Batch#:	459634
Analyst:	RB

SUMMARY OF ANALYTICAL RESULTS- PLM

SITE: 250 Main Street NY, NY 10044

SAMPLE# COLLECTED LAB#	DESCRIPTION/ LOCATION	Friable/Non-Friable	Color	Asbestos Detected?	Asbestos Constituents (%)	Non-Abestos Constituents (%)	
001 10/22/2020 459634-1	Top Layer Gym/ Floor ** NOTE: Recommend TEM	NF	Gray/Black	Inconclusive			
002 10/22/2020 459634-2	Top Layer Gym/ Floor ** NOTE: Recommend TEM	NF	Gray/Black	Inconclusive			
003 10/22/2020 459634-3	Foam Bottom Layer w/Mastic Gym/ Floor ** NOTE: Recommend TEM	NF	Black	Inconclusive			
004 10/22/2020 459634-4	Foam Bottom Layer w/Mastic Gym/ Floor ** NOTE: Recommend TEM	NF	Black	Inconclusive			
005 10/22/2020 459634-5	Cove Base Around Floor Gym/ Floor ** NOTE: Recommend TEM	NF	Black	Inconclusive			
006 10/22/2020 459634-6	Cove Base Around Floor Gym/ Floor ** NOTE: Recommend TEM	NF	Black	Inconclusive			
007 10/22/2020 459634-7	Compound Flooring Under Foam Gym/ Floor	F	Beige	No		Non-Fibrous Material	100%
008 10/22/2020 459634-8	Compound Flooring Under Foam Gym/ Floor	F	Red	No		Non-Fibrous Material	100%
009 10/22/2020 459634-9	Compound Flooring Under Foam Gym/ Floor	F	Red	No		Non-Fibrous Material	100%

*Insufficient material submitted

** TEM recommended

***Not Analyzed Positive Stop

Symbol Key: F = Friable, NF = Non-Friable

Sample Analysis by:

Polarized Light Microscopy-Dispersion Staining (PLM-DS)

Method of Sample Preparation and Analysis:

All friable samples were prepared and analyzed in accordance with ELAP 198.1

All non-friable samples were prepared and analyzed in accordance with ELAP 198.6

Instrumentation:

Olympus PLM, Model BH-2/VM Stereomicroscope Model VMZ 1x-4x.

Analytical results reflect the make up of the materials only in the areas sampled. This "Summary of Analytical Results" shall not be reproduced except in full, without the written approval of JLC Laboratory, and it must not be used by client to claim product endorsement by NVLAP or any agency of the U.S. Government. This method is not applicable to samples containing large amounts of fine fibers below the resolution of the light microscope. The value of this method is limited to the quantitative identification of asbestos and the semi-quantitative determination of asbestos content of bulk samples, expressed as a percentage of the projected area. Quantitation of asbestos content was determined with a visual volume estimate, a calibrated visual area estimate, and/or point counting procedure. CAUTION: Other fibers with optical properties similar to asbestos may give positive interferences and will be considered asbestos under this methodology. Also, PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

Approved Signatory

Report Date: October 25, 2020

A A L
Asbestos Analytical Lab

Asbestos Analytical Lab
51 Gage Road
East Brunswick, NJ 08816
Tel. 917-478-7715
Fax: 800-718-3597

Client: JLC Environmental Consultants

Project **0459634**
Address: 250 Main Street
Roosevelt Island, NY

Collected Date: 10/22/2020
Date Received: 10/26/2020
Date Analyzed: 10/27/2020
AAL Batch #: 20-10167
Total Samples: 10
Report Date: 10/27/2020

TEM BULK ASBESTOS REPORT

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
1A	**20-10167-1**	**NO**	**NAD** (by NYS ELAP 198.4) NOB-TEM
Location:			
Sample Description:	Top Layer		
Analyst Description:	Green,Non-Friable,NonHomogeneous		
Asbestos Types:			
Other Material:	Non-fibrous 10.5%		
1B	**20-10167-2**	**NO**	**NAD** (by NYS ELAP 198.4) NOB-TEM
Location:			
Sample Description:	Top Layer		
Analyst Description:	Black,Non-Friable,NonHomogeneous		
Asbestos Types:			
Other Material:	Non-fibrous 3.2%		
2A	**20-10167-3**	**NO**	**NAD** (by NYS ELAP 198.4) NOB-TEM
Location:			
Sample Description:	Top Layer		
Analyst Description:	Green,Non-Friable,NonHomogeneous		
Asbestos Types:			
Other Material:	Non-fibrous 10.5%		
2B	**20-10167-4**	**NO**	**NAD** (by NYS ELAP 198.4) NOB-TEM
Location:			
Sample Description:	Top Layer		
Analyst Description:	Black,Non-Friable,NonHomogeneous		
Asbestos Types:			
Other Material:	Non-fibrous 3.1%		

