



**J.S. Wood Library
Asbestos Survey Report**



December 2014

Prepared For: City Of Saskatoon- Infrastructure Services Department
1101 Avenue P North, Saskatoon, SK.
Attn: Brent Anderson

Prepared By: Bersch & Associates Ltd.
Project No. : B67SRL04

1.0 EXECUTIVE SUMMARY

The survey of the J.S. Wood Library located at 1801 Lansdowne Ave in Saskatoon, Saskatchewan entailed the inspection of all accessible suspect asbestos containing material (ACM) located throughout the facility. Materials inspected included mechanical insulating material, vinyl floor covering, plaster material, drywall mud compound, ceiling tile and gasket material.

Bulk sample analysis results indicate the presence of “Chrysotile” asbestos within the J.S. Wood Library located in Saskatoon, SK. Please refer to **Appendix I for Bulk Sample Analysis** results. The recommended actions to be implemented in reference to the ACM identified are Removal/Replace and Management. Please refer to section 5 Asbestos Abatement Discussion for definitions. It should be noted that the recommendation of “Management” as part of the asbestos action plan is based upon the premise that renovations are not scheduled throughout the area that would impact the asbestos containing material present. ***Prior to any major renovation/demolition activity, a destructive investigation is recommended to identify any inaccessible ACM that is physically concealed or isolated in areas such as enclosed wall/ceiling/floor cavities and pipe chases. Further testing of drywall mud compound may also be required prior to renovation.*** Asbestos was detected in the following forms throughout the facility:

- **Vinyl Asbestos Floor Tile** is located on the Main Floor Library and Offices. The Asbestos Floor Tile is identified on the **Floor Plans** in **Appendix III** of this report.

Throughout the survey of the J.S. Wood Library the Asbestos Containing Materials were assessed and given a Priority Rating of One, Two or Three, with Priority One being the items requiring the most immediate attention. See the **Survey Spreadsheet Database** in **Appendix II** for a room-by-room account.

Bersch & Associates Ltd. implemented the use of doorjamb labels that are applied to all the doorjambs of the rooms containing asbestos within the facility. This permits anyone accessing the room to easily identify the ACM present without having to reference the written report. Legends providing explanation of the abbreviations used on doorjambs were placed on the backside of all maintenance/custodial doors within the facility. Employees and contractors will use the legend as a reference to identify ACM within the areas they are working.

2.0 INTRODUCTION

Bersch & Associates Ltd. was retained by the City of Saskatoon to conduct an Asbestos Survey and Hazard Assessment of the J.S. Wood Library located in Saskatoon, SK. The survey entailed the inspection of all accessible areas of the facility; including ceiling spaces and pipe chases. The purpose of the survey was to locate, identify and assess the condition of all Asbestos Containing Materials (ACM) located throughout the facility. This report gives a detailed account of the inspection results and our firm’s recommendations on control options to be implemented

to bring the facility in compliance with the Province of Saskatchewan Occupational Health and Safety Act and Regulations. Bersch & Associates Ltd. conducted the survey in December 2014. A review of this report shall be conducted with all trades that are entering the facility to perform maintenance or renovation activity. This will ensure they are familiar with the types and locations of asbestos-containing materials present and prevent any uncontrolled disturbance and/or possible exposure to asbestos.

3.0 METHODOLOGY

Bersch & Associates Ltd. conducted the survey of the J.S. Wood Library in Saskatoon, SK in December of 2014. The primary documents for guidance and criteria in this survey were the Province of Saskatchewan “Occupational Health and Safety Act and Regulations, 1996”, Province of Saskatchewan “Managing Asbestos”, and the U.S. Environmental Protection Agency “Guidance for Controlling Asbestos Containing Materials in Buildings”. The USEPA document identifies factors associated with the “condition” and the “potential for disturbance or erosion” of asbestos containing materials (ACM). These factors help to determine potential for exposure to ACM and were used to make a qualitative evaluation of the material. It should be noted that the recommendation of “Management” Asbestos Abatement Action is based upon the premise that renovations are not scheduled in that area that will require disturbing or violating the asbestos containing material. In the event that renovations are scheduled that impact upon the areas of asbestos containing material then pre-removal of the asbestos containing materials may be necessary.

