# **BUILDING CONDITION ASSESSMENT**

## **SHED 3 AT GRAVEL PITS**

351028 17<sup>™</sup> LINE EAST GARAFRAXA, ONTARIO

# Prepared for:

Township of East Garafraxa 65371 Dufferin County Rd 3, East Garafraxa, Ontario T: 226-259-9400 E: info@eastgarafraxa.ca

# Prepared by:



25 First Street
Orangeville, Ontario L9W 2C8
519.940.0571
kellerengineering.com

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Project Number: 3230997 Building Condition Assessment



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#### 1.0 EXECUTIVE SUMMARY

#### 1.1 Introduction

Keller Engineering performed a Building Condition Assessment ("BCA") of 351028 17<sup>th</sup> Line East Garafraxa, ON ("Site") on October 24, 2023, on behalf of The Township of East Garafraxa ("Client"). The report that follows is based on that review. The weather was sunny and approximately 17°C.

#### 1.2 General Site Description

The Site is composed of 1 building. The building is a one-level structure currently not in use and previously was a pig barn. The building was constructed in 1981. The building has a footprint of approximately 464  $\rm m^2$  (4,992 ft²). The surrounding area is primarily fields and there is an aggregate quarry in the vicinity. The Site is accessed off 17<sup>th</sup> Line. For the purposes of this report, the building's elevation facing 17<sup>th</sup> Line is facing east and is located on the west side of the 17<sup>th</sup> Line.

#### 1.3 General Site Details

City/Town: East Garafraxa
Province: Ontario
Number of Stories: 1
Year Built: 1978

**Structure:** Poured concrete slab-on-grade

substructure, wood framing, wood and metal columns/posts, with prefabricated

wood trusses.

**Exterior:** Metal siding, wood windows, wood doors,

sliding barn doors.

**Roof:** Sloped metal roof & sheet metal.

**Plumbing:** Not applicable.

Heating, Ventilation & Wall ventilation fans not Cooling: operational/abandoned.

**Electrical:** Copper wire. Disconnected, abandoned.

Not available.

**Services:** Potable Water: Not applicable.

Sewer: Not applicable.

Storm: Not applicable, surface.

Fuel: Not applicable.

Electricity: Overhead, disconnected. Not

applicable.

# 1.4 Summary of Facility Condition Index ("FCI")

The current condition of the building and components is expressed as a percentage derived from the ratio of aggregated total cost of repairs/renewal/upgrades to the current replacement value of the building. This ratio is referred to as the Facility Condition Index ("FCI"). Refer to **Appendix B** for a detailed description.

The aggregated total costs estimated for the building is \$366,234 adjusted for inflation. The current replacement value of the building is estimated to be \$350,000.00.

Based on the estimated values, the FCI for this building is 102% and is classified as Critical.

Refer to Section 2.3, Standards of Reference, for definitions and classifications.



#### 1.5 General Condition

The building(s) critical condition compared to other structures of similar age and use. In our opinion, maintenance activity has been fair. As a result, the property is showing effects of wear and tear at an average rate compared with other similar facilities. Refer to Section 3.0, Systems and Observations.

Overall, site improvements are in poor condition compared to other developments of similar age and use.

Overall, the structure is in critical condition compared to other developments of similar age and use.

Overall, the building envelope is in critical condition compared to other developments of similar age and use.

Overall, mechanical, electrical, plumbing, and special systems are in critical condition.

Interior elements and other building systems are generally in critical condition.

The Owner advised that they are not aware of any outstanding work orders, building code violations, building code infractions, building ordinances and municipal health and fire safety by-laws violations.

We have identified the need for a Structural Study, Life Safety Audit and Designated Substances Survey to review conditions to protect people based on building construction, protection, and occupancy features.

The purpose of this BCA is to determine the current condition of the building envelope, systems, paved areas, utilities, and site improvements, and to assign an FCI value for the building.

Keller Engineering, formerly Criterium-Jansen Engineers performed the BCA according to the scope as generally defined in ASTM 2018-15. The survey is based on a review of available documents, an examination of the building and the Site; in particular, the foundation walls (where visible), the roof, the exterior walls, the framing, mechanical systems, exterior doors and windows, paved areas, and utilities.