See Reporting notes on last page

TEM BULK ASBESTOS REPORT

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
3A	**20-10167-5**	**NO**	**NAD** (by NYS ELAP 198.4) NOB-TEM
Location:			
Sample Description:	Foam - Bottom Layer W/ Mastic		
Analyst Description:	Grey,Non-Friable,NonHomogeneous		
Asbestos Types:			
Other Material:	Non-fibrous 12.8%		
3B	**20-10167-6**	**NO**	**NAD** (by NYS ELAP 198.4) NOB-TEM
Location:			
Sample Description:	Foam - Bottom Layer W/ Mastic		
Analyst Description:	Black,Non-Friable,NonHomogeneous		
Asbestos Types:			
Other Material:	Non-fibrous 4.6%		
4A	**20-10167-7**	**NO**	**NAD** (by NYS ELAP 198.4) NOB-TEM
Location:			
Sample Description:	Foam - Bottom Layer W/ Mastic		
Analyst Description:	Grey,Non-Friable,NonHomogeneous		
Asbestos Types:			
Other Material:	Non-fibrous 11.5%		
4B	**20-10167-8**	**NO**	**NAD** (by NYS ELAP 198.4) NOB-TEM
Location:			
Sample Description:	Foam - Bottom Layer W/ Mastic		
Analyst Description:	Black,Non-Friable,NonHomogeneous		
Asbestos Types:			
Other Material:	Non-fibrous 6.3%		
5	**20-10167-9**	**NO**	**NAD** (by NYS ELAP 198.4) NOB-TEM
Location:			
Sample Description:	Cove Base Around Floor		
Analyst Description:	Black/Yellow,Non-Friable,NonHomogeneous		
Asbestos Types:			
Other Material:	Non-fibrous 8.1%		
Comments:	Composite (Cove Base + Glue)		
6	**20-10167-10**	**NO**	**NAD** (by NYS ELAP 198.4) NOB-TEM
Location:			
Sample Description:	Cove Base Around Floor		
Analyst Description:	Black/Yellow,Non-Friable,NonHomogeneous		
Asbestos Types:			
Other Material:	Non-fibrous 6.8%		
Comments:	Composite (Cove Base + Glue)		

See Reporting notes on last page

TEM BULK ASBESTOS REPORT

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
	20-10167		

Reporting Notes:

TEM Analyzed by: Roman Peysakhov

Date Analyzed: 10/27/2020

*NAD/NSD- no asbestos detected; NA= not analyzed/positive stop; PLM Bulk Asbestos Analysis by EPA 600/ M4-82-020 per 40 CFR 763, 600/R-93/116, ELAP PLM Method 198.1 for NY Friable samples (NY ELAP LAB ID11938) (NVLAP 201041-0) NJ Dep. #12068; Note:
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 treated as non-asbestos containing in NY State (also see EPA Advisory for floor tile, FR 59, 146,38970/1/94). National Institute of Standards and Technology Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the lab. This report relates ONLY to the samples reported above.
The laboratory is not responsible for sample collection. The laboratory is not responsible for any procedures not performed by the laboratory. This report may not be used to claim product endorsement by NVLAP, ELAP or any other agency of the U.S. Government.

Reviewed by: _____ End of Report 10/27/20

ASBESTOS FIELD SURVEY DATA SHEET/ CHAIN OF CUSTODY

0459634

JLC PROJECT No: 20-6178
CLIENT: Roosevelt Island Operation Corporation
PROJECT SITE: 250 Main Street Roosevelt Island, NY
Technician: Konrad Dolinski

Property Owner:
Start Time: 10:30 **End Time:** 12:00
Date of Inspection: 10/22/2020

FUNCTIONAL SPACE		Sample No.				ApproximateQuantity (LF/SF)	Assessment		Asbestos Content %
Floor	Area Description		ID	Material Description	Color		COND	FRIAB	
Gym	Gym floor	1	A	Top layer	Green/Black	2000sf	1, 2, 3, 4, 5, 6, 7 G/MD/P	F NF	PLM: TEM:
		2	↓	↓	↓		1, 2, 3, 4, 5, 6, 7 G/MD/P	F NF	PLM: TEM:
		3	B	Foam - bottom	Black		1, 2, 3, 4, 5, 6, 7 G/MD/P	F NF	PLM: TEM:
		4	↓	layer with mastic	↓	↓	1, 2, 3, 4, 5, 6, 7 G/MD/P	F NF	PLM: TEM:
		5	C	Cove base around	Black	100 sf	1, 2, 3, 4, 5, 6, 7 G/MD/P	F NF	PLM: TEM:
		6	↓	floor	↓	↓	1, 2, 3, 4, 5, 6, 7 G/MD/P	F NF	PLM: TEM:
		7	D	Compound flooring	Beige/Red	2000 sf	1, 2, 3, 4, 5, 6, 7 G/MD/P	F NF	PLM: TEM:
		8	↓	under foam	↓	↓	1, 2, 3, 4, 5, 6, 7 G/MD/P	F NF	PLM: TEM:
↓	↓	9	↓	↓	↓	↓	1, 2, 3, 4, 5, 6, 7 G/MD/P	F NF	PLM: TEM:
							1, 2, 3, 4, 5, 6, 7 G/MD/P	F NF	PLM: TEM:

Physical Condition Assessment
1 Damaged or Significantly Damaged Friable TSI
2 Damaged Friable Surfacing ACM
3 Significantly Damaged Friable Surfacing ACM
4 Damaged or Significantly Damaged Friable Misc. ACM
5 ACBM with potential for Damage
6 ACBM with potential for Significant Damage
7 Remaining Friable or Suspect ACBM

G – Good / MD – Minor Damage
P –Poor

FRIABLE: A- Assumed (Not Sampled)

PLM – POLARIZED LIGHT MICROSCOPY
TEM – TRANSMISSION ELECTRON MICROSCOPY

Yes (Y) No (N)

CHAIN OF CUSTODY

Type of Analysis: PLM / PLM-NOB / TEM / TEM-NOB
Turnaround Time: 24 hrs 48 hrs 72 hrs

		DATE	TIME	
Relinquished by: (print) Konrad Dolinski	(Sign)	10/23/20	AM/PM	
Received by: (print)	(Sign)	10/23/20	AM/PM	
Relinquished by: (print)	(Sign)	/ /20	AM/PM	
Analyzed by: (print) R Bailey	(Sign) R Bailey	10/23/20	AM/PM	1PM
Relinquished by: (print)	(Sign)	/ /20	AM/PM	
Received by: (print)	(Sign)	/ /20	AM/PM	

FIELD NOTES:

CERTIFICATE NO.: 04-02489

INSPECTOR: Konrad Dolinski

TELEPHONE NO. : (212) 420-8119 FAX NO. :(212) 420-6092
ADDRESS: JLC Environmental Consultants, Inc.
243 W. 30th St., New York, NY 10001

TASKS COMPLETED:
1.A visual determination of accessible suspect materials and condition.
2.Collect bulk samples of suspect building materials.
3.A physical "Hand Pressure" test for determining friability and condition.
4.Assessment of suspect friable and non-friable materials and locations.
5.Quantify the amount of suspect materials in their respective locations.
6.Submit bulk samples for analysis by PLM and/or TEM Method.
7.Bulk Sample locations and suspect materials were identified on the appropriate building floor plan diagram with the sample number (optional).
8.A Chain of Custody record accompanied the samples to the laboratory.

