

ISSUED FOR BUILDING PERMIT
FIRE PROTECTION & LIFE SAFETY
BUILDING CODE OUTLINE REPORT

PARAMEDIC SERVICES REPORTING STATION
BRAMPTON, ON

May 24, 2024
Our File: 22-723

1.0 INTRODUCTION

The following is an outline of the building code concepts for Paramedic Services Reporting Station (Project) located in Brampton, Ontario.

The Project will include the new construction of a 2-storey office and storage (parking) garage with a mechanical penthouse enclosure. The Project will be approximately 5,366 m² in building area.

All reference numbers indicated in this report refer to the 2012 Ontario Building Code (OBC), as amended by O. Reg. 163/24 (April 10, 2024), unless otherwise indicated. This report is based on architectural drawings prepared by Diamond Schmitt Architects dated April 22, 2024.

This report was prepared by LMDG Building Code Consultants Ltd. (LMDG) for Diamond Schmitt Architects. The material provided in this report is based on LMDG's best judgement in light of the information available to LMDG at the time of preparation. Any use of this report by third parties, or any reliance on or decisions to be made based on it are the responsibility of such third parties. LMDG accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

2.0 PROJECT BUILDING CHARACTERISTICS

2.1 Building Characteristics

The following identifies the Project characteristics for the purpose of applying the OBC:

Applicable Building Code Part:	Part 3
Number of buildings:	1
Building height:	2-storeys
Building area:	5,366 m ² (approx.)
First storey:	Level 1
Number of streets facing:	1
Sprinklered:	Yes
Major occupancies:	Group D (Office) and Group F, Division 3 (Parking)

Building height to top floor: 9
Building height to ceiling of top floor: 13
High building: No
Construction type: Noncombustible

2.2 Major Occupancy

The Project will be classified as containing Group D (Business and Personal Services – Office) and Group F, Division 3 (Low Hazard Industrial – Storage Garage) major occupancies.

The proposed building will also include subsidiary amenity, storage, and service spaces.

2.3 Building Height

In accordance with Sentence 3.2.1.1.(1), the mechanical penthouse level will not be considered as a storey in determining building height in consideration that the rooftop enclosure is provided for stairways and service rooms and is used for no purpose other than for service to the building.

2.4 First Storey

The first storey of a building, as defined in the OBC, is the storey that has its floor level closest to grade and its ceiling more than 1.8 m above grade. As such, based on established grade, Level 1 will be the first storey of the Project and it will be classified as being 2-storeys in building height.

2.5 Number of Streets Facing

The Project will face one street. In accordance with Sentence 3.2.2.10.(1) and the applicable Articles of Subsection 3.2.2., this Project is only required to face one street.

3.0 PROVISIONS FOR FIRE FIGHTING

3.1 Fire Department Principal Entrance

It is proposed, within the scope of this Project, to locate the principal Fire Department entrance and primary response point on the North building face within the entrance vestibule on Level 1 having access off Dixie Road. In accordance with Article 3.2.5.5., the principal entrance of the building will be located 3 m to 15 m from the closest portion of an access route.

3.2 Fire Department Vehicle Access Route

In accordance with Article 3.2.5.6., the portions of the roadways that will serve as a required access route for Fire Department use will:

- have a clear width of not less than 6 m,
- have a centre line radius of not less than 12 m,
- have an overhead clearance of not less than 5 m,

- have a change in gradient of not more than 1 in 12.5 over a minimum distance of 15 m,
- be designed to support the expected loads imposed by firefighting equipment, and surfaced with concrete, asphalt, or other material designed to permit accessibility under all climatic conditions,
- have turnaround facilities for any dead-end portion of the access route more than 90 m long, and

be connected to a public thoroughfare.

3.3 Fire Department Connections and Fire Hydrants

In accordance with Article 3.2.5.16. and Sentence 3.2.5.5.(2), the Fire Department will be able to position their Fire Department pumper vehicle adjacent to a hydrant and the hydrant will be not more than 45 m from the Fire Department connections for the building.

In accordance with Sentence 3.2.5.7.(2), hydrants will be located within 90 m of any portion of a building perimeter required to face a street.

