



**TRANSIT STORAGE & ADMINISTRATION
BUILDING
ASBESTOS SURVEY REPORT**



April 2014

Prepared For: City of Saskatoon – Infrastructure Services Department
1101 Avenue P North, Saskatoon SK, Canada S7L 7K6
Attn: Brent Anderson

Prepared By: Bersch & Associates Ltd.
Project No. : B67SRD23

1.0 EXECUTIVE SUMMARY

The asbestos audit of the Transit Storage & Administration Building located at 301 - 24th Street West Saskatoon, SK. entailed the inspection of all accessible suspect asbestos-containing materials (ACM) located within the facility. Materials inspected included insulation materials, floor covering materials, mechanical insulation materials, ceiling tiles, sealant materials and gasket materials.

Bulk sample analysis results indicate the presence of “Chrysotile” asbestos within the Transit Storage & Administration Building 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 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.* Asbestos was detected in the following forms throughout the facility:

- **Vinyl Asbestos Floor Tile** is located within 244 and 103 Storage Rooms. The Asbestos Floor Tile has been identified on the **Floor Plans** included in *Appendix II* of this report.
- **Transite Roof Drain Pipe** is located in 201, 202, 203, 204, 208, 209, 114, 119 and 120. The Asbestos Drain Pipe has been identified with an “ASBESTOS” stencil signifying the entire pipe is to be considered ACM.
- **The Block Walls were tested for Vermiculite Content throughout the facility. No Vermiculite was found to sample during our survey but further investigation should be done prior to demolition of the building. Although it is unlikely due to sample results and investigation, any material located within ceilings, wall cavities, pipe chases or other inaccessible areas or areas of limited access shall be considered asbestos-containing until testing of the material can determine the presence or absence of asbestos.**

Bersch & Associates Ltd. implemented the use of doorjamb labels that are applied to all the doorjamb 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 doorjamb 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 Transit Storage & Administration Building located at 301 24th Street West Saskatoon, SK. The survey entailed the inspection of all accessible areas of the facility; including ceiling spaces, pipe chases, and attics. 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 April 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 Transit Storage & Administration Building in April 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, thirty-five (35) bulk samples of suspect asbestos-containing materials were collected within the Transit Storage & Administration Building. As a result Chrysotile asbestos was detected within the facility. 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 U.S. 40 CFR Part 763, Vol. 52, No.210 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%.

4.0 RECOMMENDATIONS

1. 201 Corridor, 202, 203, 204, 208 and 209 Offices

Transite Drain Pipe is located within the Offices and Corridors above the suspended ceiling tile. This material is considered a non-friable material and will not produce an elevated airborne fibre release unless mechanically disturbed. Recommendation is for the management of this material until renovations warrant removal.

PRIORITY:	THREE
CONDITION:	GOOD
POTENTIAL FOR DISTURBANCE:	LOW
ACTION:	MANAGE

2. 244 Custodial Closet

Vinyl Asbestos Floor Tile is located within the room. This material is considered a non-friable material and will not produce an elevated airborne fibre release unless mechanically disturbed. Recommendation is for the management of this material until renovations warrant removal.

PRIORITY:	THREE
CONDITION:	GOOD
POTENTIAL FOR DISTURBANCE:	LOW
ACTION:	MANAGE

3. 103 Storage

Vinyl Asbestos Floor Tile is located within the room below the stair case. This material is considered a non-friable material and will not produce an elevated airborne fibre release unless mechanically disturbed. Recommendation is for the management of this material until renovations warrant removal.

PRIORITY:	THREE
CONDITION:	GOOD
POTENTIAL FOR DISTURBANCE:	LOW
ACTION:	MANAGE

4. 114, 119 and 120 Parking Garage

Transite Drain Pipe is located within the Parking Garage Area. The pipe runs overhead adjacent the east wall and between Bays 119 and 120. This material is considered a non-friable material and will not produce an elevated airborne fibre release unless mechanically disturbed. Recommendation is for the management of this material until renovations warrant removal.