APPENDIX B

DRAWINGS WITH SAMPLE LOCATIONS

2,3,7

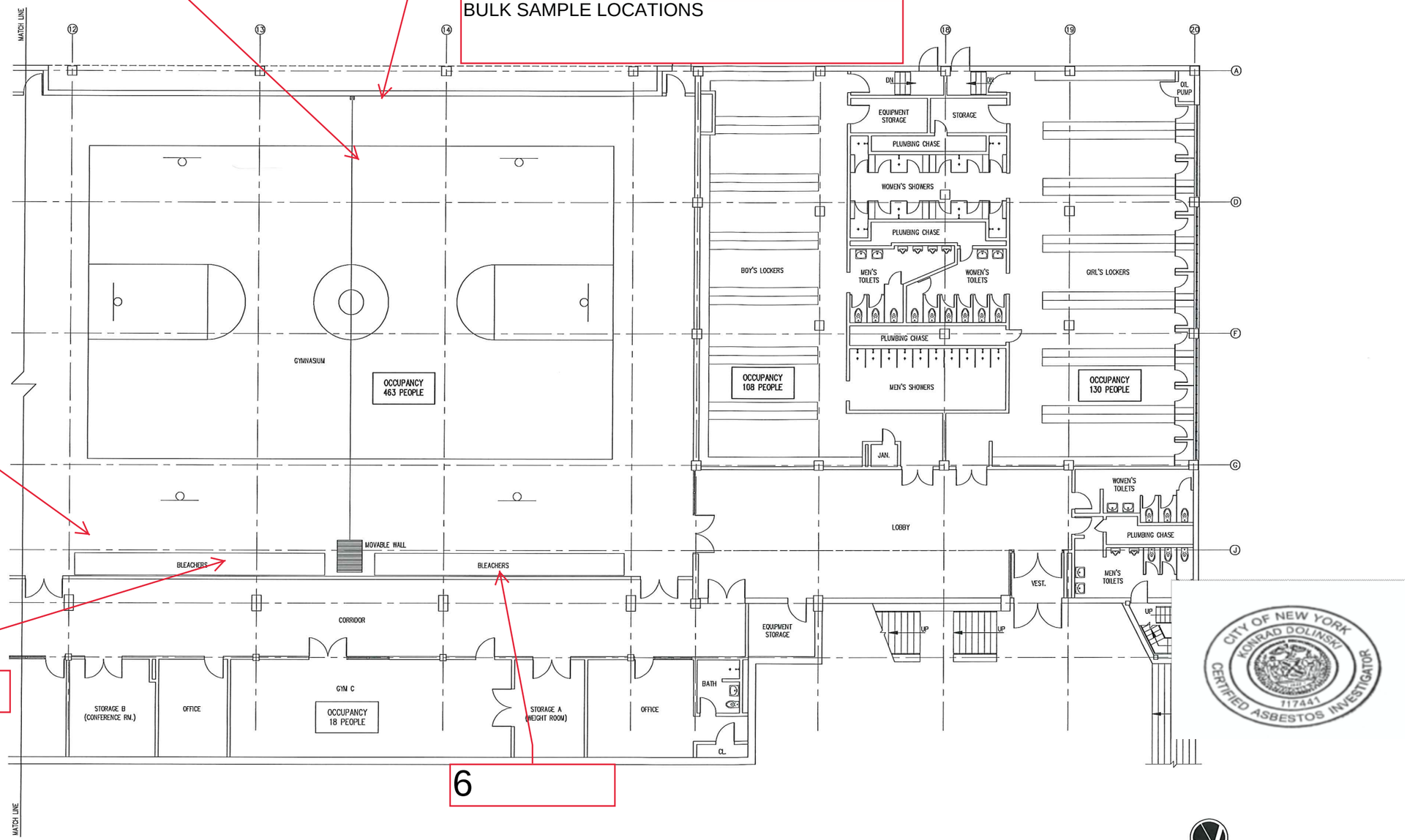
5

BULK SAMPLE LOCATIONS

8

1,4,9

6



CITY OF NEW YORK
KONRAD DOLINSKI
CERTIFIED ASBESTOS INVESTIGATOR
117441

North

1 / A1.02 EXISTING LOWER WEST FLOOR PLAN

1/8" = 1'-0"

BL Companies

ARCHITECTURE
ENGINEERING
PLANNING
LANDSCAPE ARCHITECTURE
LAND SURVEYING
ENVIRONMENTAL SCIENCES

50 West 17th Street
Third Floor
New York, New York 10011
(212) 529-5543
(212) 529-4774 Fax

EXISTING CONDITIONS PLANS

ROOSEVELT ISLAND SPORTS PARK

ROOSEVELT ISLAND, NEW YORK

REVISIONS

No.	Date	Desc.
	08/19/10	ISSUED TO ROC

Surveyed	
Drawn	
Checked	
Approved	
Scale	AS NOTED
Project No.	1001740
Date	10/16/08
CAD File	BD1001740
Field Book	

Title

EXISTING LOWER WEST FLOOR PLAN

Sheet No. 3 7

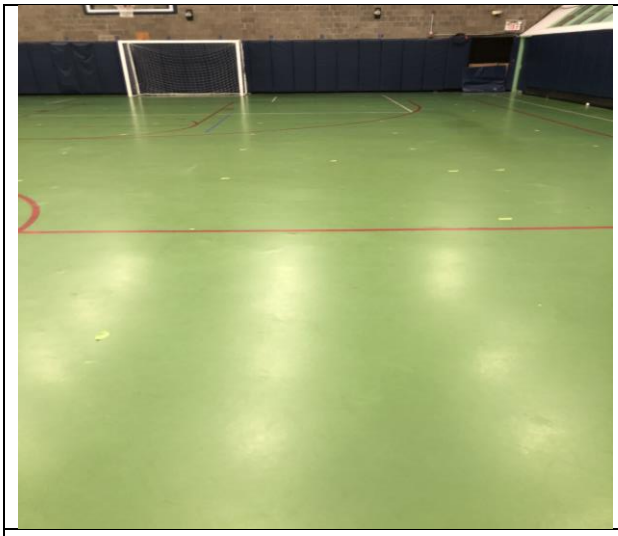
A1.02

Xref Ck: xxxxxxx

APPENDIX C

PHOTOS

250 Main Street - Roosevelt Island - Gym – Phot LOG (10/22/2020)



PIC.1 – Flooring in the Gym

PIC.2 – Cove base around the floor

PIC.3 – Visible damaged on the floor

PIC.4 – Black foam under rubber floor - o concrete floor

PIC.5 – Mastic under black foam on concrete floor

APPENDIX D

LICENSES

New York State – Department of Labor
Division of Safety and Health
License and Certificate Unit
State Campus, Building 12
Albany, NY 12240

ASBESTOS HANDLING LICENSE

JLC Environmental Consultants, Inc.
Suite 701
243 West 30th Street

New York, NY 10001

FILE NUMBER: 99-0238
LICENSE NUMBER: 28617
LICENSE CLASS: RESTRICTED
DATE OF ISSUE: 07/16/2020
EXPIRATION DATE: 07/31/2021

Duly Authorized Representative – Jennifer L Carey:

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Eileen M. Franko, Director
For the Commissioner of Labor

SH 432 (8/12)

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2021
Issued April 01, 2020

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

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

MS. JENNIFER CAREY
JLC ENVIRONMENTAL CONSULTANTS INC
243 W. 30TH STREET SUITE 701
NEW YORK, NY 10001

NY Lab Id No: 11029

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)