4.0 PROJECT CONSTRUCTION / STRUCTURAL FIRE PROTECTION

4.1 Floor and Roof Ratings

Based on the building characteristics noted in **Section 2.0** of this report, the construction/ structural fire protection for the Project will be governed by the following requirements:

Occupancy Classification	Article	Max. Bldg. Height	Max. Bldg. Area	Constr. Type	Floor Assembly	Sprinkler	Mezzanines	Unoccupied Roof	Supports
Group D	3.2.2.54.	3-storeys	7,200 m ²	Comb. or Non-comb.	Non-comb. or ¾-hour ⁽¹⁾	Yes	Non-comb. or ¾-hour	Not Req'd	(2)
Group F-3	3.2.2.77.	4-storeys	7,200 m ²	Comb. or Non-comb.	Non-comb. or ¾-hour ⁽¹⁾	Yes	Non-comb. or ¾-hour	Not Req'd	(2)

(1) Constructed as fire separations.

(2) Load-bearing walls, columns, and arches are required to be of noncombustible construction or have a fire-resistance rating of not less ¾-hour.

In a building where one major occupancy is located entirely above another major occupancy, the requirements for each portion of the building containing a major occupancy will apply to that portion as if the entire building were of that major occupancy, and the fire-resistance rating of the floor assembly between the major occupancies will be determined on the basis of the requirements for the lower major occupancy.

4.2 Summary of Construction Requirements

The construction/structural fire protection and major occupancy requirements are as follows:

- to be constructed of combustible or noncombustible constructions singly or in combination,
- automatic sprinkler protection throughout the building,
- unoccupied roof assemblies are not required to be rated,
- occupied roof assemblies to be constructed as **¾-hour fire separations** or be of noncombustible construction,
- floor assemblies to be constructed as **¾-hour fire separations** or be of noncombustible construction,
- mezzanines will be constructed with a **¾-hour fire-resistance rating** or noncombustible construction, and
- load-bearing walls, columns, and arches are required to have a fire-resistance rating not less than **¾-hour** or be of noncombustible construction.

4.3 **Roof Covering**

In accordance with Sentence 3.1.15.2.(1), roof coverings for this Project will have a Class A, B, or C rating, tested in conformance with CAN/ULC-S107-10, "Fire Tests of Roof Coverings."

4.4 **Interior Finishes**

The Project is permitted to be of combustible construction. Combustible elements will be provided in accordance with the following requirements of Subsection 3.1.4.

4.4.1 **Protection of Foamed Plastics**

In accordance Article 3.1.4.2., foamed plastics that form part of a wall or ceiling assembly will be protected from adjacent spaces in the building, except other adjacent concealed spaces within attic or roof spaces, crawl spaces and wall assemblies, by means of:

- interior finishes as described in Subsections 9.29.4. to 9.29.9., or
- any thermal barrier that meets the requirements of Sentence 3.1.5.12A.(2) (i.e., 12.7 mm gypsum board).

The flame spread rating on any exposed surface of combustible insulation, or any surface that would be exposed by cutting through it in any direction, will not be more than 500.

4.4.2 **Flame-Spread Rating and Smoke Developed Classification Limits**

In addition to the above-noted requirements, other interior finish materials on the surface of floors, walls and ceilings of this Project will not exceed the following flame-spread rating (FSR) and smoke developed classification (SDC) limits of Subsection 3.1.13.

Occupancy, Location or Element	Maximum FSR			Maximum SDC		
	walls	ceiling	floor	walls	ceiling	floor
Exits and Exit Lobbies	25 ⁽¹⁾	25 ⁽¹⁾	—	—	—	—
Light Fixture Lenses	—	150 ⁽²⁾	—	—	—	—

Occupancy, Location or Element	Maximum FSR			Maximum SDC		
	walls	ceiling	floor	walls	ceiling	floor
Doors	200	—	—	—	—	—
Rooms/Spaces not mentioned above	150	150	—	—	—	—

- (1) Up to 10% of the total wall area (25% for exit lobbies) and 10% of the total ceiling area of a wall or ceiling finish is permitted to have a FSR of up to 150. Combustible doors, glazing and light diffusers and lenses are required to be considered in the calculation of wall and ceiling areas.
- (2) Light fixture lenses conforming to Sentence 3.1.13.4.(1) may exceed 150 FSR.