In total, sixteen (16) bulk samples of suspect asbestos-containing materials were collected throughout the facility. Chrysotile asbestos was identified within the samples collected. Refer to Appendix I for a copy of the Bulk Sample Analysis Report. All bulk samples collected were analyzed by Bersch & Associates Ltd. laboratory in accordance with the current USEPA 600/R-93/116 Method for the analysis of asbestos in building materials using polarized light microscopy and dispersion staining techniques. The detection limit of this method is listed as <1% by volume.

4.0 RECOMMENDATIONS:

Throughout the survey of the J.S. Wood Library the Asbestos Containing Materials were assessed and given a Priority Rating of One, Two or Three, with Priority One being the items requiring the most immediate attention. As a result, “Priority One” items were identified within the facility within the Main Library Book Shelving Area, Office 16, Washroom 18 and Office 19. Future planning should begin to address these areas as per the recommendations provided in the attached **Asbestos Survey Database found in Appendix II**. Priority Ratings for all other ACM identified is also found in the database on a room-by-room account.

5.0 ASBESTOS ABATEMENT DISCUSSION

Asbestos is a known carcinogen and is listed in the Province of Saskatchewan under the Occupational Health and Safety Appendix, Part V as a Hazardous Chemical Substance and any release of asbestos fibres into the atmosphere creates a potential health hazard. Although the mechanism and epidemiology of asbestos carcinogenesis is not yet well defined, accumulating evidence suggests the significance of exposure at even very low fibre concentrations and hence human exposure should be kept to a minimum. It should be noted however that asbestos is a natural mineral and a measurable background concentration can be detected in any location sampled (inside buildings, outside buildings, urban, rural, etc.). The recommendations of the report are therefore intended to keep the potential exposure to an absolute minimum with the knowledge that a zero exposure is not possible.

Asbestos containing materials have been used in a wide variety of applications. Of particular concern, is the group of so called friable products. A friable product is one that can be crumbled or reduced to powder or smaller fragments by hand pressure. Publications from the U.S.E.P.A. as early as 1977 have indicated the potential hazard of asbestos exposure in buildings containing these friable products. The two main uses of friable asbestos products are as spray insulation (thermal, acoustic or fireproofing) on deck and/or beams or as thermal insulation on piping or mechanical equipment. A large amount of non-friable asbestos-containing materials have also been used in building construction such as asbestos cement board and asbestos containing vinyl flooring.

The mere presence of a friable asbestos containing material does not imply that there is an actual presence of elevated airborne fibre. As numerous studies have indicated, elevated asbestos fibre levels are generally found when settled dust or the actual asbestos containing material itself is disturbed by maintenance, renovation, inadvertent contact or vibration. The factors considered in the Environmental Protection Agency (USEPA) exposure assessment (condition of material, water damage, activity, movement, exposed surface area, accessibility, friability and presence in an air stream) often give some indication of the likelihood of fibre release but are not in any way definitive in determining whether a hazard exists or not. That is, even if the most friable product exists in a building, elevated fibre levels will not likely occur unless there is some disturbance by physical contact, vibration or an air stream.

There are four possible approaches to control exposure to airborne asbestos once a friable material is identified in a building. These methods briefly are as follows:

- A) **Removal** - Asbestos material is removed and disposed of by burial and replaced by non-asbestos materials.
- B) **Encapsulation** - Asbestos material is coated with a bridging or penetrating sealant.
- C) **Enclosure** - Asbestos containing materials are separated from the building environment by barriers such as suspended ceilings or cladding materials.

D) Deferred Action or Management and Custodial Control - The Province of Saskatchewan Human Resources, Labor and Employment Branch under the Occupational Health and Safety Regulations publish a document outlining "The Management of Asbestos". In the guide for compliance, an action plan is outlined for management of the asbestos materials identified and in summary is:

1. Identification, which has been accomplished by this report.
2. Development of Written Handling Procedures for maintenance personnel or often arrangements are made for a qualified contractor to conduct the necessary removal or spot maintenance prior to the regular staff conducting maintenance.
3. Asbestos Abatement Awareness and Process Training if the regular maintenance personnel are required to conduct asbestos related activities.
4. Inspection on regular basis is conducted to determine the ongoing condition of the material. Sask. Occupational Health & Safety Regulations require an "annual" inspection of all "friable" asbestos materials by a competent person.

In the event renovations or maintenance is performed within areas containing asbestos materials, written procedures must be developed to conduct the activity or prior removal if the situation warrants.

