



Memphis Housing Authority

700 Adams Avenue
Memphis, Tennessee 38105-5029

ADDENDUM NO. 1

Issued: March 12, 2024

This addendum shall become and form a part of the following solicitation:

Solicitation #CI 24 B 00684

Removal of Hazardous Materials at Kefauver Terrace

TO ALL POTENTIAL OFFERORS:

This Addendum, including all articles and corrections listed below, shall become a part of the original solicitation package, and shall be considered in preparing your proposals regarding Solicitation # CI 24 B 00684 for the Removal of Hazardous Materials in Dwelling units at Kefauver Terrace, Arlington, TN are included herein.

Please acknowledge receipt of this addendum by signing, dating, and including a copy of this addendum cover sheet in your proposal.

Name of Firm: _____

Signature: _____ Date: _____

Title: _____

REVISIONS:

1. The original Bid Due date for this project was, Thursday, March 21, 2024, at 2:00 PM
A. PLEASE DELETE AND CHANGE TO Thursday, April 4, 2024, at 2:00 PM.
2. There was no Pre-bid date set for this project,
A. PLEASE ADD, Thursday, March 21, 2024, at 2:00 PM; A pre-bid conference will be held at the Memphis Housing Authority in Room 217 (Boardroom) located at 700 Adams Avenue, Memphis, TN, 38105.
3. PLEASE ADD to scope of work,
A. Complete gut and mold remediation of 946 Gaiters, Unit 102
 - a. Contractor shall remove existing building materials as part of selective demolition including but not limited to:
 - Contractor shall remove kitchen cabinets (top and bottom) and all countertops.
 - Contractor shall remove kitchen sink, vent hood for range should be removed and turned in to owner.
 - Contractor shall remove existing wall mirrors/medicine cabinet in bathrooms.
 - Contractor shall remove existing towel bars, soap dishes and all other wall mounted accessories.
 - Contractor shall remove existing hollow core doors.
 - Existing light fixtures, smoke detectors, thermostats, HVAC system should remain in place during abatement.
 - b. Complete removal of all flooring.
 - c. Complete removal of all drywall and joint compound.
 - d. Contractor shall be responsible for the means and methods required to perform the work within the time limits established.
 - e. Contractor shall be responsible for complying with all applicable federal, state, and local regulations pertaining to the work practices, hauling disposal, protection of the workers, visitors to the site and any residents/occupants of the building.
 - f. Contractor shall be responsible for obtaining all permits and for filing all required notifications with the Shelby County Health Department.
 - g. Contractor shall perform demolition/removal of all exiting materials in a manner to not disturb or damage any adjacent units, exhaust fan covers or piping, existing walls, or flooring. If such damage should occur, the Contractor will restore in like kind and quality at no additional cost to the owner.
 - h. The Contractor shall remove all equipment, unused materials, debris, and demolished materials at the end of each workday.
 - i. The Contractor shall be responsible for securing all personnel, construction materials and equipment throughout the duration of the project.
 - j. Upon the completion of selective demolition, an MHA representative will inspect each unit to ensure that the work was performed according to the contract documents. After inspection, the MHA representative will issue a certificate of completion for the work.

- k. The Contractor shall submit one pay application after receipt of the certificate of completion from the MHA representative.

ATTACHMENTS:

1. Revised Quote Form.
2. Quote Form for 950 Gaiters, Unit 102.
3. Exhibit A – Photos from 950 Gaiters, Unit 102.
4. Kefauver Terrace Asbestos Survey Report.

Revised Quote Form

Item	Description	Unit	Quantity	Unit Price	Total
	7590 Robinson Cove				
1	Complete Removal of Drywall Ceiling	SF	200	\$	\$
2	Cove Base and Adhesive Removal and Disposal	LF	70	\$	\$
3	12x12 Floor Tile & Mastic removal (all layers to substrate)	SF	200	\$	\$
4	Tub/ Shower Removal	LS	1	\$	\$
	7592 Robinson Cove				
5	Complete Removal of Drywall Ceiling	SF	200	\$	\$
6	Cove Base and Adhesive Removal and Disposal	LF	70	\$	\$
7	12x12 Floor Tile & Mastic removal (all layers to substrate)	SF	200	\$	\$
8	Tub/ Shower Removal	LS	1	\$	\$
	7594 Robinson Cove				
9	Complete Removal of Drywall Ceiling	SF	200	\$	\$
10	Cove Base and Adhesive Removal and Disposal	LF	70	\$	\$
11	12x12 Floor Tile & Mastic removal (all layers to substrate)	SF	200	\$	\$
12	Tub/Shower Removal	LS	1	\$	\$
13	General Allowances	LS	1	\$	\$
	TOTAL				\$