PRIORITY:	THREE
CONDITION:	GOOD
POTENTIAL FOR DISTURBANCE:	LOW/MODERATE
ACTION:	MANAGE

5. B03a Men's Locker Room

Transite Drain Pipe is located within the Men's Locker Room. The pipe is located within the southwest corner. This material is considered a non-friable material and will not produce an elevated airborne fibre release unless mechanically disturbed. Recommendation is for the management of this material until renovations warrant removal.

PRIORITY:	THREE
CONDITION:	GOOD
POTENTIAL FOR DISTURBANCE:	LOW/MODERATE
ACTION:	MANAGE

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 which 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.

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, 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.

April 30, 2014

City of Saskatoon

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

ATTENTION: Brent Anderson

SUBJECT: Transit Storage & Administration Building – Bulk Sample Report

Please find attached our laboratory's results for the bulk material samples taken from the Transit Storage & Administration Building located at 301 - 24th Street West Saskatoon, SK. The samples were analyzed in our laboratory for the identification of asbestos.

The results for the samples submitted 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 our office. Thank you for this opportunity of service to your firm.

Sincerely,

Wes Berschiminsky
Bersch & Associates Ltd.
File: B67BLD23

BERSCH & ASSOCIATES LTD.

BULK SAMPLE PHOTOS

#14 & #23) Floor Tile



#2) Transite Pipe



Bersch & Associates Ltd.

B67BAD23

Box 3568

Humboldt, Sask. S0K 2A0

BULK SAMPLE ANALYSIS REPORT

PROJECT NO. B67.14

CLIENT: City of Saskatoon

Infrastructures Services- Facility Branch

Contact : Brent Anderson

LOCATION: Transit Administration & Maintenance Building South - 301 24th Street West, Saskatoon, SK.

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
1	21-May-13	Room # 245 - Pipeline Fitting Compilation on light blue/green lines	None detected		WB
2	21-May-13	Room # 202 - Transite Drain Pipe above the suspended ceiling adjacent to entry door	Chrysotile	40%	WB
3	21-May-13	Room # 222 - Sheet Flooring, cream color with dark spec	None detected		WB
4	21-May-13	Room # 116 - Spray-applied Fireproofing on ceiling	None detected		WB
5	21-May-13	Room # 116 - Pipeline Fitting on overhead supply line adjacent to Room # 107 entry	None detected		WB
6	23-Apr-14	Room # 201 - Drywall Mud Compound above ceiling adjacent to Room # 205	None detected		WB
7	23-Apr-14	Room # 201 - Suspended Ceiling Tile	None detected		WB

Bersch & Associates Ltd.

B67BAD23

Box 3568

Humboldt, Sask. S0K 2A0

BULK SAMPLE ANALYSIS REPORT

PROJECT NO. B67.14

CLIENT: City of Saskatoon

Infrastructures Services- Facility Branch

Contact : Brent Anderson

LOCATION: Transit Administration & Maintenance Building South - 301 24th Street West, Saskatoon, SK.

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
8	23-Apr-14	Room # 241 - Pipeline Fitting on small line under sink	None detected		WB
9	23-Apr-14	Room # 245 - Pipeline Fitting on small light green line adjacent to south wall	None detected		WB
10	23-Apr-14	Room # 245 - Pipeline Fitting on small light green DHW line in northwest corner adjacent to the water heater	None detected		WB
11	23-Apr-14	Room # 245 - Lineal Pipeline Insulation on small green supply line	None detected		WB
12	23-Apr-14	Room # 245 - Ducting Insulation in northwest corner	None detected		WB
13	23-Apr-14	Room # 245 - Drywall Mud Compound at conduit penetration into west wall	None detected		WB
14	23-Apr-14	Room # 244 - Custodian closet - 1' x 1' Floor Tile, beige with brown streak	Chrysotile	1-5%	WB

Bersch & Associates Ltd.