6.0 REFERENCES

- .1 Province of Saskatchewan "The Occupational Health and Safety Act and The Occupational Health and Safety Regulations" Office Consolidation, December 1996.
- .2 Province of Saskatchewan Human Resources, Labor, and Employment "The Management of Asbestos" January, 1991.
- .3 USEPA, 1985. U.S. Environmental Protection Agency, "Guidance for Controlling Asbestos-Containing Materials in Buildings". Washington, DC: Office of Toxic Substances, USEPA.
- .4 Midwest Centre for Occupational Health & Safety St. Paul's, Minnesota – Asbestos Training For Inspectors & Management Planners
- .5 McCrone Research Institute Course Hayward California " Asbestos Identification"
- .6 Environment Management and Protection Act, Saskatchewan Environment, October 2002
- .7 Hazardous Substances and waste Dangerous Goods Regulations, Saskatchewan Environment, April 1989

APPENDIX I

BULK SAMPLE ANALYSIS REPORT

BERSCH & ASSOCIATES LTD.

December 6, 2014

City Of Saskatoon
Infrastructure Services Department
1101 Avenue P North
Saskatoon, Sk.
S7L 7K6

ATTENTION: Brent Anderson

SUBJECT: Bulk Sample Analysis Report

Please find attached the laboratory results for the bulk analysis of the samples collected throughout the J.S. Wood Library located at 1801 Lansdowne Ave in Saskatoon, SK. The samples were analyzed in our laboratory for the identification of asbestos.

The results for the bulk samples were obtained by examination in accordance with the current USEPA 600/R-93/116 Method for the analysis of asbestos in building materials using polarized light microscopy and dispersion staining techniques. The detection limit of this method is listed as less than 1% by volume.

This test report relates only to the materials sent for examination and any use or extension of the information by the client of these results is the responsibility of the client. If any questions arise on the results of the attached information please contact me at 306 222 7477. Thank you for this opportunity of service!

Sincerely,

Brad Berschiminsky
Bersch & Associates Ltd.
File: B67BLL04

Bersch & Associates Ltd.

B67BAL04

Box 3568

Humboldt, Sask. S0K 2A0

BULK SAMPLE ANALYSIS REPORT**PROJECT NO. B67.14****CLIENT: City of Saskatoon****Infrastructure Services - Facilities Branch****Contact: Brent Anderson****Location: J.S. Wood Library - 1801 Landsdowne Avenue, Saskatoon, SK.**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
1	13-May-13	Basement - Room 11 - 12" x 12" Perforated Ceiling Tile Above Suspended Ceiling	None Detected		WB
2	13-May-13	Main Floor - Room 16 - 9" x 9" Floor Tile, Gray With White Streak	Chrysotile	1 to 5	WB
3	13-May-13	Exterior - Parging On Front Entry Overhang	None Detected		WB
4	4-Dec-14	Basement - Room 11 - White Finish Coat On Bulkhead Above Sink	None Detected		WB
5	4-Dec-14	Basement - Room 11 - Brown Coat Beneath Skim Coat On Bulkhead Above Sink	None Detected		WB
6	4-Dec-14	Basement - Room 11 - 12" x 12" Floor Tile, Beige With Tan Brush Marks	None Detected		WB
7	4-Dec-14	Basement - Room 7 - Gray Duct Joint Sealer	None Detected		WB

Bersch & Associates Ltd.

B67BAL04

Box 3568

Humboldt, Sask. S0K 2A0

BULK SAMPLE ANALYSIS REPORT**PROJECT NO. B67.14****CLIENT: City of Saskatoon****Infrastructure Services - Facilities Branch****Contact: Brent Anderson****Location: J.S. Wood Library - 1801 Landsdowne Avenue, Saskatoon, SK.**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
8	4-Dec-14	Basement - Room 7 - Lineal Pipeline Insulation On Small Domestic Water Line Above Ceiling Access, Above Rolling Shelving	None Detected		WB
9	4-Dec-14	Basement - Room 7 - Dumbwaiter Service Room - White & Brown Coat Of First Layer Of Ceiling Material	None Detected		WB
10	4-Dec-14	Basement - Room 7 - Dumbwaiter Service Room - Drywall Material Of Second Layer Of Ceiling Material	None Detected		WB
11	4-Dec-14	Basement - Room 5 - White & Brown Coat Of Wall Plaster Above Suspended Ceiling At Entry To #2 Stairwell	None Detected		WB
12	4-Dec-14	Basement - Room 5 - 2' x 4' Suspended Ceiling Tile, Fissured Pattern	None Detected		WB
13	4-Dec-14	Basement - Room 4 - Drywall Mud Compound On East Wall Above Suspended Ceiling	None Detected		WB
14	4-Dec-14	Basement - Room 6 - Black Mastic On Fiberglass On Fresh Air Intake Duct On South Wall	None Detected		WB

Bersch & Associates Ltd.