The report contains the following:

- A description of the overall condition of buildings components and systems and conditions that may limit the expected useful life of the buildings and their components.
- Information about significant deficiencies, deferred maintenance items, and material code violations based on a visual survey of the building and grounds, research of documents, and conversations with people who have knowledge about the facility.

# 1.6 Recommendations for Further Study

#### 2.0 PURPOSE AND SCOPE

#### 2.1 Purpose

#### 2.2 Scope & Methodology



The statements in the report are opinions about the present condition of the subject property. They are based on visual evidence available during a diligent review of all reasonably accessible areas. Standard BCA practices excludes the operation of equipment by the field observer and is to be conducted without the aid of special protective clothing, exploratory probing, removal or relocation of materials, testing, or the use of equipment, such as ladders, stools, scaffolding, metering/testing equipment, or devices of any kind, etc. It is literally the field observer's visual observations while walking through the subject property. The study is not an exhaustive technical evaluation. Such an evaluation would entail a significantly larger scope than this effort. For additional limitations, see Section 5.0. As per standard BCA practices, the user of this report is required to arrange for the field observer to receive timely complete, supervised, and safe access to the subject property's improvements including roofs. Where access was not provided Keller Engineering is obligated to state within the report all such material impediments that interfered with the conducting of the assessment.

Our mandate for this BCA excluded assessment of the facility's compliance to accessibility related standards and the Accessibility for Ontarians with Disabilities Act. Barrier Free Design of the National Building Code of Canada governed handicap accessibility guidelines for buildings constructed after 1990. Possible retroactive compliance for buildings constructed prior to 1990 was not required until subsequent provincial legislation was enacted. A significant change of building use or an Authority Having Jurisdiction may trigger the need for accessibility related building upgrades under certain circumstances. As the timing, scope of work and associated costs cannot be reasonably predicted, we have not included any Capital Costs for future upgrades in the term of the report.

Standards of Reference

For your reference, the following definitions may be helpful:

All ratings are determined by comparison to other buildings of similar age and construction type.

All directions (left, right, rear, etc.) are taken from the viewpoint of an observer standing in front of the building and facing it.

#### Condition

*Excellent:* Component or system is in "as new" condition, requiring no rehabilitation and should perform in accordance with expected performance.

*Good:* Component or system is sound and performs its function, although it may show signs of normal wear and tear. Some minor rehabilitation work may be required.

Fair: Component or system falls into one or more of the following categories: a) Evidence of previous repairs not in compliance with commonly accepted practice, b) Workmanship not in compliance with commonly accepted standards, c) Component or system is obsolete, d)

2.3



Component or system approaching end of expected performance. Repair or replacement is required to prevent further deterioration or to prolong expected life.

*Poor:* Component or system has either failed or cannot be relied upon to continue performing its original function as a result of having exceeded its expected performance, excessive deferred maintenance, or state of disrepair. Present condition could contribute to or cause the deterioration of other adjoining elements or systems. Repair or replacement is required.

*Critical:* Immediate repair/replacement recommended in less than 1 year. Physical deficiencies that require immediate action as a result of existing or potentially unsafe conditions, building code violations, poor or deteriorated conditions of a critical element or system, or a condition that if left "as is" would result in a critical element or system failure.

#### Priority

Urgent – Immediate repair/replacement recommended in less than 1 year. Physical deficiencies that require immediate action as a result of existing or potentially unsafe conditions, building code violations, poor or deteriorated conditions of a critical element or system, or a condition that if left "as is" would result in a critical element or system failure.

High — Repair/replacement anticipated within the first 2 years. Physical deficiencies including deferred maintenance that may not warrant immediate attention but require repairs or replacements that should be undertaken on a priority basis, taking precedence over routine preventive maintenance work within a zero to one-year time frame. Included are such physical deficiencies resulting from improper design, faulty installation, and/or substandard quality of original systems or materials. Components or systems that have exceeded their expected useful life that may require replacement to be implemented within a zero to one-year time frame are also included.

Medium - Repair/replacement is anticipated between 3 to 5 years.

Low - Replacement is not anticipated within the first 5 years.

#### Facility Condition ("FCI") Levels

Good Condition (0-5% FCI) – Asset is in reasonable condition and does not require capital expenditure.

Fair Condition (6-10% FCI) – Asset is deteriorating, requires capital expenditure and will likely become "poor" within a few years if not addressed.