Business name: _____

Representative: _____

Signature: _____

Phone #: _____

946 GAITERS UNIT 102

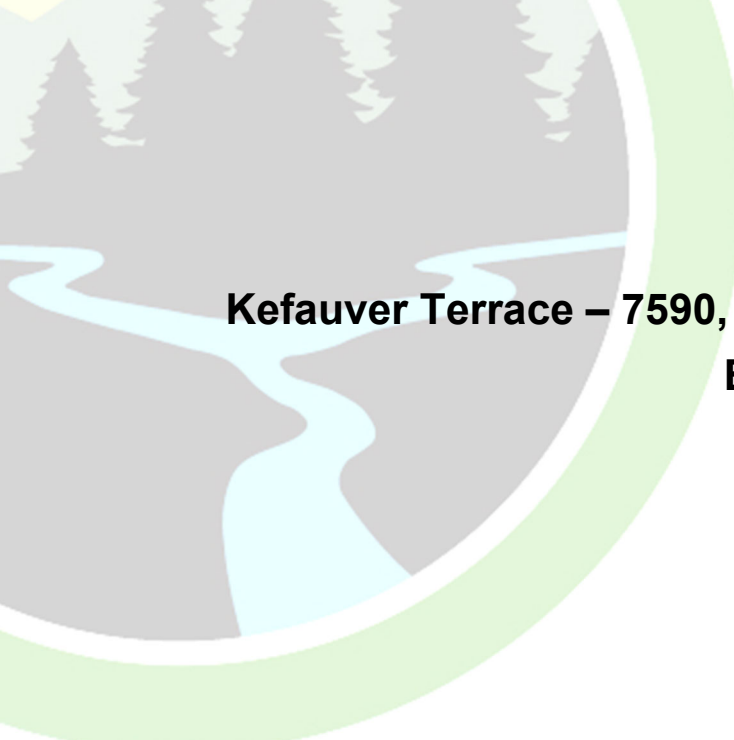
Item	Task Description	Unit	Quantity	Unit Cost	Total Cost
FOWLER MULTIFAMILY/GE PATTERSON POINTE					
1	SELECTIVE DEMO (MILLWORK)	LF	100		
2	SELECTIVE DEMO (TO INCLUDE BUT NOT LIMITED TO ALL PLUMBING FIXTURES, BATHROOM ACCESSORIES, VENT HOOD)	LS	1		
3	SELECTIVE DEMO INTERIOR DOORS AND JAMBS	EA	8		
4	DRYWALL SYSTEMS REMOVAL TO INCLUDE CEILINGS (EXISTING LIGHT FIXTURES, SMOKE DETECTORS, THERMOSTATS, AND HVAC SYSTEMS SHOULD NOT BE DAMAGED DURING DEMOLITION ACTIVITIES)	SQFT	4000		
5	FLOORING REMOVAL (TO INCLUDE VCT, CARPET, AND ANY TILE FLOORING)	SQFT	1200		

Exhibit A









Asbestos Survey Report

**Kefauver Terrace – 7590, 7592, & 7534 Robinson Cove Units
Bartlett, Shelby County, Tennessee**

July 2023

Project No. 221421.00

Prepared For:

Memphis Housing Authority
700 Adams Avenue
Memphis, TN 38105

Prepared By:



357 North Main St.
Memphis, Tennessee 38103

TABLE OF CONTENTS

1.0	PROJECT SUMMARY	1
1.1	Facility Description	1
1.2	Scope of Services.....	1
1.3	Significant Assumptions	1
1.4	Deviations.....	2
1.5	Inaccessible Areas	2
1.6	Limitations and Exceptions of Survey.....	2
2.0	ASBESTOS	3
2.1	Visual Observations.....	3
2.2	Asbestos Sampling.....	4
2.3	Asbestos Findings	4
3.0	SUMMARY AND RECOMMENDATIONS	6
3.1	Asbestos.....	6

APPENDICES

- Appendix 1 – Certifications and Licenses
- Appendix 2 – Photographic Log
- Appendix 3 – Figures
- Appendix 4 – Asbestos Laboratory Results and Chain of Custody

1.0 PROJECT SUMMARY

Memphis Housing Authority requested Tioga Environmental Consultants, Inc. (Tioga) prepare a survey to identify Asbestos Containing Materials present at the residential properties addressed as 7590, 7592, & 7534 Robinson Cove in Bartlett, Shelby County, Tennessee.

The survey was performed on July 19th, 2023, by Joe Littlefield, an EPA/AHERA Asbestos Inspector.