B67BAL04

Box 3568

Humboldt, Sask. S0K 2A0

BULK SAMPLE ANALYSIS REPORT

PROJECT NO. B67.14

CLIENT: City of Saskatoon

Infrastructure Services - Facilities Branch

Contact: Brent Anderson

Location: J.S. Wood Library - 1801 Landsdowne Avenue, Saskatoon, SK.

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
15	4-Dec-14	Basement - Room 1 - Duct Expansion Gasket On Overhead Fan	None Detected		
16	4-Dec-14	Main Floor - East Stairwell - 12" x 12" Ceiling Tile	None Detected		

APPENDIX II

ASBESTOS SURVEY DATABASE

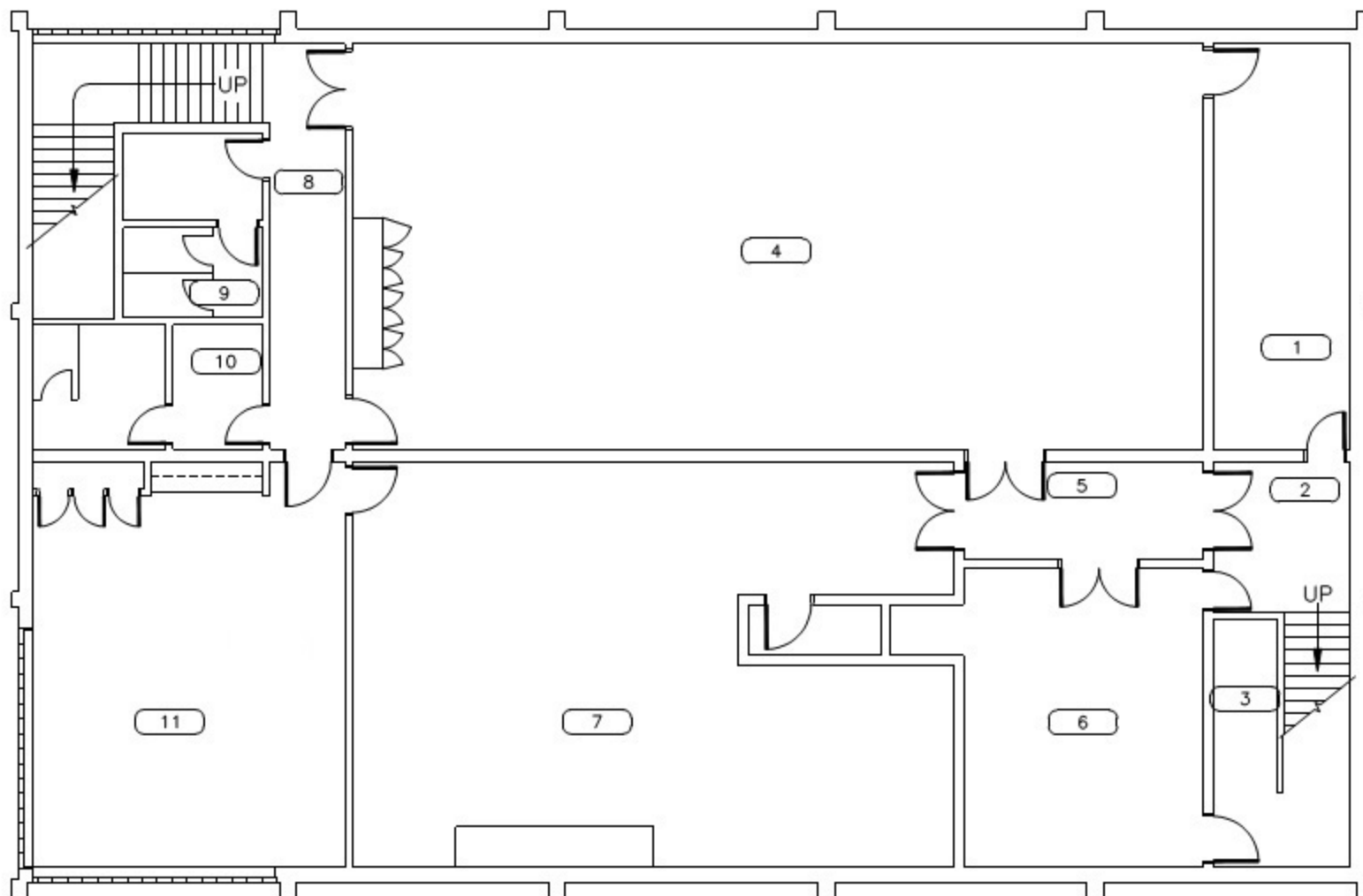
J.S. Wood Library			Bersch Associates Ltd.													
			SAMPLE DATA													
Floor	Room Number	Use	SAMPLE SAMPLE REP	Sample ID	Date DD/MM/YY	Asbestos Type	% of Asbestos	Tradename ACM Product	Condition	Priority	Description of Sample Location	Asbestos Content In Area	Potential for Disturbance	Recommended Action	Comments	
B		East Stairwell										No Accessible Asbestos Containing Materials (ACM)				
B		West Stairwell										No Accessible ACM				
B	1	Storage	Sample	B67-ASB.15	04-Dec-14		None	Expansion Gasket			Basement - Room 1 - Duct Expansion Gasket On Overhead Fan	No Accessible ACM				
B	2	Corridor										No Accessible ACM				
B	3	Mechanical										No Accessible ACM				
B	4	Meeting	Sample	B67-ASB.13	04-Dec-14		None	Drywall Mud Compound			Basement - Room 4 - Drywall Mud Compound On East Wall Above Suspended Ceiling	No Accessible ACM				
B	5	Corridor	Sample	B67-ASB.11	04-Dec-14		None	Plaster Material			Basement - Room 5 - White & Brown Coat Of Wall Plaster Above Suspended Ceiling At Entry To #2 Stairwell	No Accessible ACM				
B	5	Corridor	Sample	B67-ASB.12	04-Dec-14		None	Ceiling Tiles			Basement - Room 5 - 2' x 4' Suspended Ceiling Tile, Fissured Pattern	No Accessible ACM				
B	6	Mechanical	Sample	B67-ASB.14	04-Dec-14		None	Mastic			Basement - Room 6 - Black Mastic On Fiberglass On Fresh Air Intake Duct On South Wall	No Accessible ACM				
B	7	Storage	Sample	B67-ASB.7	04-Dec-14		None	Duct Sealant Material			Basement - Room 7 - Gray Duct Joint Sealer	No Accessible ACM				