Poor Condition (11-30% FCI) – Asset is deteriorated and requires immediate capital expenditure.



Critical (31% + FCI) – Asset is in disrepair or dilapidated and requires urgent significant capital expenditure.

Repair/Replacement Reserves - Non-routine maintenance items that will require significant expenditure over the timeframe of this study. Included are items that will reach the end of their estimated useful life during the term of the study or in the opinion of the consultant will require attention during that time. Items with estimated expenditures below \$5,000.00 are below the capital threshold for this study and may or may not be reported since it is anticipated that those items will be repaired/replaced within the scope of regular building maintenance. The recommended repairs will be scheduled appropriately over a 20-year period in 5-year intervals. All the prices quoted are in Canadian 2023 dollars and are presented in the Capital Expenditure Tables.

3.0 SYSTEMS AND OBSERVATIONS

Refer to **Appendix B**, Facility Condition Index Table for the estimated timeperiod of replacement or repairs and associated estimated costs.

3.1 Site Improvements

3.1.1 Paving & Curbing

Description

Not applicable.

3.1.2 Flatwork

Description

**Observations & Comments** 

There is a concrete slab-on-grade at the south barn door entrance.

The concrete slab-on-grade at south barn door entrance is cracked, deteriorated and there is plant overgrowth. A budget for replacement has been allowed for during the timeframe of this study.

3.1.3 Landscaping & Appurtenances

Description

**Observations & Comments** 

Landscaping on the site consists of grass and trees.

Landscaping is in poor condition with plant overgrowth in the entrance asphalt cracks and surrounding the structure. Costs associated with plant overgrowth trimming and removals are expected to be below the Capital Threshold and are not included.

3.2 Structure & Building Envelope

3.2.1 Substructure

Description

**Observations & Comments** 

The substructure of the shed is cast-in-place poured concrete slab-on-grade and standard foundations.

The slab-on-grade was covered by hay and is not visible; however, based on age & general building condition it is assumed to be in poor condition. A budget for replacement has been allowed for during the time-period of this study.



# 3.2.2 Superstructure

Description

Observations & Comments

The building and roof structure is composed of wood framing with joists, columns, prefabricated trusses, and other bracing supports. There are metal columns along the length of the shed at its center.

There are damaged & corroded columns and given the age & general condition of the building including building envelope deterioration that will result in water penetration and damage over time, we assume the structure is in poor condition. A budget for replacement has been allowed during the timeframe of this study as an urgent item.

Due to the deteriorated condition of the building, and the age of the building, we recommend that a structural study be completed to provide reporting, review, and recommendations. A budget for a structural study has been allowed for as an urgent item.

#### 3.2.3 Exterior

Description

**Observations & Comments** 

The shed has painted metal siding. There is insulation between the exterior siding and the interior walls.

There are wood swing doors, metal sliding barn doors, and wood framed windows.

The metal siding is in poor condition with damage in the form of dents, holes and paint coatings deterioration and rust. Wall insulation is exposed at some wall damage locations. A budget for replacement has been allowed for during the timeframe of this report as an urgent item.

The sliding barn doors are damaged/deteriorated, corroded, and portions of the doors are missing. The doors are not operational. A budget for replacement has been allowed for during the time-period of this report.

The windows are in poor condition, some with missing windowpanes and boarded by wood panels. A budget for replacement has been allowed for during the timeframe of this report as an urgent item.

Exterior swing doors are in poor condition and at the end of their service life, one door being non-operational. Costs associated with replacement are expected to be below the Capital Threshold and are not included.

The sealants are deteriorated and in poor condition. Costs associated with sealant replacement are expected to be below the Capital Threshold and are not included.



# 3.2.4 Roofing

Description

Observations & Comments

There is a sloped metal roof, ridge vents and sheet metal flashings.

Eavestroughs, rainwater leaders and snow/ice guards are not provided.

The metal roof panels, and roof vents appear to be original and are in poor condition with damage in the form of deformed sheet metal and surface deterioration. A budget for replacement has been allowed for during the timeframe of this study as an urgent item.

Eavestroughs, rainwater leaders and snow/ice guards are not provided. We recommend these components be provided to prevent building damage due to snow, ice and rainwater runoff. A budget for installation of new eavestroughs, rainwater leaders and snow/ice guards has been allowed for during the timeframe of this study.