B67BAD23

Box 3568

Humboldt, Sask. S0K 2A0

BULK SAMPLE ANALYSIS REPORT

PROJECT NO. B67.14

CLIENT: City of Saskatoon

Infrastructures Services- Facility Branch

Contact : Brent Anderson

LOCATION: Transit Administration & Maintenance Building South - 301 24th Street West, Saskatoon, SK.

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
15	23-Apr-14	Room # 231 - Red Duct Sealant above ceiling adjacent to 235	None detected		WB
16	23-Apr-14	Room # 228 - Drywall Mud Compound above ceiling tile	None detected		WB
17	23-Apr-14	Room # 102 - Sheet Flooring, green with white spec	None detected		WB
18	23-Apr-14	Room # 104 - Sheet Flooring, gray with white spec	None detected		WB
19	23-Apr-14	Room # 103 - Pipeline Fitting on small DCW line adjacent to radiant heater on north wall	None detected		WB
20	23-Apr-14	Room # 103 - Pipeline Fitting on small HWS line adjacent to north wall straight in from entry	None detected		WB
21	23-Apr-14	Room # 103 - Lineal Pipeline Insulation on DCW line adjacent to the north wall straight in from entry	None detected		WB

Bersch & Associates Ltd.

B67BAD23

Box 3568

Humboldt, Sask. S0K 2A0

BULK SAMPLE ANALYSIS REPORT

PROJECT NO. B67.14

CLIENT: City of Saskatoon

Infrastructures Services- Facility Branch

Contact : Brent Anderson

LOCATION: Transit Administration & Maintenance Building South - 301 24th Street West, Saskatoon, SK.

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
22	23-Apr-14	Room # 103 - Drywall Mud Compound below stairs	None detected		WB
23	23-Apr-14	Room # 103 - 1' x 1' Floor Tile below stairs, beige with brown streak	Chrysotile	1-5 %	WB
24	23-Apr-14	Room # 103 - Rope Gasket Material at water line penetration into floor, Brown	None detected		WB
25	23-Apr-14	Room # 108 - Pipeline Fitting on small line above radiant heater on south wall	None detected		WB
26	23-Apr-14	Room # 116 - Pipeline Fitting on small line adjacent to north wall adjacent to Wash Bay	None detected		WB
27	23-Apr-14	Room # 108 - Pipeline Fitting on small line in center of area in line with Wash Bay entry	None detected		WB
28	23-Apr-14	Room # 116 - Fireproofing in center of the area containing the fireproofing	None detected		WB

Bersch & Associates Ltd.

B67BAD23

Box 3568

Humboldt, Sask. S0K 2A0

BULK SAMPLE ANALYSIS REPORT

PROJECT NO. B67.14

CLIENT: City of Saskatoon

Infrastructures Services- Facility Branch

Contact : Brent Anderson

LOCATION: Transit Administration & Maintenance Building South - 301 24th Street West, Saskatoon, SK.

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
29	23-Apr-14	Room # 116 - Mud Compound on Roof Drain Line adjacent to south wall	None detected		WB
30	23-Apr-14	Room # 118 - Insulation within south wall behind metal sheeting	None detected		WB
31	23-Apr-14	Room # 119 - Ceiling Insulation	None detected		WB
32	23-Apr-14	Room # 119 - Pipeline Fitting on small CWS line in southwest corner	None detected		WB
33	23-Apr-14	Room # 114 - Transite Pipe at vertical riser adjacent structural beams between Rooms 119 and 120	Chrysotile	30%	WB
34	23-Apr-14	Room # 114 - Pipeline Fitting at vertical riser adjacent structural beams between Rooms 119 and 120	None detected		WB
35	23-Apr-14	Room # 119 - Ducting Insulation on large ducting adjacent to structural pillars between Rooms 119 and 120	None detected		WB

January 18, 2019

City of Saskatoon
3130 Laurier Drive,
Saskatoon, SK
S7L 5J7

ATTENTION: Audrey Van Dijk

SUBJECT: Bulk Sample Analysis Report

Please find attached the laboratory results for the bulk samples received on January 15, 2019 from the Transit South Administration Building in Saskatoon, Saskatchewan. The samples were analyzed for the identification of asbestos. Asbestos **was not** detected within the samples.