B	7	Storage	Sample	B67-ASB.8	04-Dec-14		None	Lineal Pipe Insulation			Basement - Room 7 - Lineal Pipeline Insulation On Small Domestic Water Line Above Ceiling Access, Above Rolling Shelving	No Accessible ACM				
B	7	Dumbwaiter Service Room	Sample	B67-ASB.9	04-Dec-14		None	Parging Material			Basement - Room 7 - Dumbwaiter Service Room - White & Brown Coat Of First Layer Of Ceiling Material	No Accessible ACM				
B	7	Dumbwaiter Service Room	Sample	B67-ASB.10	04-Dec-14		None	Drywall			Basement - Room 7 - Dumbwaiter Service Room - Drywall Material Of Second Layer Of Ceiling Material	No Accessible ACM				
B	8	Corridor										No Accessible ACM				
B	9	Washroom										No Accessible ACM				
B	10	Washroom										No Accessible ACM				
B	11	Reading	Sample	B67-ASB.1	13-May-13		None	Ceiling Tiles			Basement - Room 11 - 12" x 12" Perforated Ceiling Tile Above Suspended Ceiling	No Accessible ACM				
B	11	Reading	Sample	B67-ASB.4	04-Dec-14		None	Plaster Material			Basement - Room 11 - White Finish Coat On Bulkhead Above Sink	No Accessible ACM				
B	11	Reading	Sample	B67-ASB.5	04-Dec-14		None	Parging Material			Basement - Room 11 - Brown Coat Beneath Skim Coat On Bulkhead Above Sink	No Accessible ACM				
B	11	Reading	Sample	B67-ASB.6	04-Dec-14		None	Vinyl Floor Tile			Basement - Room 11 - 12" x 12" Floor Tile, Beige With Tan Brush Marks	No Accessible ACM				
M		East Stairwell	Sample	B67-ASB.16	04-Dec-14		None	Ceiling Tiles			Main Floor - East Stairwell - 12" x 12" Ceiling Tile	No Accessible ACM				
M	12	Library	Sample Rep	B67-ASB.2	13-May-13	Chrysotile	1-5%	Vinyl Asbestos Tile	Poor	1	Main Floor - Room 16 - 9" x 9" Floor Tile, Gray With White Streak	Vinyl Asbestos Floor Tile	Moderate	Repair/Remove	Bersch recommends replacing all the floor tile due to damages throughout. At minimum the damaged tiles should be replaced.	
M	13	Custodial										No Accessible ACM				
M	15	Office	Sample Rep	B67-ASB.2	13-May-13	Chrysotile	1-5%	Vinyl Asbestos Tile	Mod/Good	3	Main Floor - Room 16 - 9" x 9" Floor Tile, Gray With White Streak	Vinyl Asbestos Floor Tile	Low	Manage	Vinyl Asbestos Floor Tile is located beneath the carpet.	