#### 3.3 Mechanical Systems

# 3.3.1 Plumbing

Description

#### 3.3.2 HVAC

Description

**Observations & Comments** 

#### 3.3.3 Electrical

Description

**Observations & Comments** 

There is no plumbing system. Not applicable.

Ventilation fans (Chore-Time) are provided. These systems are abandoned and are non-operational.

The ventilation fans and systems are not operational. A budget for replacement has been allowed for during the timeframe of this study.

The electrical system is disconnected and not in operation.

The electrical systems are disconnected and not operational. A budget for electrical systems replacement including installation of lighting and thermographic scanning has been allowed for during the timeframe of this study as an urgent item.

Typically, periodic thermographic scanning is recommended by utility and insurance companies. For the main switches, breakers and other connections, scans should be completed and repeated as part of regular maintenance every 3 years, note that an amount is included in the short term, but in subsequent years the thermographic scan will fall under regular maintenance. Electrical repairs are considered a high priority. Typically, the power distribution system should last for decades if not for the life of the building if properly maintained.



# 3.4 Special Systems

# 3.4.1 Security

Description

#### 3.4.2 Fire Protection & Life Safety

Description

**Observations & Comments** 

3.5 Interior Elements

#### 3.5.1 Finishes

Description

**Observations & Comments** 

#### 3.6 Miscellaneous

#### 3.6.1 Maintenance & Other

**Observations & Comments** 

There is no security system. Not applicable.

There is no fire protection or life safety equipment in the structure.

Fire and life safety systems such as exit signs, detectors/sensors, emergency lights, and fire extinguishers are not provided. It is recommended that fire and life safety systems appropriate for the use of this building be provided for the safety of the people frequenting the building, depending on the planned use of the building.

A budget to install new fire protection and life safety systems including a life safety audit to determine requirements for the building has been allowed for during the timeframe of this report as an urgent item.

There are painted metal panels on the interior walls and the ceiling.

The walls are in poor condition, with corrosion and damage in the form of dents, holes, and missing sections. A budget for replacement has been allowed for during the time-period of this report.

A feed storage hopper & feeder system is provided that is in poor condition and not in operation. A budget for replacement has been allowed for during the time-period of this report.

There could be asbestos and hazardous materials in the building. A budget for a Designated Substances Survey for items related to asbestos, mould and hazardous materials has been allowed as an urgent priority.

Planned maintenance is necessary for the longevity of assets and to control and reduce repair and replacement costs. Preventative maintenance work should be completed promptly.

From our observations we did not see anything that could not be repaired. There are some current items that require maintenance, but every building requires maintenance.

There is equipment for animal feed on the site. There is a structure to hold the animal feed, a pipe for water distribution, and wood boxes for animal feed distribution.



# 4.0 REPAIR/ REPLACEMENT RESERVES

#### 5.0 LIMITATIONS

#### Refer to Appendix B, Schedule of Anticipated Reserve Requirements.

The information, observations, and conclusions described in this report are valid on the date of the report and have been made under the terms, conditions, limitations, and constraints noted in the report. We prepared the report for the exclusive use of the Client. No other individual or party shall be entitled to rely upon the report without our express written consent. If another individual or party relies on the report, such individual or party shall indemnify and hold Keller Engineering, formerly Criterium-Jansen Engineers, harmless for any damages, losses, or expenses incurred because of such use. Any use or reliance of the report by an individual or party other than the Client shall constitute acceptance of these terms and conditions. Any electronic copies of this report that are provided, are for the convenience of the Client, and are not to be construed as the original or final report.

The report is limited to the visual observations made during our review. We did not remove materials, conduct any destructive or invasive testing, move furnishings or equipment, or undertake any digging or excavation. Accordingly, we cannot comment on the condition of systems that we could not see, such as buried structures and utilities, nor are we responsible for conditions that could not be seen or were not within the scope of our services at the time of review. We did not undertake to completely assess the stability of the buildings or the underlying foundation soil since this effort would require excavation and destructive testing. Likewise, this is not a seismic assessment.

We do not render an opinion on uninspected portions of the facility.