4.4.3 Flame-Spread Rating and Smoke Developed Classification Limits

In addition to the above-noted requirements, other interior finish materials on the surface of floors, walls and ceilings of this Project will not exceed the following flame-spread rating (FSR) and smoke developed classification (SDC) limits of Subsection 3.1.13.

Occupancy, Location or Element	Maximum FSR			Maximum SDC		
	walls	ceiling	floor	walls	ceiling	floor
Exits and Exit Lobbies	25 ⁽¹⁾⁽²⁾	25 ⁽¹⁾⁽²⁾	—	—	—	—
Vertical Service Shafts	25	25	—	—	—	—
Covered Vehicular Passageway	25	25	—	—	—	—
Elevator Cars	75	75	—	450	450	450
Light Fixture Lenses	—	150 ⁽²⁾	—	—	—	—
Doors	200	—	—	—	—	—
Rooms/Spaces not mentioned above	150	150	—	—	—	—

- (1) Combustible doors, glazing and light diffusers and lenses are required to be considered in the calculation of wall and ceiling areas. Doors and trim are permitted to have a FSR of up to 150.
- (2) The FSR for exits will also apply to any surface in the exit that would be exposed by cutting through the material in any direction, except that this requirement does not apply to doors, heavy timber construction in a sprinklered building and fire-retardant treated wood.
- (3) Light fixture lenses conforming to Sentence 3.1.13.4.(1) may exceed 150 FSR.

5.0 REQUIRED FIRE SEPARATIONS

In accordance with Article 3.1.7.1., a material, assembly of materials, or a structural member required to have a fire-resistance rating will be based on either:

- an assembly assigned a fire-resistance rating based on tests conforming to CAN/ULC-S101-14, "Fire Endurance Tests of Building Construction and Materials," such as listings from ULC (or an equivalent approved listing agency), or
- MMAH Supplementary Standard SB-2, "Fire Performance Ratings" of the OBC, for wall assemblies or ceiling and floor assemblies.

The following sections summarize requirements for fire separations of the Project.

5.1 Separation of Major Occupancies

Major occupancies are required to be separated from adjoining major occupancies by fire separations having a fire-resistance rating conforming to Table 3.1.3.1., as reproduced in part below:

Major Occupancy	Adjoining Major Occupancy	Min. Fire-Resistance Rating of Fire Separation
Group D	Group F-3	N/A

5.2 Public Corridors

In accordance with Sentence 3.3.1.4.(2), a fire separation between a public corridor and the remainder of the storey is required to have a 0-hour fire-resistance rating. However, in accordance with Sentence 3.3.1.4.(4), in a storey that is sprinklered, a fire separation between a public corridor and the remainder of the storey is not required, provided the travel distance from any part of the floor area to an exit is not more than 45 m.

5.3 Vertical Shafts

In accordance with Sentences 3.4.4.1.(1), 3.5.3.1.(1) and 3.6.3.1.(1), shafts and hoistways will be required to be constructed as fire separations having the following fire-resistance ratings (F.R.R.):

Shaft/Hoistway Type	Shaft/Hoistway F.R.R. (Hours)
Exits	$\frac{3}{4}$
Elevators	$\frac{3}{4}$
Vertical Service	$\frac{3}{4}$

Where the top of a service shaft does not extend through the roof, it will terminate at an assembly having a fire-resistance rating at least equal to the walls of the shaft. Similarly, the bottom of a service shaft will terminate at an assembly having a fire-resistance rating at least equal to the walls of the shaft, except where the shaft extends to the bottom of the building.

5.4 Elevator Machine Room

In accordance with Article 3.5.3.3., an elevator machine room containing elevator machinery will be separated from all other parts of the building by a fire separation having a fire-resistance rating not less than that required for the vertical service space containing the elevator hoistway. The elevator machine room will be separated from the remainder of the building by $\frac{3}{4}$ -hour fire separations.

In accordance with Sentence 3.5.3.3.(2), an elevator machine room is not required to be separated from the elevator hoistway that it serves, provided the elevator machine room and the hoistway it serves are separated from the remainder of the building by fire separations having a $\frac{3}{4}$ -hour fire-resistance rating.