The cinderblock wall within Room 103 was investigated for the presence of vermiculite. The cinderblock wall adjacent the lockers was cored into. The wall cavity was found to be empty. In the event any suspect asbestos-containing material is identified, it is recommended the area is isolated and Bersch Consulting Ltd. contacted for further investigation.

The results for the samples submitted 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 our office. Thank you for this opportunity of service.

Sincerely,



Tyneal Knackstedt
Bersch Consulting Ltd.
B67BLA15I- Transit South Administration Building – Locker Removal

Bulk Sample Analysis Report

January 18, 2019

Project Number: B67.19

Client: City of Saskatoon

Contact: Audrey Van Dijk

Location: Transit South Administration Building

File Number: B67BAA15I

Sample Number	Sample Date	Sample Material	Sample Location and Information	Asbestos	%	Analyst
1	2019/01/15	Drywall Mud Compound	Room B03a Drywall Mud Compilation Sample	No Asbestos Detected		EMSL/WB
2	2019/01/15	Drywall Mud Compound	Room B03b Drywall Mud Compilation Sample	No Asbestos Detected		EMSL/WB
3	2019/01/15	Drywall Mud Compound	Room 103 Drywall Mud Compilation Sample	No Asbestos Detected		EMSL/WB
4	2019/01/15	Rubber Sheet Flooring	Room B03a	No Asbestos Detected		EMSL/WB

Note: The results for the samples submitted 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.

January 17, 2019

City of Saskatoon
1101 Avenue P North,
Saskatoon, SK
S7L 7K6

ATTENTION: Tanner Huynink

SUBJECT: Bulk Sample Analysis Report

Please find attached the laboratory results for the bulk samples received on January 15, 2019 from the Transit South Administration Building in Saskatoon, Saskatchewan. The sample was analyzed for the identification of asbestos. Asbestos **was not** detected within the sample.


The wall within the 2nd floor large board room is constructed of drywall with an approximate 5" space before the cinderblock wall. The cinderblock in the adjacent room was drilled and investigated for vermiculite. The cinderblock wall cavity was found to be empty. There are no concerns regarding installation of the new whiteboard.

The results for the sample submitted was 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 our office. Thank you for this opportunity of service.

Sincerely,



Tyneal Knackstedt
Bersch Consulting Ltd.
B67BLA15I- Transit South Administration Building – White Board Installation

Bulk Sample Analysis Report

January 17, 2019

Project Number: B67.19

Client: City of Saskatoon

Contact: Tanner Huynink

Location: Transit South Administration Building

File Number: B67BAA15I

Sample Number	Sample Date	Sample Material	Sample Location and Information	Asbestos	%	Analyst
1	2019/01/15	Drywall Mud Compound	Large Board Room Ceiling Space	No Asbestos Detected		EMSL

Note: The results for the samples submitted 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.