We did not perform any computations or other engineering analysis as part of this evaluation, nor did we conduct a comprehensive code compliance investigation. We did not provide an environmental assessment or opinion on the presence of any environmental issues such as asbestos, hazardous wastes, toxic materials, the location, and presence of designated wetlands, IAQ, etc.

The report is not to be considered a warranty of condition, and no warranty is implied. The photographs are an integral part of this report and must be included in any review.

If opinions of probable costs are presented, they are preliminary only. Opinions are based on our general knowledge of building systems and the contracting/construction industry. When appropriate, we have relied on standard sources, such as Means Building Construction Cost Data, to develop opinions of probable costs. However, for some items for which we have developed opinions of probable costs (e.g., structural repairs), no standard guide for developing such costs exists. It is not the intent of the BCA to provide/prepare exact quantities or identify the exact locations of items or systems as a basis for preparing the opinions of costs.



We have performed no design work as part of the study, nor have we obtained competitive quotations or estimates from contractors as this also is beyond the scope of the project. The actual cost to remedy deficiencies and deferred maintenance items that we have identified may vary significantly from estimates and competitive quotations from contractors.

This report has been prepared in strict confidence. No reproduction or reuse is permitted without express written consent. Furthermore, we will not release this report to anyone without your permission. If you have any questions about this report or review, please call.

Thank you for the opportunity to be of assistance to you.

Report Prepared by:

Jaime Rodríguez, B.Tech. (Arch.Sc.), C.E.T., RRO

Senior Project Manager

Jim Rammos, P.Eng.

Report Reviewed by:

Director, Building Science & Restoration





# APPENDIX A SELECTED PHOTOGRAPHS

Location:

Shed 3 - 351028 17<sup>th</sup> Line East Garafraxa, ON **Photo Taken by:** Jaime Rodriguez

Emma Bresil

Date: October 24, 2023





# Description:

South and west sides of the third shed.

The building is surrounded by overgrown vegetation.

The shed has metal siding, sloped metal roof with vents, sheet metal flashings, wood windows with single plexiglass glazing, metal service doors and sliding barn doors.

In general, the building is in a state of disrepair and is abandoned.

**Photo Number** 

1



## Description:

South elevation of the shed.

The sliding barn door is corroded, deteriorated and not operational.

The entrance is overgrown by weeds. Access to sliding barn doors is difficult.

Sheet metal panning and flashings are missing at some door frame locations.

**Photo Number** 

Photo Taken by: Jaime Rodriguez Emma Bresil Date: October 24, 2023





# Description:

The concrete slabon-grade at south barn door entrance is cracked and there is plant overgrowth.

**Photo Number** 

3



# **Description:**

The metal siding is in poor condition and is rusted, damaged, deformed and detaching from the building.

There is a perforated soffit vent.

**Photo Number** 

Photo Taken by: Jaime Rodriguez Emma Bresil Date: October 24, 2023





# **Description:**

East elevation.

The ventilation fan hoods are corroded (Chore-Time).

The metal roof is rusted and in poor condition.

**Photo Number** 

5



## Description:

East and north elevations of the third shed.

There are 2 large metal sliding barn doors and wood swing doors.

There is an abandoned feed storage hopper that is in disrepair and corroded.

**Photo Number** 

Photo Taken by: Jaime Rodriguez Emma Bresil Date: October 24, 2023





# Description: Interior.

The foundation is slab-on-grade concrete, and the walls and ceiling are metal panels. Floor slab is covered in hay and not visible.

The metal wall panels are damaged, surfaces have localized corrosion, and paint coatings are deteriorated.

**Photo Number** 

7



# Description:

The walls are corroded and damaged.

The walls appear to be insulated with glass fibre batts.

**Photo Number** 

Photo Taken by: Jaime Rodriguez Emma Bresil Date: October 24, 2023





# Description:

Support columns in the centre of the structure are metal and are rusted.

The columns at the perimeter of the shed are wood.

In general, the building is in a state of disrepair and appears to be abandoned.

**Photo Number** 

9



# **Description:**

The wood doors are deteriorated and inoperable.

Most windows are boarded up with various board/sheeting materials.

Photo Number

Photo Taken by: Jaime Rodriguez Emma Bresil Date: October 24, 2023





# **Description:**

The wood windows are deteriorated and glazed with plexiglass panels.