1.1 Facility Description

The property located at 7590, 7592, & 7534 Robinson Cove, consists of a single residential building with three dwelling units.

The building is a one-story brick and concrete structure with concrete porches on the east and west sides of the building. The building exterior is covered with vinyl sided walls and aluminum sided trim components and has an asphalt rolled shingle roof. Each living unit contains a living room, bathroom, kitchen, and bedroom. Interior construction was comprised of drywall ceilings and walls, tile and/or wood panel floors, and vinyl or aluminum window components.

At the time of this survey, each of the units was occupied.

1.2 Scope of Services

Per the authorization of the Memphis Housing Authority, Tioga conducted a survey of 7590, 7592, & 7534 Robinson Cove in accordance with the following scope of work:

Asbestos Survey

- The Property was visually surveyed and samples of suspect asbestos containing materials (ACM) were collected by a State of Tennessee Certified Asbestos Inspector.
- A minimum of three samples were collected from each homogenous area. These samples were delivered to a NVLAP certified laboratory for analysis by polarized light microscopy (PLM).
- Existing drawings were used to mark sample locations and the extent of ACM, then converted into digital floor plans and attached to the report.

Reporting

- Tioga has prepared an Asbestos Survey Report containing site observations, chain-of-custody, sample results including types and locations of hazardous materials, a photographic log, and site plans noting sample locations, as well as locations of asbestos containing materials.

1.3 Significant Assumptions

No significant assumptions were made during this survey.

1.4 Deviations

No deviations from the agreed upon scope of services occurred during the performance of this survey.

1.5 Inaccessible Areas

All areas of the facility were accessible at the time of this survey.

1.6 Limitations and Exceptions of Survey

The scope of this survey was limited to accessible materials only.

This survey report is not intended as an asbestos abatement specification document. Contractors or consultants should independently verify the location, condition and/or estimated quantities of asbestos containing materials as a component of their preparation of remediation bid documents.

2.0 ASBESTOS

The asbestos inspection was performed on July 19th, 2023, by Joe Littlefield of Tioga Environmental Consultants, Inc., a State of Tennessee Certified Asbestos Inspector, Certification Number A-I-48296-136566. A copy of this certification is included in Appendix 1.

Additionally, Tioga Environmental Consultants, Inc. is a State of Tennessee certified Asbestos Activities firm, Certification Number A-F-718-131368. A copy of this certification is also included in Appendix 1.

This survey was requested by the Memphis Housing Authority for the purpose of having a document that identifies and documents the presence of, and estimates the quantities of, any asbestos-containing materials (ACM) at 7590, 7592, & 7534 Robinson Cove in Bartlett, Tennessee. Additionally, completing this survey provides necessary documentation ensuring compliance with the U.S. Environmental Protection Agency (EPA), Tennessee Department of Environment & Conservation (TDEC), and Occupational Safety and Health Administration (OSHA) regulations. It is also essential information when considering any renovation or demolition activities in areas with identified ACM to ensure compliance with National Emission Standards for Hazardous Air Pollutants (NESHAP) and OSHA regulations.

During the inspection, the inspector collected fourteen (14) individual samples from four (4) different homogeneous areas and received a result for each individual material sampled. This report documents the findings of this asbestos survey. The details regarding this survey and a list of sampled materials are contained in Section 2.3 of this Report. There were ACM identified, and the following summary in Table 1 provides an overview of the findings.

Table 1

7590, 7592, & 7534 Robinson Cove CONFIRMED ASBESTOS CONTAINING MATERIALS			
Sample Number	Material	Estimated Quantity	Location/Condition
KTA-01	Ceiling Drywall with Popcorn Surface Texture	2,000 ft ²	Entire Facility/ Good

*Multiple layers within sample

2.1 Visual Observations

Tioga personnel conducted an examination of 7590, 7592, & 7534 Robinson Cove to identify suspect ACM. Observations included the type, condition, location, and estimated quantity of any suspect ACM.

Additionally, all suspect materials were evaluated for condition and friability, the ease with which the materials can be crushed with hand pressure. Asbestos materials determined to be friable, or that could be rendered friable during renovation activities are considered Regulated Asbestos Containing Materials (RACM) that must be removed prior to renovation or demolition.

2.2 Asbestos Sampling

Asbestos has been a widely used component of building materials throughout history due to its unique physical properties: poor heat and electrical conductor, fire resistance, and high tensile strength and low cost. Unfortunately, asbestos also poses potentially serious health concerns for people exposed to the material. Knowing where and how much ACM is in a building allows for proper managing of site activities and providing appropriate protection for building occupants and workers involved in maintenance, renovation, or demolition of asbestos containing materials.

