

ITC SOLUTIONS

GLENVIEW PUBLIC SCHOOL GYM ADDITION

Address: 143 Townsend Ave Burlington ON
No. Of storeys: One
Occupancy: A

Integrated System Testing of Fire Protection and
Life Safety Systems
To CAN/ULC-S1001

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PROJECT CONTACTS

Owner/ Owner Representative	
Name:	Halton District School Board
Address:	2050 Guelph Line Burlington ON
Phone Number:	905 335 3663
Responsibilities:	

Electrical Engineer	
Name:	DEI Consulting Engineers
Address:	55 Northland Rd Waterloo ON
Phone Number:	519 725 3555
Responsibilities:	Design Professional

Integrated Testing Coordinator:	
Name:	ITC Solutions
Address:	20 Hanson Ave Kitchener ON
Phone Number:	519 502 2764
Responsibilities:	ITC Coordinator

General Contractor:	
Name:	Golden Gate Contracting
Address:	1038 Cooke Blvd #1 Burlington ON
Phone Number:	905 844 1122
Responsibilities:	

Electrical Contractor	
Name:	B-Safe Electric
Address:	5080 Timberlea Blvd #1 Mississauga ON
Phone Number:	905 872 7233
Responsibilities:	Fire alarm installation

Fire Alarm Contractor	
Name:	Mircom
Address:	25 Interchange Way Vaughan ON
Phone Number:	365 544 1850
Responsibilities:	Fire alarm programming and verification

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SYSTEM OVERVIEW DESCRIPTION

Fire Alarm System & Integration

An existing single level building protected by a single-stage fire alarm system. The fire alarm control unit is located in side parking lot vestibule.

Building has a new gymnasium addition added requiring upgrades to fire alarm. Existing fire alarm panel is replaced with new and gymnasium has new fire smoke dampers and fire shutter installed. Occupant notification of a fire alarm condition in the building is provided via horns and horn/strobe's installed throughout the building.

The fire alarm is integrated with fire smoke dampers to monitor alarm and trouble conditions.

The fire alarm system is monitored by a fire signal receiving centre.

Fire Smoke Dampers & Integration

The building has fire smoke dampers installed in new addition to provide smoke control.

The fire smoke dampers will close on activation of associated smoke detector located at each damper. The fire alarm monitors the smoke detector for alarm condition and loss of power on trouble condition..

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INTEGRATION MATRIX

System A	System B	Integration Type	Normal Mode	Off-Normal / Fire Mode
Fire Alarm	Fire Smoke Dampers	Alarm Condition	Smoke detector for associated damper is clear and no off-normal conditions exist on fire alarm.	Smoke detector is initiated in alarm condition for specified duct, fire alarm is in alarm state and associated damper closes.
		Trouble Condition	Smoke detector for associated damper is clear and no off-normal conditions exist on fire alarm.	Power to fire smoke damper is disconnected, a trouble condition exists on fire alarm panel and associated damper closes.
Fire Alarm	Fire Signal Receiving Centre	Alarm Condition	No alarm condition on the fire alarm system, no signal at fire signal receiving centre.	Alarm condition on the fire alarm system, alarm signal transmitted to and received by fire signal receiving centre.
		Supervisory Condition	No supervisory condition on the fire alarm system, no signal at fire signal receiving centre.	Supervisory condition on the fire alarm system, supervisory signal transmitted to and received by fire signal receiving centre.
		Trouble Condition	No trouble condition on the fire alarm system, no signal at fire signal receiving centre.	Trouble condition on the fire alarm system, trouble signal transmitted to and received by fire signal receiving centre.
		Connection Integrity	Signal receiving centre disconnect not activated, no signal at fire signal receiving centre.	Signal receiving centre disconnect activated, trouble signal sent and received by signal receiving centre.

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TEST PROTOCOLS AND PROCEDURES

FIRE ALARM / FIRE SIGNAL RECEIVING CENTRE INTEGRATIONS

FIRE ALARM ALARM CONDITION TEST PROCEDURE

NORMAL MODE	<ul style="list-style-type: none">- Review fire signal transmitting unit installation and connection to fire alarm system.- Fire alarm system clear and no off-normal conditions exist
FIRE MODE	<ul style="list-style-type: none">- Activate a fire alarm device to cause an alarm operation on fire alarm- Confirm receipt of alarm condition signal by the fire signal receiving centre.- Reset system to normal condition

FIRE ALARM SUPERVISORY CONDITION TEST PROCEDURE

NORMAL MODE	<ul style="list-style-type: none">- Review fire signal transmitting unit installation and connection to fire alarm system.- Fire alarm system clear and no off-normal conditions exist
FIRE MODE	<ul style="list-style-type: none">- Activate a fire alarm supervisory device to cause a supervisory condition on fire alarm- Confirm receipt of supervisory condition signal by the fire signal receiving centre.- Reset system to normal condition