Wood framing and sealants are in poor condition.

**Photo Number** 

11



# Description:

Ventilation fans are inoperable and damaged.

Localized metal wall panel repairs have been completed.

**Photo Number** 

Location: Shed 3 - 351028

Shed 3 - 351028 17<sup>th</sup> Line East Garafraxa, ON Photo Taken by: Jaime Rodriguez Emma Bresil Date: October 24, 2023





# Description:

The electrical system is abandoned and not in operation.

Interior lighting is not in operation. Exterior lights are not provided.

**Photo Number** 

13



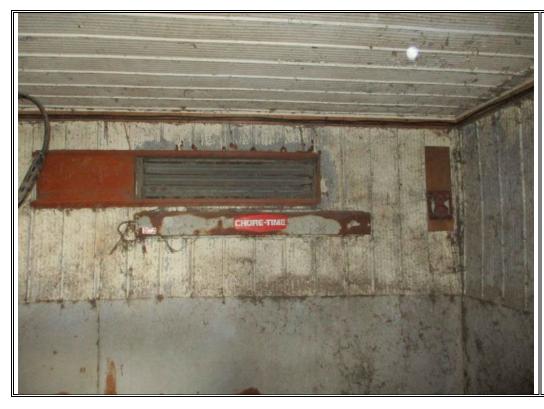
# **Description:**

Animal feed system connected to the feed hopper is inoperable and damaged.

**Photo Number** 

Photo Taken by: Jaime Rodriguez Emma Bresil Date: October 24, 2023





# **Description:**

The ventilation fan shutters (Chore-Time). The ventilation systems are inoperable and abandoned.

Photo Number



# **APPENDIX B**

# **FACILITY CONDITION INDEX**

## Facility Condition Index Table

NA = Not Anticipated during the timeframe of the report based on the condition at the time of the study.

BLW = Below Capital Threshold

The recommendations and comments included in this report are based on the collective experience of Keller Engineering. Any costs or other comments contained herein do not necessarily infer that subcontracts, quotes, or opinions of other professionals were solicited.

This table summarizes probable costs of repairs or replacements, including both labor and materials. These costs are based on our general knowledge of building systems, local contracting/construction industry conditions, and other sources such as Means Building

Construction Cost Data. We have performed no design work as part of this study, nor have we obtained competitive quotations or estimates. Costs are uninflated.

#### Condition Values:

- 1. 0-10 Excellent. "As new" condition.
- 2. 11-30 Good. Sound an performs its function.
- 3. 31-60 Fair. Repair or replacement may be required to prolong life.
- 4. 61-80 Poor. Component has failed or cannot be relied on to perform function.
- 5. >81 Critical. Immediate repair/replacement is less than 1 year and may relate to safety or code violations.