APPENDIX II

FLOOR PLANS

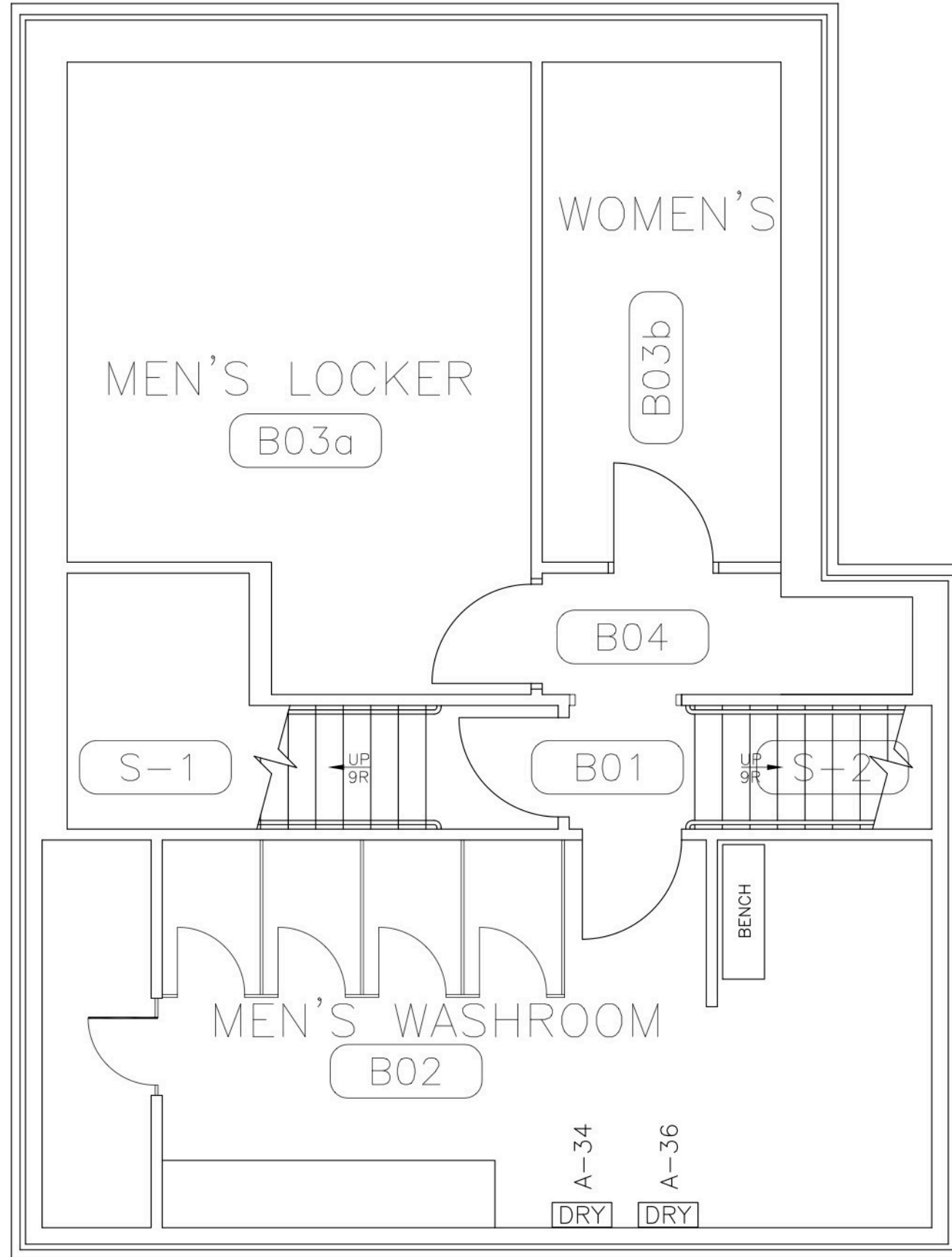


City of
Saskatoon

Infrastructure Services
Department

Facilities Branch
306-975-3300

- 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

DESIGNED BY:	DRAWN BY:	CHECKED BY:	REQUESTED BY:

SCALE:	DATE:
1:50	04/02/2004

SHEET NAME	Asbuilt
Lower Floor Base Plan	

PROJECT TITLE
852
Transit Admin

PROJECT NO.	SHEET

REV. NO.	



City of Saskatoon

Infrastructure Services Department

Facilities Branch
306-975-3300

- GENERAL NOTES:
1. All drawings to be read in conjunction with the specifications.
 2. Drawings are not to be scaled.
 3. All dimensions are in millimetres 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 852-7/03	08/11/07