This survey was conducted in general conformance with Asbestos Hazard Emergency Response Act (AHERA) and ASTM Standard E2356-18. It included a walkthrough of all accessible areas to identify suspect asbestos-containing materials, quantification of material amounts, collection of samples from each homogenous area, and assessment per functional space.

For this facility, homogeneous areas of suspect Asbestos-Containing Materials (ACM) were defined for each material type sampled. A total of four (4) homogeneous areas were identified and sampled. In each homogeneous area, Tioga identified, differentiated and sampled suspect materials based on color (i.e. color of tile), texture, and apparent application date. For samples with multiple layers (i.e. floor tile and mastic, thermal system insulations, sheetrock w/ joint compound, etc.), the laboratory assigns unique sample numbers designated with an A, B, C, and D to identify each layer.

Having identified the homogeneous areas, samples were collected from each for laboratory analysis. Photographs of each material sampled are included in the Photographic Log in Appendix 2.

2.3 Asbestos Findings

All samples were transported via FedEx to Eurofins CEI, an NVLAP certified laboratory, for PLM analysis on July 19th, 2023. Results were received on July 21st, 2023. Materials identified containing greater than one percent (1%) asbestos are considered asbestos containing. A copy of the laboratory report is included in Appendix 4.

The laboratory analysis for samples collected as part of this survey found one (1) building material containing greater than one percent (1%) asbestos. Table 2 summarizes the homogenous areas and materials sampled during this inspection as well as the results of the analysis.

Table 2

7590, 7592, & 7534 Robinson Cove ASBESTOS SAMPLE LOG SUMMARY			
Material	Homogeneous Area Number	Sample Numbers	Results
Ceiling Drywall with Popcorn Surface Texture	KTA-01	A	Chrysotile 3%
		B	Chrysotile 3%
		C	Chrysotile 3%
Drywall / Joint Compound	KTA-02	A	None Detected
		B	None Detected
		C	None Detected

7590, 7592, & 7534 Robinson Cove ASBESTOS SAMPLE LOG SUMMARY			
Material	Homogeneous Area Number	Sample Numbers	Results
		D	None Detected
		E	<1% Chrysotile
Black Cove Base with Yellow Mastic	KTA-03	A	None Detected
		B	None Detected
		C	None Detected
Tan Floor Tile with Yellow Mastic	KTA-04	A	None Detected
		B	None Detected
		C	None Detected

Drawings in Appendix 3 show the sample locations and the locations of ACM at the Property.

There are three major categories used to classify asbestos-containing materials (ACM) found in buildings: Surfacing Materials, Thermal System Insulation (TSI), and Miscellaneous Materials. Materials in these broad categories are further classified as either friable or non-friable. Friable materials are materials that can be reduced to powder from hand pressure and may become an inhalation hazard. Non-friable asbestos materials are classified as either Category I or Category II Material.

Category I material is defined as asbestos-containing resilient floor covering, asphalt roofing products, packings and gaskets. Asbestos-containing mastic is also considered a Category I material (EPA determination – April 9, 1991). Category II material is defined as all remaining types of non-friable ACM not included in Category I that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. Non-friable asbestos-cement products such as transite are an example of Category II material.

Table 3 below identifies homogenous areas within the Property that are positive for asbestos along with the category and location of each. The summary and recommendations related to these ACM Findings are included in Section 4.1.

Table 3

7590, 7592, & 7534 Robinson Cove CONFIRMED ASBESTOS CONTAINING MATERIALS					
Sample Number	Material	Estimated Quantity	Category Friable	Location/Condition	Figure
KTA-01	Ceiling Drywall with Popcorn Surface Texture	2,000 ft ²	Friable Surfacing Materials	Entire Facility/ Good	1

3.0 SUMMARY AND RECOMMENDATIONS

3.1 Asbestos

All materials identified as asbestos containing should be maintained in good condition to avoid potential fiber release due to disturbance. In the event of demolition or renovation, the State of Tennessee and NESHAP require that all friable ACM and non-friable ACM that could become friable during renovation or demolition activities must be removed by a certified Asbestos Abatement Contractor prior to disturbance.

In all instances, non-certified personnel should not disturb or attempt removal of any of the asbestos-containing materials identified in this survey. OSHA regulation 29 CFR 1926.1101 requires that a qualified, certified Asbestos Abatement Contractor must be retained to perform abatement of ACM prior to demolition or renovation activities at the Property. At no time are non-certified personnel allowed to disturb or remove ACM.