J.S. Wood Library			Bersch Associates Ltd.													
			SAMPLE DATA													
Floor	Room Number	Use	SAMPLE REP	Sample ID	Date DD/MM/YY	Asbestos Type	% of Asbestos	Tradename ACM Product	Condition	Priority	Description of Sample Location	Asbestos Content In Area	Potential for Disturbance	Recommended Action	Comments	
M	16	Office	Sample	B67-ASB.2	13-May-13	Chrysotile	1-5%	Vinyl Asbestos Tile	Poor	1	Main Floor - Room 16 - 9" x 9" Floor Tile, Gray With White Streak	Vinyl Asbestos Floor Tile	Moderate	Repair/Remove	Bersch recommends replacing all the floor tile due to damages throughout. At minimum the damaged tiles should be replaced along the south wall.	
M	17	Staff Room	Sample Rep	B67-ASB.2	13-May-13	Chrysotile	1-5%	Vinyl Asbestos Tile	Moderate	3	Main Floor - Room 16 - 9" x 9" Floor Tile, Gray With White Streak	Vinyl Asbestos Floor Tile	Low	Manage		
M	18	Washroom	Sample Rep	B67-ASB.2	13-May-13	Chrysotile	1-5%	Vinyl Asbestos Tile	Poor/Mod	1	Main Floor - Room 16 - 9" x 9" Floor Tile, Gray With White Streak	Vinyl Asbestos Floor Tile	Moderate	Remove	Removal of all the floor tile is recommended.	
M	19	Staff Room	Sample Rep	B67-ASB.2	13-May-13	Chrysotile	1-5%	Vinyl Asbestos Tile	Moderate	1	Main Floor - Room 16 - 9" x 9" Floor Tile, Gray With White Streak	Vinyl Asbestos Floor Tile	Moderate	Repair/Remove	Bersch recommends replacing all the floor tile due to damages throughout. At minimum the damaged tiles should be replaced.	
M	20	Vestibule										No Accessible ACM				
M	21	West Stairwell										No Accessible ACM				
M		Exterior	Sample	B67-ASB.3	13-May-13		None	Parging Material			Exterior - Parging On Front Entry Overhang	No Accessible ACM				

APPENDIX III

FLOOR PLANS

- GENERAL NOTES:
1. All dimensions are in millimetres.
 2. Drawings are not to be scaled.
 3. All drawings to be read in conjunction with the specifications, unless otherwise noted.
 4. Verify site conditions and location of all utilities prior to the start of construction.
 5. Report all discrepancies to the Consultant.
 6. If in doubt, ask.