NEW YORK STATE | Department of Health

Serial No.: 61274

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

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ENVIRONMENTAL ANALYSES AIR AND EMISSIONS
All approved subcategories and/or analytes are listed below:

Miscellaneous

Fibers	NIOSH 7400 A RULES

Serial No.: 61275

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2021
Issued April 01, 2020

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

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

MS. YELENA PEYSAKHOVA
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EAST BRUNSWICK, NJ 08816

NY Lab Id No: 11938

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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
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

Serial No.: 61615

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2021
Issued April 01, 2020

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

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

MS. YELENA PEYSAKHOVA
ASBESTOS ANALYTICAL LAB
51 GAGE RD.
EAST BRUNSWICK, NJ 08816

NY Lab Id No: 11938

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES AIR AND EMISSIONS
All approved subcategories and/or analytes are listed below:

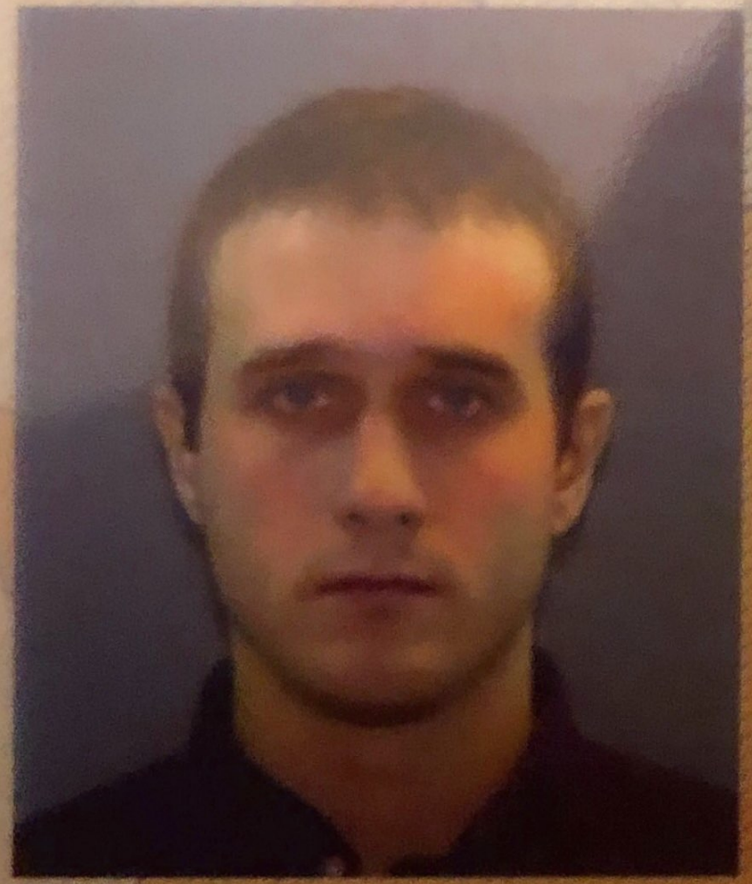
Miscellaneous

Asbestos	40 CFR 763 APX A No. III
	NIOSH 7402
Fibers	NIOSH 7400 A RULES

Serial No.: 61616

NYC DEP ASBESTOS CONTROL PROGRAM

ASBESTOS CERTIFICATE



DOLINSKI,
KONRAD P
INVESTIGATOR
117441

EXPIRES: 12/9/2020
DOB:12/9/1979 M 6' 02"

MUST BE CARRIED ON ALL ASBESTOS PROJECTS

END OF REPORT

Request for Proposal #21-37333
Sportspark Renovation Multi-Phase Project

ADDENDUM #02

Attachment C

StressBase®

StressBase 80 • StressBase 120

since 1895

OVERVIEW & FEATURES

StressBase sheets are high-strength, puncture and fatigue resistant, rubber modified roofing membranes that consist of fiberglass reinforcement sandwiched by Styrene-Butadiene-Styrene (SBS) rubber in a high penetration index asphalt mixture.

StressBase sheets can be used as a nailable base sheet over approved substrates, as a base flashing for hot- and cold-applied roof systems or as an interply in Garland's hot or cold applied systems. StressBase is typically used in two (2) or three (3) ply modified systems and also can be used in three (3) or four (4) ply BUR's.

Advanced Rubber Technology - The modifier utilized inStressBase sheets is SBS (Styrene-Butadiene-Styrene). When the SBS rubber is properly dispersed throughout the high penetration asphalt, the rubber provides increased thermal shock resistance, UV protection, heat resistance, elongation, and low temperature flexibility. To ensure proper dispersion, a special high shear mixer is used in manufacturing.

High Strength - The StressBase membranes are reinforced with fiberglass. The high-strength provided by the fiberglass scrim resists the movement created by today's modern buildings. In addition, the fiberglass scrim in StressBase membranes provide adequate tensile strength in the machine and cross machine direction. This translates to long-term resistance to splits and tears in the modified roof system.