It is recommended that any Asbestos Abatement Contractor retained to perform abatement activities at the facility should be required to maintain proper engineering control measures prior to and during the disturbance of all ACM to ensure protection of human health and safety for personnel involved with this project. These control measures are also required for the protection of the surrounding environment by preventing the possibility of contamination outside of the abatement areas. Appropriate area air and/or personnel monitoring during the removal of these materials must be conducted as per federal, state, and local regulations.

The following recommendations are based on the findings as identified in Section 2.3 and are in general conformance with the State of Tennessee, EPA, NESHAP and OSHA requirements:

- The asbestos containing ceiling drywall and popcorn complex that was identified throughout the facility is a friable material, observed to be in good condition. If this material becomes damaged, deteriorated, or will be disturbed by renovation activity, it must be abated by a licensed asbestos abatement firm asbestos abatement contractor prior to any renovation activity. These materials should be disposed of as asbestos containing waste at a landfill that accepts asbestos. Asbestos waste manifests should be kept for records.
- If suspect materials are identified behind walls, beneath floor tile or in any other accessible or inaccessible areas during renovation, additional testing should be performed to verify that these materials do not contain asbestos.

Appendix 2 Photographic Log

Client Name: Memphis Housing Authority	Site Location: 7590, 7592, & 7534 Robinson Cove, Bartlett, TN	Project No. 221421.00
---	--	---------------------------------

Photo # 1	Date: 07/19/2023
----------------------------	----------------------------

Description:

General View

Front Entrance



Photo # 2	Date: 07/19/2023
----------------------------	----------------------------

Description:

General View

Interior South Side Living Room



Client Name: Memphis Housing Authority	Site Location: 7590, 7592, & 7534 Robinson Cove, Bartlett, TN	Project No. 221421.00
---	--	---------------------------------

Photo # 3	Date: 07/19/2023
----------------------------	----------------------------

Description:

Asbestos Sample #
KTA-01

Ceiling Drywall with Popcorn Surface Texture

Tested Positive for Asbestos



Photo # 4	Date: 07/19/2023
----------------------------	----------------------------

Description:

Asbestos Sample #
KTA-02

Drywall with Associated Joint Compound

Tested Negative for Asbestos



Client Name: Memphis Housing Authority	Site Location: 7590, 7592, & 7534 Robinson Cove, Bartlett, TN	Project No. 221421.00
---	--	---------------------------------

Photo # 5	Date: 07/19/2023
----------------------------	----------------------------

Description:

Asbestos Sample #
KTA-03

Cove Base with
Associated Mastic

Tested Negative for
Asbestos



Photo # 6	Date: 07/19/2023
----------------------------	----------------------------

Description:

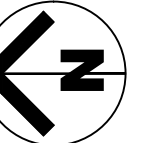
Asbestos Sample #
KTA-04

12x12 Vinyl Floor Tile
with Associated Yellow
Mastic

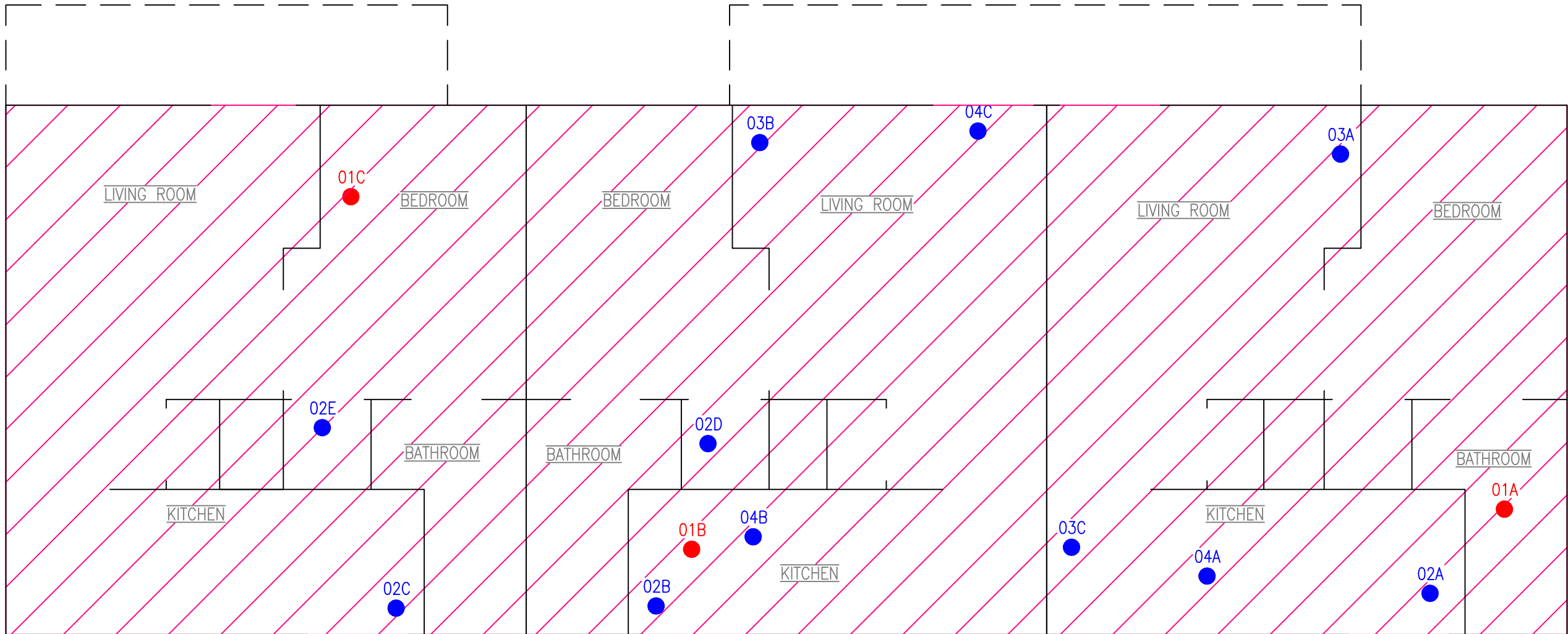
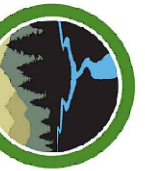
Tested Negative for
Asbestos