# Township of East Garafraxa - Shed 2 at Gravel Pits 351028 17th Line, East Garafraxa

#### REPAIR/REPLACEMENT RESERVES

	DESCRIPTION	LINIT COSTS & TIME PERIOD FORMATES						CONDITION ESTIMATE ANTICIPATED PRIORITY			PREDICTED LIFE CYCLE							
ITEM		UNIT COSTS & TIME-PERIOD ESTIMATES								ANTICIPATED PRIORITY								
112141		L	URGENT		YEARS 6 - 10	YEARS 11 - 15	5 YEARS 16 - 20	TOTAL	CONDITION LEVEL	CONDITION VALUE	IMPORTANCE WEIGHTING SCALE	PRIORITY VALUE INDEX	PRIORITY LEVEL	INCEPTION YEAR (ESTIMATED)	ACTUAL AGE	LIFE EXPECTANCY	OBSERVED AGE	REMAINING LIFE EXPECTANCY
			2023	2024 - 2028	2029 - 2033	2034 - 2038	2039 - 2043	20 YEAR			WEIGITTING SCALE			(LSTIIVIATED)				EXPECTANCE
1.0 SITE IMPRO	VEMENTS																	
1.1 Paving	Not applicable							\$ -	-	-	-	-	-	-	-	-	-	-
1.2 Flatwork	Not applicable							\$ -	-	-	-	-	-	-	-	-	-	-
1.3 Landscaping	Plants - Sod - Overgrowth - Trimming/removals - BLW							\$ -	Poor	80	10	38	Medium	197	8 45	100	45	55
2.0 STRUCTURE	& BUILDING ENVELOPE																	
2.1 Substructure	Foundations - Replacement	\$	100,000					\$ 100,000	Critical	81	60	73	High	197	8 45	100	100	0
2.2 Superstructure	Structural Framing - Wood - Columns, Beams and Prefabricated Trusses -	\$	100,000					\$ 100,000	Critical	0.1	60	72	High	197	8 45	100	100	
	Replacement	^	150.000					¢ 450,000		81	. 60	/3	High	1978	8 45	100	100	
	Structural Study - Review & Reporting	\$	150,000					\$ 150,000		-	5 40		- High	- 407	- 45	-	- 45	-
2.3 Exterior	Walls, Siding, Sheet Metal & Sealants - Replacement	\$	100,000					\$ 100,000		85	5 40			1973 1973		40	45	0
	Barn Doors, Doors & Weatherstipping - Sliding - Replacement	\$	20,000					+ '	Critical	85			High			30	45	0
2.4.0. (*)	Windows & Frames - Replacement	\$	5,000						Critical	85	50 30		High	1973 1973		40		0
2.4 Roofing	Sloped Metal Roof & Sheet Metal- Replacement	\$	100,000					\$ 100,000	Critical	83	30	63	High	197	8 45	40	45	
3.0 MECHANICA																		
3.1 Plumbing	Not applicable							\$ -	-	-	-	-	-	-	-	-	-	-
3.2 HVAC	Ventillation Fans (Chore-Time) Systems - Replacement			\$ 10,000				+ '	Critical	85	5 20		High	197		20	40	0
3.3 Electrical	Distribution & Wiring Systems - Replacement & Thermographic Scanning	\$	25,000					\$ 25,000	Critical	85	60	75	High	197	8 45	10	40	0
4.0 SPECIAL SYS	TEMS																	
4.1 Security	Not applicable							\$ -	-	-	-	-	-	-	-	-	-	-
4.2 Fire & Life	Not applicable				-	-	-	\$ -	-	-	-	-	-	-	-	-	-	-
5.0 INTERIOR E	.EMENTS																	
5.1 Finishes	Metal Wall & Ceiling Panels - Replacement			\$ 100,000				\$ 100,000	Critical	85	20	59	High	197	8 45	40	45	0
6.0 MISCELLAN	EOUS				·					·								
6.1 Other	DSS	\$	10,000					\$ 10,000	-	-	-	-	-	-	-	-	-	-

FACILITY CONDITION INDEX (FCI)						
Estimated Current Replacement Value of Building	\$	450,000				
	IMMEDIATE 2023	YEARS 1 - 5 2024 - 2028	YEARS 6 - 10 2029 - 2033	YEARS 11 - 15 2034 - 2038	YEARS 16 - 20 2039 - 2043	TOTAL
Current Aggregated Total Costs Estimate	\$ 610,000		\$ -	\$ -	\$ -	\$ 720,000
Inflated Aggregated Total Costs	\$ 624,030	\$ 112,530	\$ -	\$ -	\$ -	\$ 736,560
CURRENT FCI	136%	24%	0%	0%	0%	160% CRITICAL

# FCI Classifications:

1. FCI = 0-5% Good Condition. Asset in reasonable condition and does not require capital expenditure

2. FCI = 6-10% Fair Condition. Asset is deteriorating, requires capital expenditure and will likely become "poor" within a few years if not addressed.

3. FCI = 11-30% Poor Condition. Asset is deteriorated and requires immediate capital expenditure.

4. FCI = > 31% Critical Condition. Asset is in disrepair or dilapidated and requires urgent significant capital expenditure.



# **APPENDIX C**

# **RESUMES**

25 First Street Orangeville, Ontario L9W 2C8

Tel: 519-940-0571

Email: info@kellerengineering.com



# Jim Rammos, P.Eng., IEEE ~ CURRICULUM VITAE

#### AREAS OF EXPERTISE

Mr. Rammos has extensive knowledge and experience in the Building Science and Forensics industry. His specific areas of expertise include building science, thermographic scanning, mechanical & electrical engineering, new and restoration construction, reserve fund studies, performance audits, mechanical & electrical systems designs and assessments.

