

ASBESTOS BUILDING INSPECTION REPORT

for the

City of East Lansing
Waste Water Treatment Plant
East Lansing, Michigan 48823

at the

City of East Lansing
Waste Water Treatment Plant
and
Woodingham Pump Station
East Lansing, Michigan 48823

Inspection conducted by

Fibertec Industrial Hygiene Services, Inc.
1914 Holloway Drive
Holt, Michigan 48842

Project #23272-1 thru 8

Project dates: January 30- February 2, 2007

Final Report date: February 22, 2007

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INTRODUCTION

Fibertec Industrial Hygiene Services, Inc. (Fibertec IHS) was retained by the City of East Lansing, to perform an asbestos building inspection in the City of East Lansing Waste Water Treatment Plant and Woodingham Pump Station. The project was discussed with Mr. Chuck Peterson of the City of East Lansing Waste Water Treatment Plant, prior to beginning the fieldwork. Mr. Peterson requested a comprehensive asbestos building inspection in those buildings built prior to 1981. The inspection was to include the collection of an appropriate number of bulk asbestos samples from friable suspect asbestos-containing material (ACM) pursuant to the inspection requirements of the Occupational Safety and Health Administration (OSHA) General Industry Standard for Asbestos, 29 CFR 1910.1101 (k)(2)(i). Non-friable suspect ACM was to remain unsampled and was to be assumed to contain asbestos.

The asbestos building inspection took place from January 30 – February 2, 2007. During the inspection, bulk asbestos samples were collected of friable suspect ACM and quantities of suspect ACM were estimated.

CERTIFICATION

The asbestos building inspection was conducted by John Luna and Kristin Peterson, both State of Michigan Accredited Asbestos Building Inspectors. Mr. Luna and Ms. Peterson also maintain accreditation as Asbestos Contractor Supervisors. A copy of each inspector's credentials appears in Appendix A.

Adam Mittino and Aimee Kniesel, trained Polarized Light Microscopists, analyzed all bulk asbestos samples in the Fibertec IHS Polarized Light Microscopy (PLM) laboratory. The Fibertec IHS PLM laboratory maintains current National Voluntary Laboratory Accreditation Program (NVLAP) accreditation (Lab Code 101510-0). A copy of the Fibertec IHS NVLAP certificate of accreditation can be found in Appendix B.

GENERAL INSPECTION PROCEDURES

Asbestos

In an effort to identify asbestos-containing material (ACM) at the City of East Lansing Waste Water Treatment Plant and Woodingham Pump Station, an extensive inspection procedure was followed. A visual inspection of the buildings built before 1981 was combined with the collection of an appropriate number and distribution of friable, bulk asbestos samples. Material sampling that would potentially compromise the weather tight integrity of the building envelope was not conducted (*e.g.*, building caulk compound, roofing). All buildings in the East Lansing Waste Water Treatment Plant and Woodingham Pump Station built before 1981 were inspected and accessible during the inspection.

Determination of suspect asbestos-containing material was based on visual examination, bulk sample analysis and material age. Specifically, materials similar in color and texture were classified into homogenous areas (*e.g.*, domestic water supply pipe joint and hanger insulation). An appropriate number of samples were collected from material in each friable homogenous area. The samples were analyzed by Polarized Light Microscopy (PLM) in the Fibertec IHS PLM Laboratory. When the results of analysis of all samples from a homogenous area indicate no asbestos present (less than or equal to one percent), the homogenous area is considered to be a non-asbestos containing material. When the results of analysis indicate asbestos present (in a quantity greater than one percent) in just one sample of those collected from a single homogenous area, the material in the entire homogenous area must be considered asbestos-containing. Where insulation was non-friable, no samples were collected and the material in that homogenous area was assumed to contain asbestos.

Destructive testing (*i.e.*, demolition) was not conducted as part of this asbestos building inspection. Quantities of ACM shown in pipe chases or other inaccessible areas have been estimated. Additionally, some asbestos-containing material hidden from view (*e.g.*, pipe insulation in inaccessible pipe chases and between walls, floor leveling

compound below floor tile, duct caulk on duct in mechanical shafts and vermiculite in cinderblock walls) may be present and may not have been accounted for as part of this inspection.

RESULTS OF VISUAL INSPECTION

Based on the inspection, a total of 89 distinct suspect asbestos-containing materials were identified in the City of East Lansing Waste Water Treatment Plant Buildings. Some suspect asbestos-containing materials were sampled a number of times in different locations, domestic water supply pipe joint and hanger insulation being an example. All suspect asbestos-containing materials observed at the time of the inspection are listed in the Room by Room Asbestos Building Inspection Forms.