Appendix 3 Figures



NOT TO SCALE



SAMPLE SERIES: KTA-	
LEGEND	
● 01A	= POSITIVE ACM LOCATION
● 01A	= NEGATIVE ACM LOCATION
	= CEILING WITH ACM "POPCORN" TEXTURE

Appendix 4
Asbestos Laboratory Results and Chain of Custody

July 21, 2023

Tioga Environmental Consultants
357 North Main Street
Memphis, TN 38103

CLIENT PROJECT: MHA Kefauver Terrace, 221421.00
CEI LAB CODE: B2315441

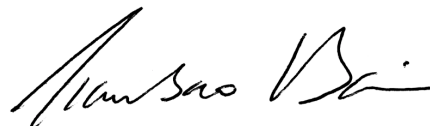
Dear Customer:

Enclosed are asbestos analysis results for PLM Bulk samples received at our laboratory on July 20, 2023. The samples were analyzed for asbestos using polarizing light microscopy (PLM) per the EPA 600 Method.

Sample results containing >1% asbestos are considered asbestos-containing materials (ACMs) per EPA regulatory requirements. The detection limit for the EPA 600 Method is <1% asbestos by weight as determined by visual estimation.

Thank you for your business and we look forward to continuing good relations.

Kind Regards,



Tianbao Bai, Ph.D., CIH
Laboratory Director



CEI

ASBESTOS ANALYTICAL REPORT

By: Polarized Light Microscopy

Prepared for

Tioga Environmental Consultants

CLIENT PROJECT: MHA Kefauver Terrace, 221421.00

LAB CODE: B2315441

TEST METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORT DATE: 07/21/23

TOTAL SAMPLES ANALYZED: 14

SAMPLES >1% ASBESTOS: 3

Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: MHA Kefauver Terrace, 221421.00

LAB CODE: B2315441

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
KTA-01-A		B2315441.01	White	Ceiling	Chrysotile 3%
KTA-01-B		B2315441.02	White	Ceiling	Chrysotile 3%
KTA-01-C		B2315441.03	White	Ceiling	Chrysotile 3%
KTA-02-A		B2315441.04	Gray,Brown	Drywall/Joint Compound	None Detected
KTA-02-B		B2315441.05	Gray,Brown	Drywall/Joint Compound	None Detected
KTA-02-C		B2315441.06	Gray,Brown	Drywall/Joint Compound	None Detected
KTA-02-D		B2315441.07	Gray,Brown	Drywall	None Detected
KTA-02-E		B2315441.08	Gray,Brown	Drywall/Joint Compound	Chrysotile <1%
KTA-03-A		B2315441.09A	Black	Base Cove	None Detected
		B2315441.09B	Yellow	Mastic	None Detected
KTA-03-B		B2315441.10A	Black	Base Cove	None Detected
		B2315441.10B	Yellow	Mastic	None Detected
KTA-03-C		B2315441.11A	Black	Base Cove	None Detected
		B2315441.11B	Yellow	Mastic	None Detected
KTA-04-A		B2315441.12A	Tan	Floor Tile	None Detected
		B2315441.12B	Yellow	Mastic	None Detected
KTA-04-B		B2315441.13A	Tan	Floor Tile	None Detected
		B2315441.13B	Yellow	Mastic	None Detected
KTA-04-C		B2315441.14A	Tan	Floor Tile	None Detected
		B2315441.14B	Yellow	Mastic	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Tioga Environmental Consultants
 357 North Main Street
 Memphis, TN 38103