DESIGNED BY:	DRAWN BY:	CHECKED BY:	REQUESTED BY:
	TO		

SCALE:	DATE:
1:400	08/11/07

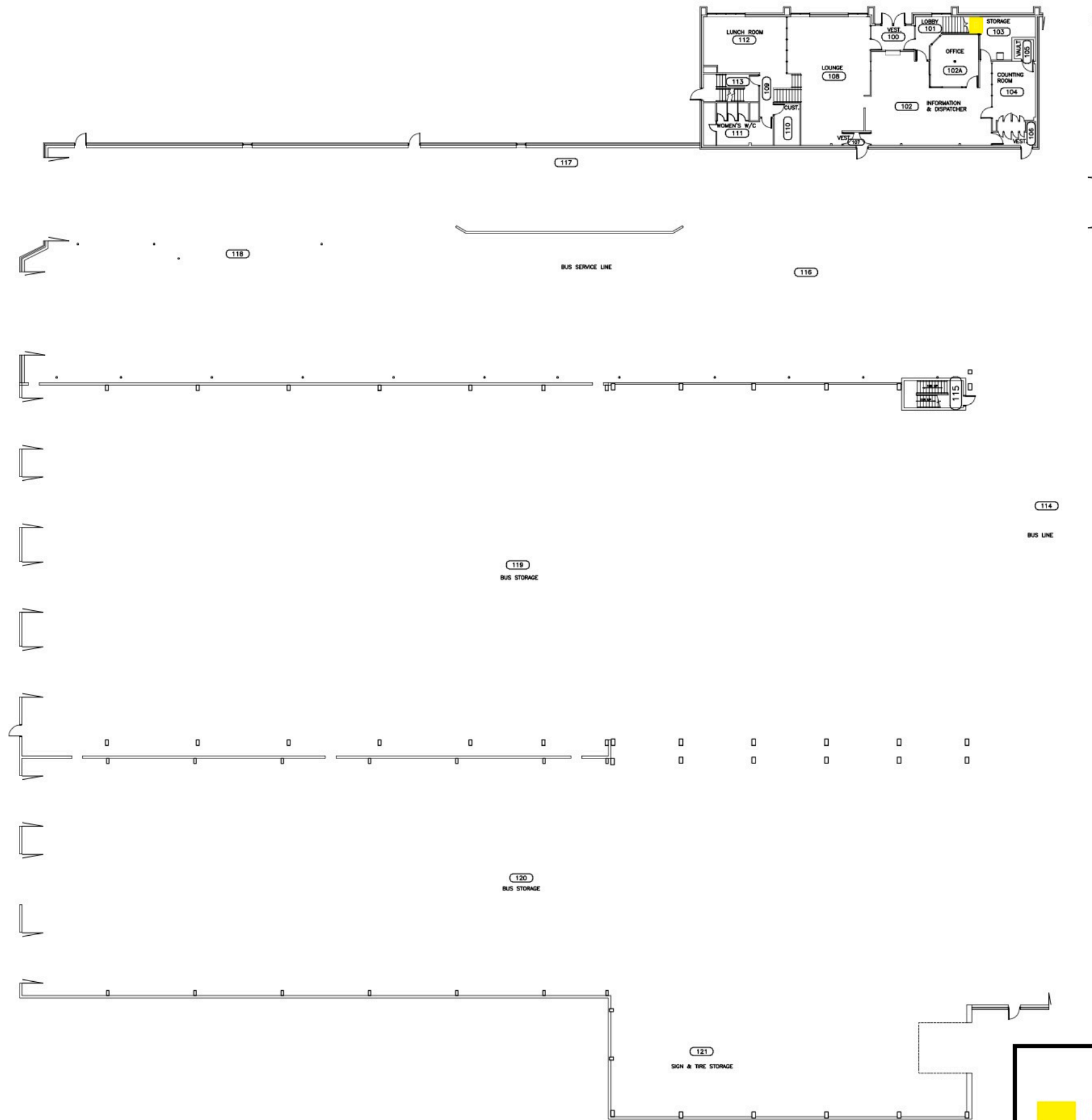
SHEET NAME: Asbuilt

Main Floor Base Plan

PROJECT TITLE
**852
Transit Admin
Building**

PROJECT NO.	SHEET
852-7/03	

REV. NO.



KEY

Vinyl Asbestos Floor Tile