BULK SAMPLE RESULTS

The information gathered from the inspection is included in Appendices C (Grit and Equalization Blower Building Information), D (Main Building and Tunnel Area Information), E (South Blower Building Information), F (Raw Sewage / North Blower Building Information), G (C-12 Building Information), H (Tertiary Building Information), I (Building Stairwells to Tunnel Area Information) and J (Woodingham Pump Station Information).

SUMMARY OF ASBESTOS-CONTAINING MATERIALS

City of East Lansing Waste Water Treatment Plant, Grit and Equalization Building

No material samples collected and analyzed were found to contain asbestos in the City of East Lansing Waste Water Treatment Plant, Grit and Equalization Blower Building:

The following materials were assumed to contain asbestos in the City of East Lansing Waste Water Treatment Plant, Grit and Equalization Blower Building:

- Gray building caulk compound
- White window and door frame caulk compound
- White window glazing compound
- Roofing products and materials

The following materials were found not to contain asbestos in the City of East Lansing Waste Water Treatment Plant, Grit and Equalization Blower Building:

- Roof drain pipe joint and hanger insulation
- Domestic water supply pipe joint and hanger insulation

City of East Lansing Waste Water Treatment Plant, Main Building

The following materials were found to contain asbestos in the City of East Lansing Waste Water Treatment Plant, Main Building:

- Steam and condensate supply and return pipe straight insulation
- Steam and condensate supply and return pipe joint and hanger insulation
- Incinerator pipe and tank insulation
- Domestic water supply pipe joint and hanger insulation
- Roof drain pipe joint and hanger insulation
- White ventilation duct expansion cloth

The following materials were assumed to contain asbestos in the City of East Lansing Waste Water Treatment Plant, Main Building:

- 12" x 12" green floor tile with white streaks and associated mastic
- 12" x 12" cream floor tile with stone pattern and associated mastic
- 12" x 12" light green floor tile with green and white streaks and associated mastic
- 12" x 12" brown floor tile with brown and white streaks and associated mastic

12" x 12" black floor tile with white streaks and associated mastic
12" x 12" light brown floor tile with brown streaks and associated mastic
4" dark green cove molding and associated mastic
4" brown wood pattern cove molding and associated mastic
4" brown cove molding and associated mastic
4" black cove molding and associated mastic
6" black cove molding and associated mastic
White sink undercoating
Gray window and door frame caulk compound
Exterior window and door frame caulk compound
Gray building exterior caulk compound
Ceramic tile bedding compound
Laboratory sinks
Laboratory drying rack
Transite fume hood
Smooth ceiling plaster
Incinerator exhaust gaskets
Fire door and frame
Roofing materials and products
White window glazing compound

The following materials were found not to contain asbestos in the City of East Lansing Waste Water Treatment Plant, Main Building:

12" x 12" white spline ceiling tile with pin holes
2' x 2' white drop-in ceiling tile with pin holes and fissures
2' x 2' white lay-in ceiling tile with pin holes and fissures
Incinerator absorption material
Drywall
Drywall joint compound
Fire brick
High temperature block
Spray-on fireproofing

City of East Lansing Waste Water Treatment Plant, South Blower Building

The following materials were found to contain asbestos in the City of East Lansing Waste Water Treatment Plant, South Blower Building:

Steam and condensate supply and return pipe straight insulation
Steam and condensate supply and return pipe joint and hanger insulation
Domestic water supply pipe joint and hanger insulation
Roof drain pipe joint and hanger insulation

The following materials were assumed to contain asbestos in the City of East Lansing Waste Water Treatment Plant, South Blower Building:

Gray window and door frame caulk compound
White sink undercoating
White building caulk compound
Fire door and frame
Roofing materials and products

All materials were found to contain asbestos or assumed to contain asbestos in the City of East Lansing Waste Water Treatment Plant, South Blower Building:

City of East Lansing Waste Water Treatment Plant, Raw Sewage/North Blower Building

No material samples collected and analyzed were found to contain asbestos in the City of East Lansing Waste Water Treatment Plant, Raw Sewage/North Blower Building:

The following materials were assumed to contain asbestos in the City of East Lansing Waste Water Treatment Plant, Raw Sewage/North Blower Building:

- Gray window frame caulk compound
- White window and door frame caulk compound
- Black window glazing compound
- 4" black cove molding and associated mastic
- Roofing materials and products