Lab Code: B2315441
Date Received: 07-20-23
Date Analyzed: 07-21-23
Date Reported: 07-21-23

Project: MHA Kefauver Terrace, 221421.00

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %		
			Fibrous	Non-Fibrous			
KTA-01-A B2315441.01	Ceiling	Heterogeneous	5%	Paint	3% Chrysotile		
		White	82%	Binder			
		Fibrous	10%	Vermiculite			
		Loose					
KTA-01-B B2315441.02	Ceiling	Heterogeneous	5%	Paint	3% Chrysotile		
		White	82%	Binder			
		Fibrous	10%	Vermiculite			
		Loose					
KTA-01-C B2315441.03	Ceiling	Heterogeneous	5%	Paint	3% Chrysotile		
		White	82%	Binder			
		Fibrous	10%	Vermiculite			
		Loose					
KTA-02-A B2315441.04	Drywall/Joint Compound	Heterogeneous	15%	Cellulose	<1%	Paint	None Detected
		Gray,Brown			10%	Calc Carb	
		Fibrous			75%	Gypsum	
		Bound					
KTA-02-B B2315441.05	Drywall/Joint Compound	Heterogeneous	15%	Cellulose	<1%	Paint	None Detected
		Gray,Brown			10%	Calc Carb	
		Fibrous			75%	Gypsum	
		Bound					
KTA-02-C B2315441.06	Drywall/Joint Compound	Heterogeneous	15%	Cellulose	<1%	Paint	None Detected
		Gray,Brown			10%	Calc Carb	
		Fibrous			75%	Gypsum	
		Bound					
KTA-02-D B2315441.07	Drywall	Heterogeneous	20%	Cellulose	5%	Paint	None Detected
		Gray,Brown			75%	Gypsum	
		Fibrous					
		Bound					

No joint compound present.

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Tioga Environmental Consultants
 357 North Main Street
 Memphis, TN 38103

Lab Code: B2315441
Date Received: 07-20-23
Date Analyzed: 07-21-23
Date Reported: 07-21-23

Project: MHA Kefauver Terrace, 221421.00

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous	Non-Fibrous			
KTA-02-E B2315441.08	Drywall/Joint Compound	Heterogeneous	15%	Cellulose	<1%	Paint	<1% Chrysotile
		Gray,Brown Fibrous Bound			10%	Calc Carb	
2% chrysotile in joint compound only. Sample <1% chrysotile overall.							
KTA-03-A B2315441.09A	Base Cove	Homogeneous			100%	Vinyl	None Detected
		Black Non-fibrous Bound					
B2315441.09B	Mastic	Homogeneous			100%	Mastic	None Detected
		Yellow Non-fibrous Bound					
KTA-03-B B2315441.10A	Base Cove	Homogeneous			100%	Vinyl	None Detected
		Black Non-fibrous Bound					
B2315441.10B	Mastic	Homogeneous			100%	Mastic	None Detected
		Yellow Non-fibrous Bound					
KTA-03-C B2315441.11A	Base Cove	Homogeneous			100%	Vinyl	None Detected
		Black Non-fibrous Bound					
B2315441.11B	Mastic	Homogeneous			100%	Mastic	None Detected
		Yellow Non-fibrous Bound					



CEI

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Tioga Environmental Consultants
357 North Main Street
Memphis, TN 38103

Lab Code: B2315441
Date Received: 07-20-23
Date Analyzed: 07-21-23
Date Reported: 07-21-23

Project: MHA Kefauver Terrace, 221421.00

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
KTA-04-A B2315441.12A	Floor Tile	Homogeneous Tan Non-fibrous Bound	100%	Vinyl	None Detected
B2315441.12B	Mastic	Homogeneous Yellow Non-fibrous Bound	100%	Mastic	None Detected
KTA-04-B B2315441.13A	Floor Tile	Homogeneous Tan Non-fibrous Bound	100%	Vinyl	None Detected
B2315441.13B	Mastic	Homogeneous Yellow Non-fibrous Bound	100%	Mastic	None Detected
KTA-04-C B2315441.14A	Floor Tile	Homogeneous Tan Non-fibrous Bound	100%	Vinyl	None Detected
B2315441.14B	Mastic	Homogeneous Yellow Non-fibrous Bound	100%	Mastic	None Detected