REV	ISSUED FOR	DATE
A	ASBUILT 652-2/04	08/11/07

DESIGNED BY	CHECKED BY	DATE	APPROVED BY

SCALE	DATE
1:100	08/11/07

SHEET NAME: asbuilt

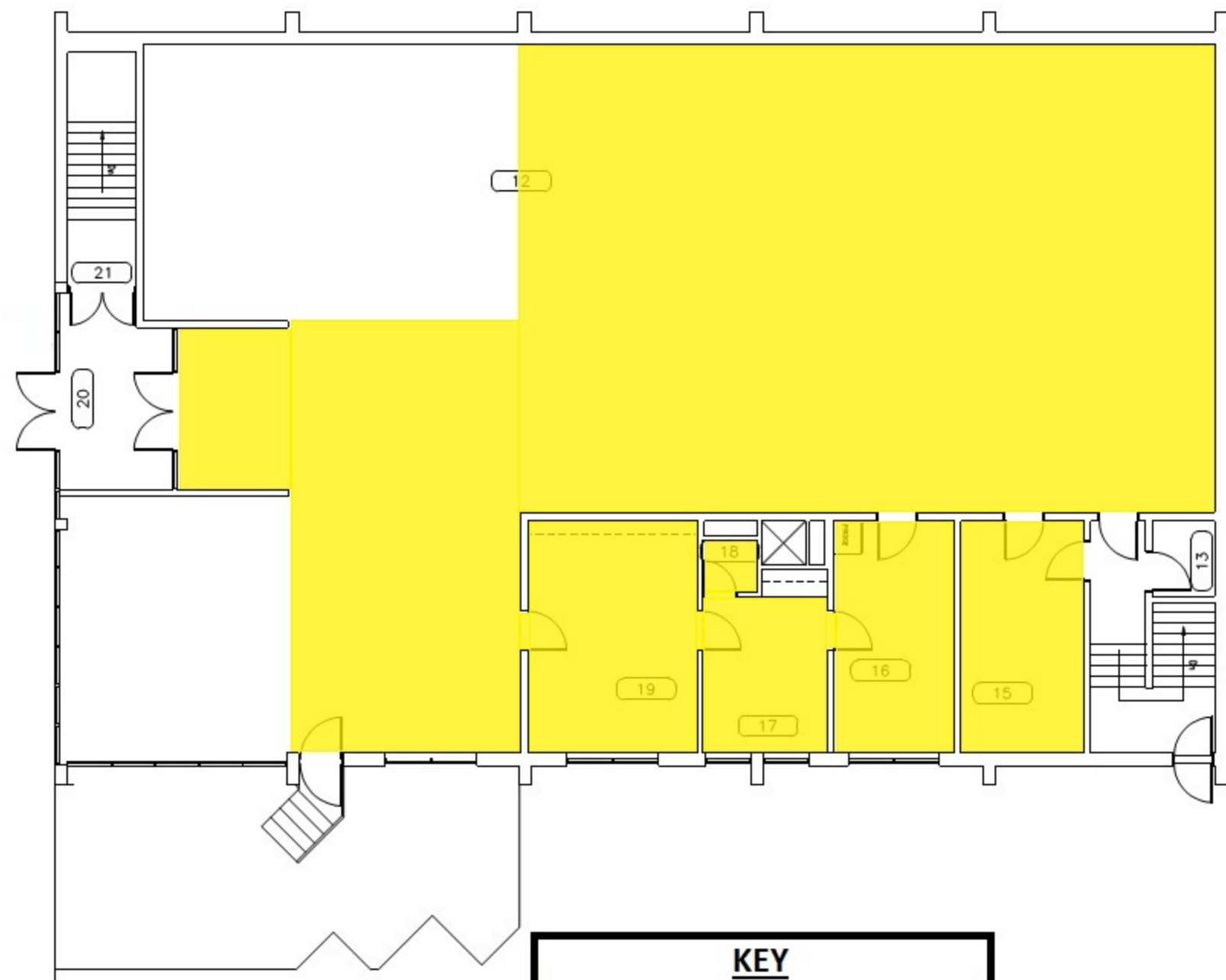
**Lower Floor
Base Plan**

**652
J.S. Wood
Library**


PROJECT NO.	DWG.
652-2-04	0-02

REV. NO. 

- GENERAL NOTES:
1. All dimensions are in millimetres.
 2. Drawings are not to be scaled.
 3. All drawings to be read in conjunction with the specifications, unless otherwise noted.
 4. Verify site conditions and location of all utilities prior to the start of construction.
 5. Report all discrepancies to the Consultant.
 6. If in doubt, ask.



KEY

 Vinyl Asbestos Floor Tile

REV	ISSUED FOR	DATE
DESIGNED BY	DRAWN BY	CHECKED BY
SCALE	DATE	
1:100	05/10/2004	
PROJECT NAME	AUTHOR	
Main Floor Base Plan	Asbuilt	
PROJECT TITLE		
652 J.S. Wood Library		
PROJECT NO.	SHEET	
	REV. NO.	