ENVIRONMENTAL • GEOTECHNICAL
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January 26, 2017

Allison S. Smith, Ph.D.
Brownfields Program Manager
Develop Louisville
LOUISVILLE FORWARD
444 S. Fifth St.
Louisville, KY 40202

RE: Limited Microbial Evaluation
Louisville Metro Police Department and Louisville Metro Housing Authority
768 Barret Avenue
Louisville, Kentucky
ATC Project Number: Z027000310

Dear Ms. Smith:

ATC Group Services LLC (ATC) performed a limited microbial evaluation for the Louisville Metro Police Department and Louisville Metro Housing Authority, herein referred to as the site, which is located at 768 Barret Avenue located in Louisville, Kentucky. This report presents observations, opinions, and recommendations for corrective actions based on this assessment.

SITE INFORMATION

The site structure is a multiple story building currently operating as the Louisville Metro Police Department and Louisville Metro Housing Authority.

SCOPE OF SERVICES

ATC was requested to visually observe the structure's interior for evidence of suspect water damage, microbial growth, or other factors that may be contributing to poor indoor air quality (IAQ).

METHODOLIGES

This evaluation of the space was performed in accordance with the ASTM standard E2418-06, Standard Guide for Readily Observable Mold and Conditions Conducive to Mold in Commercial Buildings: Baseline Survey Process.

The following specific assessment method was utilized during this survey:

Visual Observation – Evaluation of the building included observation of accessible areas within the structure, the building mechanical and ventilation systems, interviews with knowledgeable building representatives regarding the water intrusion history in the building, and observation of building materials for evidence of water damage and suspect microbial growth.

Total Countable Fungal Bioaerosol Samples - For microbial air sample collection, a high volume calibrated sample pump and Air-O-Cell™ cassettes were utilized for the collection of airborne fungal spore samples. Samples were collected at a flow rate of 15 liters per minute for 10 minutes for both the interior and exterior samples. Analytical results from the bioaerosol sampling and the laboratory report is included in **Attachment I**.

The samples were submitted under chain-of-custody to EMSL Analytical in Indianapolis, Indiana for analysis of predominant mold species and concentrations. EMSL Laboratories is fully accredited in the American Industrial

Hygiene Association (AIHA) Environmental Microbiological Proficiency Analytical Testing (EMPAT) quality control/quality assurance program. It should be noted that sample locations/descriptions within the report may be modified from the original sample identification given on the chain-of-custody in order to clarify the sample's actual location (i.e., more descriptive). The analytical results and chain of custody are attached.

OBSERVATIONS

The survey was conducted on December 8, 2016 by ATC representative, Mr. Timothy Gish. A synopsis of Mr. Gish's observations of the Louisville Metro Police Department and Louisville Metro Housing Authority included:

General Observations

- No suspect visible mold growth (VMG) was observed during this assessment.
- No significant water damage was observed during this assessment.

MICROBIOLOGICAL ANALYSIS

The results of the fungal bioaerosol sample event are referenced in attached analytical reports, **Attachment I**

Interpretation of Data:

Fungal bioaerosols include aerosolized components of fungi (generally molds), such as spores and hyphal or mycelial fragments. Spore trap samples were utilized to screen the building for bioaerosols indicative of hidden indoor reservoirs of molds.

The laboratory calculates an estimated concentration of fungal bioaerosols based on the number of identifiable spores observed in the sample trace and the volume of air drawn through the spore trap cassette. In this case, the laboratory's minimum reporting level was approximately twenty (20) spores (or fungal structures) per cubic meter of air sampled.

The American Conference of Governmental Industrial Hygienists (ACGIH) considers comparison of indoor/outdoor bioaerosol data a common method for evaluating indoor fungal damage or concerns. In normal indoor environments, the concentrations of fungi in the indoor air are typically equal to, or less than, the concentration outdoors and the fungal taxa detected should be similar. If indoor fungal bioaerosol concentrations are consistently greater than those outdoors, then indoor fungal reservoirs may be present. In addition, the types (i.e., taxa or groups) of fungi found inside the building should be qualitatively similar compared with the outdoor air, if the outdoor air is the only source of fungi. There are no regulatory standards or other widely accepted numerical guidelines available for interpretation of bioaerosol data.

There were no viable mold reservoirs observed indoors during the survey. The estimated total indoor fungal bioaerosol concentrations detected inside the building were not more than the total estimated bioaerosol concentrations of the background outdoor samples.

CONCLUSIONS

Based on observations and analysis of environmental samples, mold growth does not appear to be present within the building. The data indicated elevated Penicillium/Aspergillus located in the 4th Floor Main Hallway of the police department when compared to the outdoors. These molds are considered to grow in "dry" conditions, i.e., very low water activity (low moisture content) and are considered common in indoor environments with no reported water intrusion. Based on the analytical data from the bioaerosol samples, there does not appear to be a cause for concern for exposure to fungal bioaerosols within the building.

LIMITATIONS

The services provided for these assignments were performed with the skill and care ordinarily exercised by reputable members of the industrial hygiene profession practicing under similar conditions at the same time or similar locality. Any future or currently occurring moisture problems within or around the structure may create an environment that would allow for mold growth and affect the indoor air quality within the structure.

It should be understood that fungal spores are ubiquitous to our environment and that background fungal spore counts naturally occur in outdoor and indoor air and in the dust within occupied structures. The concentrations of these organisms are variable and depend on factors including climate, effectiveness of the HVAC system, general housekeeping and maintenance, original construction of the structure, among many others.

The work performed in conjunction with this assessment and the data developed is intended as a description of available information at the dates and locations given. This report does not warrant against future operations or conditions, nor does it warrant against extant, or future, conditions of a type or at a location not investigated.

ATC is not liable for the discovery and elimination of hazards that may potentially cause damage, accidents, injury, or disease. The conclusions and recommendations presented in this report are based on a reasonable level of evaluation within the normal bounds and standards of professional practice for an evaluation of this nature. The recommendations have no relationship to insurance coverage. This document is not a legal mandate and should be used as a guideline only. It is important to note that the reported microbial levels are only reflective of conditions at the time of this test and that microbial populations can vary over time, depending upon a number of conditions, including environmental factors (i.e., temperature and relative humidity).

No expressed or implied warranty is made or intended by the rendition of these consulting services or by furnishing oral or written reports of the findings made. ATC reserves the right to revise or amend our opinion in this report in the event new information, documentation, or evidence becomes available.

The report is designed to aid the building owner, architect, construction manager, general contractors, and potential remediation contractors in locating possible hazards. **Under no circumstances is the report to be utilized as a bidding document or as a project specification document since it does not have all the components required to serve as a Project Design, or Remediation Work Plan.**

The client agrees to notify the appropriate local, state, or federal public agencies as required by law, or otherwise to disclose, in a timely manner, information that may be necessary to prevent any danger to public health, safety, or the environment.

ATC appreciates the opportunity to be of service to Louisville Metro Government. on this project and we look forward to working with you on future assignments. In the meantime, if you have questions or comments regarding the information in this report or if we can be of further assistance, please do not hesitate to contact the undersigned.

Sincerely,

ATC Group Services LLC

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Attachment: Attachment I Microbial Non-Viable Laboratory Reports