5.5 Service Rooms

In accordance with Sentence 3.6.2.1.(1), fuel-fired appliances will be required to be located in a service room separated from the remainder of the building by a fire separation having a fire-resistance rating of not less than 1-hour.

In accordance with Sentence 3.6.2.1.(8), a room containing a limited quantity of service equipment, and service equipment that does not constitute a fire hazard, will not be required to be separated from the remainder of the building by a fire separation.

5.6 Electrical Rooms

In accordance with Sentence 3.6.2.1.(6), electrical equipment that is required to be located in a service room by a regulation made under the Electricity Act, 1998, will be installed in a service room separated from the remainder of the building by a 1-hour fire separation.

5.7 Fire Pump Room

In accordance with Sentence 3.2.5.19.(1), fire pumps having a rated net head pressure greater than 280 kPa are required to be installed in accordance with the requirements of NFPA 20, "Installation of Stationary Pumps for Fire Protection."

In accordance with paragraph 4.13.1.1.1 of NFPA 20-2016, the room containing the fire pump will be separated from the remainder of the building by a 1-hour fire separation.

5.8 Janitors' Closets

In accordance with Sentence 3.3.1.20.(3), janitors' closets located in sprinklered floor areas will be separated from the remainder of the building by fire separations having no fire-resistance rating.

5.9 Vehicle Storage Garage

In accordance with Article 3.3.5.6., the storage garage will be separated from adjacent occupancies by 1½-hour fire separations. Ventilation of this space will be required as identified in Part 6 of the OBC.

A Vehicle Inspection Area is proposed to be located within the vehicle storage garage of the Project. It is understood that this inspection area will not include any facilities for the repair or servicing of motor vehicles. Therefore, it will not be fire separated from the remainder of the storage garage, as it will not be classified as a repair garage.

5.10 Compressed Oxygen Cylinder Storage

If the amount of compressed oxygen stored in the Cylinder Room on Level 1 of the Project exceeds 150 kg, the Cylinder Room is required to comply with Section 5.6 of the Ontario Fire Code.

5.11 Building Services in Fire Separations and Fire-Rated Assemblies

In accordance with Sentence 3.1.9.1.(1), piping, tubing, ducts, chimneys, optical fibre cables, electrical wires and cables, totally enclosed noncombustible raceways, electrical outlet boxes, and other similar building services penetrating a membrane that forms part of an assembly required to provide a fire-resistance rating, or a fire separation, will be tightly fitted or sealed by a firestop system that, when subjected to the fire test method in CAN/ULC-S115-11, "Fire Tests of Firestop Systems," has an F-rating not less than the fire-protection rating required for closures in the fire separation.

5.12 Closures (Doors, Glazing and Dampers)

5.12.1 Maximum Size

In accordance with Sentence 3.1.8.6.(2), the size of an opening in an interior fire separation required to be protected with a closure will not exceed 22 m² and will have no dimension greater than 6 m, provided the fire compartments on both sides are sprinklered.

5.12.2 Fire-Protection Rating

Closures for openings in all fire separations will be provided with a fire-protection rating in accordance with Article 3.1.8.4. and Table 3.1.8.4., as reproduced in part below:

Required Fire-Resistance Rating of Fire Separation (Hours)	Required Fire-Protection Rating of Closure (Hours)
$\frac{3}{4}$	$\frac{3}{4}$
1	$\frac{3}{4}$

Doors located in fire separations will not be permitted to incorporate louvres, grills, or other similar types of unprotected openings.

5.12.3 Permitted Glazing in Fire Separations

5.12.3.1 Wired Glass or Glass Block

In accordance with Article 3.1.8.14., wired glass or glass block may be used as a closure in a fire separation (except as noted in Table 3.1.8.15.), provided the required fire-resistance rating of the fire separation does not exceed 1-hour.

Wired glass assemblies used in vertical fire separation assemblies with a rating of up to 1-hour, installed in accordance with Supplementary Standard SB-2, will be acceptable.

5.12.3.2 Sprinkler-Protected Glazed Wall Assembly

In accordance with Article 3.1.8.18., a sprinkler-protected glazed wall assembly may be installed in partitions with a fire-resistance rating of up to 2-hours. However, this type of protection is not permitted to comprise more than one-half of the required number of exits from floor areas of the Project. A window sprinkler system is required to be constructed in accordance with ULC/ORD-C263.1-99, "Sprinkler-Protected Window Systems."