FIRE ALARM TROUBLE CONDITION TEST PROCEDURE

NORMAL MODE	<ul style="list-style-type: none">- Review fire signal transmitting unit installation and connection to fire alarm system.- Fire alarm system clear and no off-normal conditions exist
FIRE MODE	<ul style="list-style-type: none">- Cause a trouble condition on fire alarm- Confirm receipt of trouble condition signal by the fire signal receiving centre.- Reset system to normal condition

CONNECTION INTEGRITY CONDITION TEST PROCEDURE

NORMAL MODE	<ul style="list-style-type: none">- Review fire signal transmitting unit installation and connection to fire alarm system.- Fire alarm system clear and no off-normal conditions exist
FIRE MODE	<ul style="list-style-type: none">- Disconnect the alarm signal connection circuit between the fire alarm control unit and the fire signal transmitting unit.- Confirm receipt of trouble transmission signal by the fire signal receiving centre.- Return alarm signal connection circuit between the fire alarm control unit and the fire signal transmitting unit to normal condition.

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TEST PROTOCOLS AND PROCEDURES

FIRE ALARM / FIRE SMOKE DAMPERS INTEGRATIONS

FIRE SMOKE DAMPER TEST PROCEDURE

NORMAL MODE	<ul style="list-style-type: none">- Review fire smoke damper installation and connection to fire alarm.- Fire alarm system clear and no off-normal conditions exist- Confirm fire smoke damper is in open position.
FIRE MODE	<ul style="list-style-type: none">- Activate local smoke detector associated to damper.- Confirm correct annunciation on fire alarm system.- Confirm associated damper closes.- Reset fire alarm and smoke detector to normal condition.- Confirm damper returns to normal open position.
TROUBLE MODE	<ul style="list-style-type: none">- Disconnect power to fire smoke damper.- Confirm correct annunciation on fire alarm system.- Confirm associated damper closes.- Reset fire alarm and smoke detector to normal condition.- Confirm damper returns to normal open position.

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PERSONNEL SAFETY

Personnel Safety

Integrated systems testing will be implemented for this project during the construction phase. Head, eye and ear protection will be required as well as safety footwear and vest. The general contractor has safety training and orientation requirements for on-site personnel.

During implementation of the integrated testing plan no participant shall assume the system testing will function as expected. Safe work practices and distances shall be maintained with all equipment when operated. Personnel operating systems shall hold federal, provincial and territorial certifications as required.

In the event of the unexpected operation of a system which could harm a testing participant, a building occupant or the system testing shall be suspended and reviewed for further action required.

In the event of an actual emergency during testing the general contractor is to be contacted to implement site emergency procedure.

PHASED OCCUPANCY

Phased Occupancy

Phased occupancy is not planned.

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Integrated Testing Checklist			
Location	Glenview Public School	Service Order #	
Address:	143 Townsend Ave Burlington ON	Date:	May 20, 2025

Participants	Role	Company	Name
✓	Integrated Testing Coordinator	ITC Solutions	
	General Contractor		
✓	Electrical Contractor	B-Safe Electric	
	Fire Alarm Contractor		
	Sprinkler/Standpipe Contractor		
	Elevator Contractor		

Integrated Systems Testing Protocols and Procedures					
NO.	System Integration	Record of Testing			Notes
Fire Alarm / Fire Signal Receiving Centre Integrations:					
Normal Mode: Review fire signal receiving centre installation and confirm correct fire alarm system status.					
Fire Mode: Cause associated condition on fire alarm system and confirm receipt of correct signal at fire signal receiving centre.					
1	Alarm Condition	Normal Mode:	<input checked="" type="checkbox"/> PASS	<input type="checkbox"/> FAIL	
		Fire Mode:	<input checked="" type="checkbox"/> PASS	<input type="checkbox"/> FAIL	
2	Supervisory Condition	Normal Mode:	<input type="checkbox"/> PASS	<input type="checkbox"/> FAIL	N/A
		Fire Mode:	<input type="checkbox"/> PASS	<input type="checkbox"/> FAIL	
3	Trouble Condition	Normal Mode:	<input checked="" type="checkbox"/> PASS	<input type="checkbox"/> FAIL	
		Fire Mode:	<input checked="" type="checkbox"/> PASS	<input type="checkbox"/> FAIL	
4	Connection Integrity	Normal Mode:	<input checked="" type="checkbox"/> PASS	<input type="checkbox"/> FAIL	
		Fire Mode:	<input checked="" type="checkbox"/> PASS	<input type="checkbox"/> FAIL	

Integrated Systems Testing Protocols and Procedures					
NO.	System Integration	Record of Testing			Notes
Fire Smoke Damper / Fire Alarm Integrations:					
Normal Mode: Review device installation and confirm correct fire alarm system status.					
Fire Mode: Introduce smoke into smoke detector to initiate an alarm, confirm correct operation of associated damper and fire alarm annunciation .					
5	In Washroom 134	Normal Mode:	<input checked="" type="checkbox"/> PASS	<input type="checkbox"/> FAIL	
		Fire Mode:	<input checked="" type="checkbox"/> PASS	<input type="checkbox"/> FAIL	
6	Gym Hall at Washroom 135	Normal Mode:	<input checked="" type="checkbox"/> PASS	<input type="checkbox"/> FAIL	
		Fire Mode:	<input checked="" type="checkbox"/> PASS	<input type="checkbox"/> FAIL	