Security in Multi-Ply Construction - StressBase sheets are the base component of a multi-ply roof system. They combine the inherent advantages and proven performance of multi-ply protection with the strength, flexibility and elongation of elastomeric systems. This unique combination minimizes dependence on perfect workmanship, contact adhesive seaming, etc.

APPLICATION

Garland's StressBase sheets can be used in conjunction with Weatherking® and Green-Lock® to make up a cold-applied system. StressBase sheets can also be used with hot asphalt or Garlastic® as a multi-ply BUR, as the underlayment for Garland's HPR® roof systems or as a base flashing ply for hot-and-cold applied roof systems. Specifications for nailing to various decks are also available.

NOTE: All rolls must be cut in 18 ft. (5.5 m) lengths and allowed to relax prior to application.

StressBase®

Technical Data	StressBase 80	StressBase 120
Tensile Strength	MD 100 lbf./in. (17.5 kN/m) XD 100 lbf./in. (17.5 kN/m)	MD 100 lbf./in. (17.5 kN/m) XD 100 lbf./in. (17.5 kN/m)
Tear Strength	MD 110 lbf. (489 N) XD 100 lbf. (444 N)	MD 100 lbf. (444 N) XD 85 lbf. (378 N)
Elongation	MD 4% XD 4%	MD 4% XD 4%
Low Temperature Flex	passes -40°F (-40°C)	passes -40°F (-40°C)

Finished membrane meets and/or exceeds the performance criteria of ASTM D 6163, TYPE II.
Test Method ASTM D 5147 is tested at:
0.08 in/min @ 0 ± 3.6°F
(2.0 mm/min @ -18 ± -3°C)

Roll Dimensions	StressBase 80	StressBase 120
Width	3 ft. 3 in. (1m)	3 ft. 3 in. (1m)
Length	52 ft. (15.85 m)	34 ft. 8 in. (10.60 m)
Weight	100 lbs. (45.36 kg)	85 lbs. (38.55 kg)
Nominal Thickness	80 mils (2,032 microns)	120 mils (3,048 microns)
Net Coverage	150 sq. ft. (13.93 m^2)	100 sq. ft. (9.29 m^2)
Packaging	24 rolls/pallet	24 rolls/pallet

Eco-Facts	StressBase 80	StressBase 120
Recycled Content		
Pre-Consumer	27%	24%
Post-Consumer	–	–

For specific application recommendations, please contact your local Garland Representative or Garland Technical Service Department.

Installation of this product with hot oxidized asphalt may result in exposure to hazardous chemicals. Special care and attention for proper product installation must be followed in all cases. For specific details refer to the NIOSH safe handling practices in publication No. 2003-107, as well as OSHA standard 1910.134 for further exposure precautions.

Garland Greenhouse

VALIDATED ✓ STRESSBASE® 80 CONTAINS AN AVERAGE OF 27% PRE-CONSUMER RECYCLED CONTENT

VALIDATED ✓ STRESSBASE® 120 CONTAINS AN AVERAGE OF 24% PRE-CONSUMER RECYCLED CONTENT

MIAMI-DADE COUNTY APPROVED

FM APPROVED

This product meets the requirements of CSA 123.23.

For more information, visit us at: www.garlandco.com

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Phone: 416-747-7995
Toll Free: 800-387-5991
(Only in Canada)

The Garland Company UK LTD
Second Way Centre, Second Way
Avonmouth, Bristol UK BS11 8DF
Phone: 011 44 1174 401050 (Outside UK)
Toll Free: 0800 328 5560 (Only in UK)

StressPly® E Membranes

StressPly E • StressPly E FR Mineral

since 1895

OVERVIEW & FEATURES

StressPly E (Environmental) membranes feature a unique combination of rubber-modified asphalt together with selected reinforcement layers. The result is a high-strength, puncture and fatigue resistant, rubber-modified membrane designed for use as the top component in a roofing system where fire retardancy is required. StressPly membranes are made up of Styrene-Butadiene-Styrene and Styrene-Isoprene-Styrene (SBS+SIS).These rubber-modified membranes utilize KEVLAR® fibers and a dual polyester and fiberglass combination reinforcement that offers the inherent strength and heat stability of fiberglass along with the ability of polyester to conform.

StressPly E membranes can also be used in conjunction with other HPR® products as well as with conventional glass base sheets or fiberglass roofing felts. In addition, StressPly E membranes can be used as the top ply in a two-ply flashing system. It can also be used to repair splits, cracks, and other deteriorated areas in existing asphalt-based roofing systems. Specifications are available for either hot or coldapplied systems. The StressPly E FR Mineral sheet can be upgraded with highly-reflective Sunburst™ minerals.

Environmentally Friendly - StressPly E membranes utilize post-consumer scrap from tires in the roofing compound. In addition, StressPly E utilizes recycled boiler slag as the surfacing in non-mineral membranes diverting materials away from landfills. StressPly E also incorporates soy-based products, reducings our reliance on petroleum-based technologies. With absolutely no sacrifice in quality, StressPly E membranes maintain Garland's reputation as a manufacturer of high-performance roofing systems while benefiting the environment.