5.12.3.3 ULC Listed Assembly

Glass assemblies that are CAN/ULC-S106-15, "Fire Tests of Window and Glass Block Assemblies" listed for use as a closure in a fire separation (such as Firelite) may also be used, provided they are installed in accordance with their listing and the manufacturer's installation instructions.

5.12.4 Maximum Temperature Rise/Glass Area Limit in Doors

The maximum temperature rise and area of glazing for closures within required fire separations will be in accordance with Table 3.1.8.15., as reproduced in part below:

Fire Separation		Min. Closure Fire- protection Rating	Door Max. Temperature Rise	Max. Area of Wired Glass in Doors	Maximum Aggregate Area of Wired Glass & Glass Block not in Door
Type	Rating				
Exits	¾-hour	¾ hour	250 °C after 1 hour	0.0645 m²	0.0645 m²
All Others	2-hour	1½-hour	N/A	per listing	individual panes not more than 0.84 m²
	1½-hour	1-hour			
	1-hour	¾-hour			
	¾-hour	¾-hour			

In accordance with Article 3.1.8.17., the temperature rise limits and glass area limits are waived for a closure between an exit enclosure and an enclosed vestibule or corridor provided:

- the vestibule or corridor is separated from the remainder of the floor area by a ¾-hour rated fire separation containing no wired glass or glass block within 3 m of the closure into the exit enclosure, and
- the vestibule or corridor contains no occupancy.

5.12.5 Fire and Smoke Dampers

In accordance with Sentence 3.1.8.7.(1), a fire damper having a fire-protection rating is required to be installed in ducts or air-transfer openings that penetrate an assembly required to be a fire separation.

In accordance with Sentence 3.1.8.7.(2), a smoke damper or a combination smoke and fire damper is required to be installed in ducts or air-transfer openings that penetrate an assembly required to be a fire separation, where the fire separation contains an egress door described in Sentence 3.4.2.4.(2).

5.12.5.1 Fire Dampers Waived

In accordance with Sentence 3.1.8.8.(1), the requirement for fire dampers is permitted to be waived for:

- ducts or air-transfer openings that penetrate a vertical fire separation not required to have a fire-resistance rating, and

- noncombustible ducts or air-transfer openings that penetrate a horizontal fire separation not required to have a fire-resistance rating.

In accordance with Sentence 3.1.8.8.(2), the requirement for fire dampers is permitted to be waived for noncombustible branch ducts having a melting point above 760°C that penetrate a fire separation:

- provided the ducts,
 - have a cross-sectional area not more than 130 cm² and serve only air-conditioning units or combined air-conditioning and heating units discharging air not more than 1.2 m above the floor, or
 - extend not less than 500 mm inside exhaust duct risers that are under negative pressure and in which the airflow is upward as required by Article 3.6.3.4., or
- provided the fire separation separates a vertical service space from the remainder of the building, and provided each individual duct exhausts directly to the outdoors at the top of the vertical service space.

5.12.5.2 Smoke Dampers Waived

In accordance with Sentence 3.1.8.8A.(1), the requirement for smoke dampers or combination smoke and fire dampers is permitted to be waived for ducts, in which all inlet and outlet openings serve not more than one fire compartment.

In accordance with Sentence 3.1.8.8A.(2), the requirement for smoke dampers or combination smoke and fire dampers is permitted to be waived for noncombustible branch ducts having a melting point above 760°C that penetrate a fire separation:

- provided the ducts,
 - have a cross-sectional area not more than 130 cm² and serve only air-conditioning units or combined air-conditioning and heating units discharging air not more than 1.2 m above the floor,
 - extend not less than 500 mm inside exhaust duct risers that are under negative pressure and in which the airflow is upward as required by Article 3.6.3.4., or
 - are required to function as part of a smoke control system, or
- provided the fire separation separates a vertical service space from the remainder of the building, and provided each individual duct exhausts directly to the outdoors at the top of the vertical service space.

5.12.6 Self-Closing and Latching Devices

In accordance with Sentence 3.1.8.11.(1), doors in required fire separations will be provided with self-closing devices (closers) designed to return the door to the closed position after each use.