LEGEND: Non-Anth = Non-Asbestiform Anthophyllite
Non-Trem = Non-Asbestiform Tremolite
Calc Carb = Calcium Carbonate

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORTING LIMIT: <1% by visual estimation

REPORTING LIMIT FOR POINT COUNTS: 0.25% by 400 Points or 0.1% by 1,000 Points

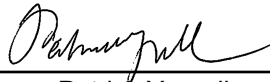
REGULATORY LIMIT: >1% by weight

Due to the limitations of the EPA 600 method, nonfriable organically bound materials (NOBs) such as vinyl floor tiles can be difficult to analyze via polarized light microscopy (PLM). EPA recommends that all NOBs analyzed by PLM, and found not to contain asbestos, be further analyzed by Transmission Electron Microscopy (TEM). Please note that PLM analysis of dust and soil samples for asbestos is not covered under NVLAP accreditation. *Estimated measurement of uncertainty is available on request.*

This report relates only to the samples tested or analyzed and may not be reproduced, except in full, without written approval by Eurofins CEI. Eurofins CEI makes no warranty representation regarding the accuracy of client submitted information in preparing and presenting analytical results. Interpretation of the analytical results is the sole responsibility of the client. Samples were received in acceptable condition unless otherwise noted. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. Government.

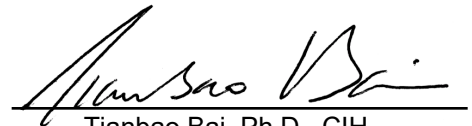
Information provided by customer includes customer sample ID and sample description.

ANALYST:



Patrick Yarnell

APPROVED BY:



Tianbao Bai, Ph.D., CIH
Laboratory Director



Scott Minyard



CEI

CHAIN OF CUSTODY

14

730 SE Maynard Road, Cary, NC 27511
 Tel: 866-481-1412; Fax: 919-481-1442

LAB USE ONLY:

CEI Lab Code: **B2315441**

CEI Lab I.D. Range:

COMPANY INFORMATION		PROJECT INFORMATION
CEI CLIENT #:		Job Contact: Joe Littlefield
Company: Tioga Environmental		Email / Tel: Jlittlefield@TiogaENV.com
Address: 357 N. Main Street Memphis, TN 38103		Project Name: MHA Kefauver Terrace
		Project ID#:221421.00
Email: Jlittlefield@TiogaENV.com		PO #:
Tel: 901-791-2432 Fax: 901-791-2442		STATE SAMPLES COLLECTED IN: TN

IF TAT IS NOT MARKED STANDARD 3 DAY TAT APPLIES.

ASBESTOS	METHOD	TURN AROUND TIME					
		4 HR	8 HR	1 DAY	2 DAY	3 DAY	5 DAY
PLM BULK	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM POINT COUNT (400)	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM POINT COUNT (1000)	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM GRAV w POINT COUNT	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM BULK	CARB 435	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PCM AIR	NIOSH 7400	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	EPA AHERA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	NIOSH 7402	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR (PCME)	ISO 10312	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	ASTM 6281-15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM BULK	CHATFIELD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM DUST WIPE	ASTM D6480-05 (2010)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM DUST MICROVAC	ASTM D5755-09 (2014)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM SOIL	ASTM D7521-16	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM VERMICULITE	CINCINNATI METHOD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM QUALITATIVE	IN-HOUSE METHOD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

REMARKS / SPECIAL INSTRUCTIONS:		<input checked="" type="checkbox"/> Accept Samples <input type="checkbox"/> Reject Samples	
Relinquished By:	Date/Time	Received By:	Date/Time
<i>[Signature]</i>	7/19/23 @ 1800	<i>[Signature]</i>	7/20 9:40

Samples will be disposed of 30 days after analysis

77278616 4091

CEI

COMPANY CONTACT INFORMATION	
Company: Tioga Environmental	Job Contact: Joe Littlefield
Project Name: Fedex Green Space Hazmat → MHA Keg. rec.	JLittlefield@TiogaENV.com
Project ID #: 251413.00 221421.00	Tel: 901-791-2432

.6

.14

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME/ AREA	TEST	
KTA-01	A Ceiling		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
	B ↓		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
	C ↓		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
KTA-02	A DW/JC		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
	B ↓		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
	C ↓		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
	D ↓		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
	E ↓		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
KTA-03	A 4" Black Base Cove		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
	B ↓		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
	C ↓		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
KTA-04	A 12" x 12" Grey Floor Tile		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
	B ↓		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
	C ↓		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>