Unmatched Rubber Technology - StressPly E membranes provide unmatched durability. The SBS rubber affords superior low temperature flexibility and long-term weathering characteristics. The SIS rubber dramatically increases the overall life expectancy of the modified membrane. When SBS and SIS are combined, the result is a superior high-performance roof membrane.

Superior Strength - The StressPly E membranes are reinforced with one layer of fiberglass and one layer of polyester. The superior strength provided by the KEVLAR® fibers and the dual fiberglass and polyester combination resists the movement created by today's modern buildings. In addition, StressPly E membranes provide tensile strength in excess of 500 pounds per inch in the machine and cross machine direction. This translates to long-term resistance to splits and tears in the completed StressPly E membrane roof system.

Superior Fire Resistance - StressPly E FR Mineral contains a fire retardant that is added to the compound during the manufacturing process. As a result, it will maintain its fire rating for the life of the membrane. StressPly E FR Mineral has a Class A fire rating over a combustible roof deck.

APPLICATION

Hot-Applied

StressPly E membranes can be used with ASTM D 312, Type III or IV asphalt, Garland's HPR All-Temp Asphalt or modified asphalt. One or two plies of ASTM D 2178, Type IV or VI fiberglass felt are solidly bonded to the approved substrate. The StressPly E membrane is then solidly bonded to these base layers with mopping asphalt.

Cold-Applied

StressPly E membranes can also be applied in Garland's cold-applied Weatherking® and Green-Lock® membrane adhesive. One or two layers of Garland approved base sheets are applied in Weatherking or Green-Lock membrane adhesive to the approved substrate. The StressPly E membrane is then adhered to these base layers with Weatherking or Green-Lock membrane adhesive.

StressPly® E Membranes

Technical Data	StressPly E	StressPly E FR Mineral
Tensile Strength	*MD 500 lbf./in. (87.5 kN/m) *XD 550 lbf./in. (96.25 kN/m) **MD 650 lbf./in. (114 kN/m) **XD 750 lbf./in. (132 kN/m)	*MD 500 lbf./in. (87.5 kN/m) *XD 550 lbf./in. (96.25 kN/m) **MD 650 lbf./in. (114 kN/m) **XD 750 lbf./in. (132 kN/m)
***Tear Strength**	MD 900 lbf. (4003 N) XD 950 lbf. (4226 N)	MD 900 lbf. (4003 N) XD 950 lbf. (4226 N)
***Elongation**	MD 6.0% XD 6.0%	MD 6.0% XD 6.0%
***Low Temperature Flex**	-30°F (-34°C)	-40°F (-40°C)

Finished membrane meets and/or exceeds ASTM D 6162, TYPE III.
Test Method ASTM D 5147 is tested at:
* 2 in./min @ 73.4 ± 3.6°F (50 mm/min @ 23 ± 2°C) ** 0.08 in/min @ 0 ± 3.6°F (2.0 mm/min @ -18 ± -3°C)

Roll Dimensions	StressPly E	StressPly E FR Mineral
Width	3 ft. 3 in. (1m)	3 ft. 3 in. (1m)
Length	34 ft. 8 in. (10.60 m)	26 ft. 2 in. (7.98 m)
Weight	85 lbs. (38.55 kg)	85 lbs. (38.55 kg)
Nominal Thickness	115 mils (2,921 microns)	160 mils (4,064 microns)
Net Coverage	100 sq. ft. (9.29 m^2)	75 sq. ft. (6.96 m^2)
Packaging	25 rolls/pallet	25 rolls/pallet

Eco-Facts	StressPly E	StressPly E FR Mineral
Recycled Content		
Pre-Consumer	27%	1%
Post-Consumer	8%	6%
Bio-Based Content	2.5%	2.5%
Reflectance	–	***0.72
Emittance	–	***0.90
SRI	–	***89

***With upgrade option Sunburst Minerals (0700-0029a) CRRC results.

For specific application recommendations, please contact your local Garland Representative or Garland Technical Service Department.

Installation of this product with hot oxidized asphalt may result in exposure to hazardous chemicals. Special care and attention for proper product installation must be followed in all cases. For specific details refer to the NIOSH safe handling practices in publication No. 2003-107, as well as OSHA standard 1910.134 for further exposure precautions.

This product meets the requirements of CSA 123.23.

The StressPly E and StressPly E FR Mineral products are protected by U.S. Patent # 6,524,980.

For more information, visit us at: www.garlandco.com

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Avonmouth, Bristol UK BS11 8DF
Phone: 011 44 1174 401050 (Outside UK)
Toll Free: 0800 328 5560 (Only in UK)

Tuff-Flash™ Plus LO

since 1895

OVERVIEW & FEATURES

Tuff-Flash™ Plus LO is a multi-purpose, two-part, asphaltic polyurethane-based, low-odor, liquid flashing membrane designed to create a watertight flashing on tough roofing details that are difficult to seal with a typical modified membrane. Tuff-Flash Plus LO combined with Grip Polyester™ Firm creates a watertight liquid flashing membrane that adheres to smooth or mineral modified membranes as well as a variety of metal surfaces.