#### **QUALIFICATIONS**

Keller Engineering, located in Orangeville, Ontario services Southern Ontario and South Saskatchewan. We specialize in building inspection and commercial real estate consulting services. Our firm is a consulting engineering company that combines the resources of engineering leaders with the service and responsiveness of your own dedicated, local firm. With broad expertise and carefully controlled standards of quality our engineers provide a resource base that offers our clients the highest quality engineering evaluations.

Keller Engineering services encompass investigations and analyses vital to property acquisition and management, including: Due Diligence Reports, Property Condition Assessments, Reserve Studies, Performance Audits, Environmental Site Assessments, Construction Plan and Cost Reviews, Construction Loan Monitoring, Construction Quality Inspections, Structural Investigations, Facilities Management Consulting, Forensic Engineering, Insurance Investigations, and Design and Related Services.

Jim Rammos, P.Eng., IEEE is a Senior Engineer at Keller Engineering. Mr. Rammos is a licensed Professional Engineer in the province of Ontario and has over 25 years of engineering experience. To complement his portfolio of work Mr. Rammos also works with our clients to complete restoration work, building condition assessments, capital replacement studies and is a certified thermographer to complete electrical thermographic scanning and energy audits.







25 First Street Orangeville, Ontario L9W 2C8

Tel: 519-940-0571

Email: info@kellerengineering.com



#### **EDUCATION**

- Bachelor of Technology (B.Tech.), Ryerson Polytechnical University, Toronto, ON
- Bachelor of Engineering (B.Eng.), University of Toronto, Toronto, ON
  - Major: Mechanical Engineering
- Bachelor of Applied Science (B.A.Sc.), University of Toronto, Toronto, ON
  - Major: Electrical Engineering
- Professional Engineer, Professional Engineers Ontario, licensed since 1995
- BCIN Building Code Identification Number 35394
- Certified Thermographer Level 1, since 2007

#### PROFESSIONAL REGISTRATIONS

Licensed, Association of Professional Engineers of Ontario (PEO)

American Society of Heating, Refrigeration & Air-Conditioning Engineers (ASHRAE)

Canadian Society for Mechanical Engineers (CSME)

Canadian Automated manufacturing Society (CAMS)

Institute of Electronics & Electrical Engineers (IEEE)

Ontario Building Envelope Council (OBEC)







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Tel: 519-940-0571

Email: info@kellerengineering.com



# Jaime Rodríguez, B.Tech. (Arch.Sc.), C.E.T., RRO ~ CURRICULUM VITAE

#### AREAS OF EXPERTISE

Mr. Jaime Rodriguez specializes in building science and building envelope engineering. Jaime provides design & replacement/repair planning, quality control, building envelope forensics, diagnostic testing, and contract management services. He is primarily engaged in engineering project management, providing technical expertise, and building science/engineering design and property condition assessments.

#### **QUALIFICATIONS**

Keller Engineering, located in Orangeville, Ontario services Southern Ontario and South Saskatchewan. We specialize in building inspection and commercial real estate consulting services. Our firm is a consulting engineering company that combines the resources of engineering leaders with the service and responsiveness of your own dedicated, local firm. With broad expertise and carefully controlled standards of quality our engineers provide a resource base that offers our clients the highest quality engineering evaluations.

Keller Engineering services encompass investigations and analyses vital to property acquisition and management, including: Due Diligence Reports, Property Condition Assessments, Reserve Studies, Performance Audits, Environmental Site Assessments, Construction Plan and Cost Reviews, Construction Loan Monitoring, Construction Quality Inspections, Structural Investigations, Facilities Management Consulting, Forensic Engineering, Insurance Investigations, and Design and Related Services.

Jaime Rodríguez is Senior Project Manager at Keller Engineering. Mr. Rodriguez is a Certified Engineering Technologist in the Province of Ontario and has over 20 years of engineering experience. Jaime has effective problem-solving skills that provide practical engineering, project management & field applied solutions.

#### **EDUCATION**

• Bachelor of Technology (B.Tech.), Ryerson University, Toronto, ON

#### PROFESSIONAL REGISTRATIONS

Certified Engineering Technologist, Ontario Association of Engineering Technicians and Technologists (OACETT).

International Institute of Building Enclosure Consultants (IIBEC), RRO Designation.