Integrated Systems Testing Protocols and Procedures					
NO.	System Integration	Record of Testing			Notes
Fire Smoke Damper / Fire Alarm Integrations:					
Normal Mode: Review device installation and confirm correct fire alarm system status.					
Fire Mode: Disconnect power to fire smoke damper, confirm correct operation of associated damper and fire alarm annunciation.					
7	In Washroom 134	Normal Mode:	<input checked="" type="checkbox"/> PASS	<input type="checkbox"/> FAIL	
		Fire Mode:	<input checked="" type="checkbox"/> PASS	<input type="checkbox"/> FAIL	
8	Gym Hall at Washroom 135	Normal Mode:	<input checked="" type="checkbox"/> PASS	<input type="checkbox"/> FAIL	
		Fire Mode:	<input checked="" type="checkbox"/> PASS	<input type="checkbox"/> FAIL	

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Integrated Systems Testing Notes

- Site address and all signals confirmed with dispatch operator at signal receiving centre. Account #HB 6680
- Fire alarm panel doesn't have supervisory devices installed and was not tested.

Testing completed as per CAN/ULC-S1001

Date: May 20, 2025

Mark Jacobs
ULC CERTIFIED ITC

19-991139
CFAA #


Signature




ITC Solutions
Company

519 502 2764
Phone

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INTEGRATED TEST PLAN REVIEW AND ACCEPTANCE




The respective design professionals have reviewed and are accepting the Integrated Testing Plan. The Integrated Testing Plan appears complete and thoroughly covering the original design.

Role	Design Professional	Signature / Date	Responsibilities
<i>Architectural Design Professional:</i> Snyder Architects	Name: Amit Patel	Signature:  Date: April 21, 2025	Review of <i>Integrated Testing Plan</i> & coordinate with the <i>Design Professionals</i> .
<i>Electrical Design Professional:</i> DEI Consulting Engineers	Name: David Pelger	Signature:  Date: May 12, 2025	Review of <i>Integrated Testing Plan</i> & <i>Design Professional</i> responsible for <i>Design Criteria</i> and the <i>Interconnections</i> between <i>Fire Protection</i> and <i>Life Safety Systems</i> as outlined within the respective <i>Electrical</i> design documents.
<i>Mechanical Design Professional:</i> DEI Consulting Engineers	Name: Jake Graham	Signature:  Date: May 12, 2025	Review of <i>Integrated Testing Plan</i> & <i>Design Professional</i> responsible for <i>Design Criteria</i> and the <i>Interconnections</i> between <i>Fire Protection</i> and <i>Life Safety Systems</i> as outlined within the respective <i>Mechanical</i> design documents.

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ACCEPTANCE TESTING



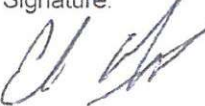
Respective design professionals have conducted acceptance testing that their respective fire protection and life safety systems have been installed in accordance with the design and are ready for integrated fire protection and life safety system testing.

Role	Design Professional	Signature / Date	Responsibilities
Architectural <i>Design Professional:</i> Snyder Architects	Name: 	Signature:  Date: May 12, 2025	Review of <i>Integrated Testing Plan</i> & coordinate with the <i>Design Professionals</i> .
Electrical <i>Design Professional:</i> DEI Consulting Engineers	Name: David Pelger	Signature:  Date: May 12, 2025	Review of <i>Integrated Testing Plan</i> & <i>Design Professional</i> responsible for <i>Design Criteria</i> and the <i>Interconnections</i> between <i>Fire Protection and Life Safety Systems</i> as outlined within the respective Electrical design documents.
Mechanical <i>Design Professional:</i> DEI Consulting Engineers	Name: Jake Graham	Signature:  Date: May 12, 2025	Review of <i>Integrated Testing Plan</i> & <i>Design Professional</i> responsible for <i>Design Criteria</i> and the <i>Interconnections</i> between <i>Fire Protection and Life Safety Systems</i> as outlined within the respective Mechanical design documents.

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INSTALLATION SIGN-OFF

Respective installing contractors have installed their life safety systems in accordance with the design and are ready for CAN/ULC -S1001 integrated fire protection and life safety system testing.

Role	Name	Signature / Date	Responsibilities
Electrical Contractor: B-SAFE Electric	Ross ARMSTRONG	Signature:  Date: MAY 13/25	Installation and function testing of fire alarm and electrical systems
Mechanical Contractor: KIRK MECHANICA	Ed Baker	Signature:  Date: May 13/25	Installation and function testing of HVAC systems
Fire Alarm Contractor: MIRCOM TECHNOLOGIES LTD	EDWARD MARTO	Signature:  Date: MAY 15T, 2025	Fire Alarm program and verification.
Sprinkler Contractor:	N/A	Signature: Date:	Installation and function testing of fire protection system
Elevator Contractor:	N/A	Signature: Date:	Installation and function testing of elevators.