The following materials were found not to contain asbestos in the City of East Lansing Waste Water Treatment Plant, Raw Sewage/North Blower Building:

- Roof drain pipe joint insulation

City of East Lansing Waste Water Treatment Plant, C-12 Building

All materials were assumed to contain asbestos in the City of East Lansing Waste Water Treatment Plant, C-12 Building:

- White window frame caulk compound
- White window glazing compound
- White exterior window and door frame caulk compound
- Roof drain pipe joint insulation
- 4" black cove molding and associated mastic
- Roofing materials and products

City of East Lansing Waste Water Treatment Plant, Tertiary Building

No material samples collected and analyzed were found to contain asbestos in the City of East Lansing Waste Water Treatment Plant, Tertiary Building.

The following materials were assumed to contain asbestos in the City of East Lansing Waste Water Treatment Plant, Tertiary Building:

- 4" brown cove molding and associated mastic
- 4" black cove molding and associated mastic
- 12" x 12" green floor tile with black and white streaks and associated mastic
- 12" x 12" white floor tile with brown and cream streaks and associated mastic
- Gray window and door frame caulk compound
- White window glazing compound
- Brown ceramic floor tile bedding compound
- Smooth ceiling plaster
- Gray building caulk compound
- Roofing materials and products

The following materials were found not to contain asbestos in the City of East Lansing Waste Water Treatment Plant, Tertiary Building:

- Domestic water supply pipe joint insulation
- Drywall
- Drywall joint compound
- 12" x 12" white spline ceiling tile with pin holes
- Tar pipe insulation

City of East Lansing Waste Water Treatment Plant, Stairwell Buildings

No building materials samples were collected in the City of East Lansing Waste Water Treatment Plant, Stairwell Buildings.

All materials were assumed to contain asbestos in the City of East Lansing Waste Water Treatment Plant, Stairwell Buildings:

- Roof drain pipe joint insulation
- White window and door frame caulk compound
- Fire door and frame
- Roofing materials and products

City of East Lansing Waste Water Treatment Plant, Woodingham Pump Station Building

No building material samples were collected in the City of East Lansing Waste Water Treatment Plant, Woodingham Pump Station Building.

The following materials were assumed to contain asbestos in the City of East Lansing Waste Water Treatment Plant, Woodingham Pump Station Building:

- 4" black cove molding and associated mastic
- White window and door frame caulk compound
- White window glazing compound
- Roofing materials and products

CONCLUSION

Undamaged, non-friable (cannot be crumbled, pulverized or reduced to powder by hand pressure when dry) known or assumed asbestos-containing materials, as well as damaged and undamaged, friable known and assumed asbestos-containing materials, were discovered during the course of this inspection.

This facility inspection to determine the location of asbestos-containing materials was conducted in accordance with the provisions of the Asbestos in Construction Standard and current industry standards.

RECOMMENDATIONS

Based on the information collected during this asbestos building inspection, the following recommendations are offered. These recommendations are based on the current regulatory framework, currently observed conditions and may have to be adjusted if change in regulations, ownership, emergency, or other factors substantially alter the condition, use or planned future use of the building.

1. Notify the building occupants, custodians, maintenance personnel and others who may encounter ACM during the routine execution of their assigned work of the presence of known or assumed asbestos-containing products in or on the buildings. This notification must be given to any outside contractors (*e.g.*, HVAC maintenance personnel) who work within or atop the buildings and may disturb the asbestos-containing material(s). Depending on the specific activity being performed, maintenance or repair personnel may need to utilize personal protective equipment or other engineering controls and comply with the provisions of various asbestos regulations.
2. Provide two-hour asbestos hazard awareness training including specific information regarding the quantity, condition and location of ACM for those individuals in the buildings who may encounter asbestos during the course of their work. Ensure that contractors performing work in the buildings have equivalent training (at a minimum) and provide appropriate documentation.
3. Plan for the proper removal of any asbestos-containing materials which may be impacted by renovation or demolition prior to any renovation or demolition within the facility. Inspect any rooms that were

inaccessible during this inspection prior to any renovation or demolition. Sample and analyze any samples representing materials which were assumed to contain asbestos prior to renovation or demolition.

4. Label any ACM identified in routine maintenance areas, mechanical rooms, custodial closets, and inside ceiling access hatches at a minimum, in accordance with 29 CFR 1910.1200(7) (vii).
5. Repair or remove areas of ACM that are significantly damaged. Ensure contractors performing the work are licensed, provide appropriate regulatory notification and conduct appropriate air monitoring, including final clearance monitoring.

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