Long-term Protection – Tuff-Flash Plus LO polyurethane chemistry undergoes a chemical curing reaction that builds strength over time unlike other solvent-based rubberized coatings that simply form films as the solvent flashes off. With this superior chemistry, the material can outperform and outlast similar coatings.

Low-Odor Application – Due to its asphaltic polyurethane chemistry, Tuff-Flash Plus LO is a low-odor product, minimizing odor concerns in VOC sensitive areas like hospitals, schools and food production plants.

Versatile – Tuff-Flash Plus LO is a versatile liquid flashing mastic that can seal even tough flashing details where a modified membrane or pitch pocket would have trouble sealing. It can be used on SBS, APP, and smooth or mineral surfaced asphalt roofs as well as many types of metal substrates (with proper surface preparation). Tuff-Flash Plus LO can be applied with a brush or trowel, making it easy for in-house maintenance teams to use.

Environmentally Safe – Tuff-Flash Plus LO has zero VOC and when it cures, it initially looks like hot-applied rubberized asphalt. However, there is no need for a torch or hot kettle.

Cures Quickly – A reflective coating can be applied over Tuff-Coat Plus LO within 15-30 days, compared to up to six months with standard emulsions and solvent-based coatings under normal weather conditions (i.e. 77°F (25°C)).

MIXING

DO NOT THIN. DO NOT HAND MIX. Begin by mixing Part A (2.75 gal.) using a power mixer (e.g. 1/2" drill and an 8" mud mixer). Do not draw air into the mix. While mixing, slowly add one jug of Part B (0.25 gal.) to the pail and mix thoroughly for 3 FULL MINUTES. The proportions are pre-measured, DO NOT ESTIMATE.

APPLICATION

Ensure that wet conditions do not exist. An infrared scan is highly recommended. Remove all wet insulation, dirt and debris from the existing roof to ensure proper adhesion. Perform an adhesion test on the surface to determine if the surface is an acceptable substrate for the Tuff-Flash Plus LO.

For Repair Material

Apply Tuff-Flash Plus LO at a rate of approximately 1 gal./7 ft. at 8 in. wide x 1/4 in. over the affected area with GarMesh®. The Tuff-Flash Plus LO must completely cover the GarMesh, not allowing the reinforcement to be exposed. Feather out the perimeter edges of the Tuff-Flash Plus LO, tapering the material outward. This will help alleviate the product from pulling on this membrane and decrease the potential for mineral loss. If granules are to be incorporated, apply them subsequent to the Tuff-Flash Plus LO application. Care shall be exerted not to spread minerals over surfaces prior to product application. If granules are not being used, Tuff-Flash Plus LO must be coated with either an aluminizer or white coating at least 15-30 days after application.

For Liquid Flashing Detail

Once the desired area is marked off, prime the surface with Garla-Prime™ at 0.5 gal/100 sq. ft. Next, apply Tuff-Flash Plus LO at a rate of approximately 5-6 gal. per 100 sq. ft. (2.0-2.4 l/m^2) with Grip Polyester Firm embedded within the Tuff-Flash over the entire roof surface. Please refer to the application guide for coverage rates and specific application steps. Feather out the perimeter edges of the Tuff-Flash Plus LO, tapering the material outward. This will help alleviate the product from pulling on this membrane and decrease the potential for mineral loss. If granules are to be incorporated, apply them subsequent to the Tuff-Flash Plus LO application. Care shall be exerted not to spread minerals over surfaces prior to product application. If granules are not being used, Tuff-Flash Plus LO must be coated with either an aluminizer or white coating at 15-30 days after application.

PRECAUTIONS

- Do not thin
- Do not hand mix
- Do not apply over wet surfaces
- Please read product label and SDS
- Material should be kept indoors while not in use
- Do not keep on the roof overnight
- Do not apply if there is a threat of rain or dew within 24 hours of application.

Tuff-Flash Plus LO

Technical Data	Tuff-Flash Plus LO
Solids by Volume	86%
Density	8.3 lbs./gal.
Elongation @ 77°F (25°C) ASTM D412	325%
Hardness, Shore A ASTM D2240 @ 77ºF	55
Tensile Strength ASTM D412	650 psi
Tear Strength ASTM D624 (Die C)	115 lb./in.
Service Temperature	-60º-180ºF (-51.1º-82.2ºC)
Coverage Rate **Repair Material** **Liquid Flashing**	 1 gal./7 ln. ft. @ 8" wide x ¼" thick 2 gals./100 sq. ft. w/ reinforcement (base coat) 3-4 gals./100 sq. ft. (top coat)
Packaging	Part A: 3-Gallon pail, 2.75 gallons Part B: 1-Gallon jug, filled 0.25 gallons

For specific recommendations and coverage rates, please contact your local Garland Representative or Garland Technical Service Department.

Eco Facts	Tuff-Flash Plus LO
VOC	0 g/l

For more information, visit us at: www.garlandco.com

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