In accordance with Article 3.1.8.13., swing-type doors in fire separations will be equipped with a positive latching mechanism designed to hold the door in the closed position after each use.

5.12.7 Clearances at Door Sills

Except as noted below, in accordance with NFPA 80-2013, "Fire Doors and Other Opening Protectives," doors required to provide a fire-protection rating of $\frac{3}{4}$ to 3-hours will have a maximum clearance below the bottom of the door of 9.5 mm where a noncombustible raised sill (threshold) is provided, and 19 mm where there is no sill (floor).

5.12.8 Hold-Open Devices for Doors

In accordance with Article 3.1.8.12., hold-open devices may be provided for any door of this Project except exit doors. If provided, these hold-open devices will be designed to release upon signal from dedicated smoke detector(s) located as described in CAN/ULC-S524-14, "Installation of Fire Alarm Systems," and upon signal from the fire alarm system of the Project.

6.0 FIRE PROTECTION AND LIFE SAFETY SYSTEMS

In accordance with Sentence 3.2.10.1.(1), where fire protection and life safety systems and systems with fire protection and life safety functions are integrated with each other, they are required to be tested as a whole in accordance with CAN/ULC-S1001-11, "Integrated Systems Testing of Fire Protection and Life Safety Systems," to verify that they have been properly integrated.

6.1 Sprinklers

In accordance with the applicable construction Articles (refer to **Section 4.1** of this report), an automatic sprinkler system will be provided throughout this Project.

In accordance with Sentence 3.2.5.13.(1), the automatic sprinkler system will be required to be designed, constructed, installed, and tested in conformance with NFPA 13-2013, "Installation of Sprinkler Systems."

In accordance with Sentences 3.2.4.8.(2) and 3.2.4.10.(3), the sprinkler system will be required to be electrically supervised and monitored.

6.2 Standpipe System

In accordance with the requirements of Sentence 3.2.9.1.(1), a standpipe system will not be required for the Project in consideration that the building will not be more than 3 storeys

in building height and not more than 14 m high measured between grade and the ceiling of the top storey.

6.3 Fire Alarm System

In accordance with Sentence 3.2.4.1.(2), and in consideration that the total occupant load of the Project will not be more than 300 persons, a fire alarm system will not be provided for this Project.

6.4 Portable Fire Extinguishers

In accordance with Article 3.2.5.17., portable fire extinguishers will be required to be provided throughout the Project in accordance with the Ontario Fire Code.

6.5 Emergency Lighting & Power

In accordance with the requirements of Subsection 3.2.7., a **½-hour** emergency power supply will be required for:

- a) emergency lighting,
- b) exit signs,
- c) fire alarm system,
- d) fire pumps, and
- e) all elevators serving storeys above the first storey.

The emergency electrical power supply system will be installed in conformance with CSA C282-15, "Emergency Electrical Power Supply for Buildings" in accordance with Article 3.2.7.5.

In accordance with Article 3.2.7.3., emergency lighting is required to be provided at an average of 10 lx in the following areas:

- a) exits,
- b) principal routes providing access to exit in open floor areas and service rooms,
- c) public corridors,
- d) floor areas or parts of them where the public may congregate in assembly occupancies having an occupant load greater than 60 persons,
- e) principal routes providing access to exit in a floor area that is not subdivided into rooms or suites of rooms served by corridors in office occupancies,
- f) internal corridors or aisles serving as principal routes to exits in office occupancies that are subdivided into rooms or suites of rooms, and is not served by a public corridor, and
- g) washrooms with fixtures for public use.

In accordance with Sentence 3.2.7.10.(1), electrical conductors serving emergency lighting and fire pumps having a rated net head pressure greater than 280 kPa are required to be protected in accordance with Sentences 3.2.7.10.(2) to (9).

7.0 SPATIAL SEPARATION AND EXPOSURE PROTECTION

7.1 Building Spatial Separation

In accordance with Article 3.2.3.1. and Table 3.2.3.1.D., unlimited unprotected openings will be permitted on any exposing building face that is provided with a minimum limiting distance of 9 m measured from the building face to a property line, an imaginary property line between buildings on the same property, or the centreline of a street. Accordingly, **all** exposing building faces are permitted unlimited unprotected openings.

As combustible or noncombustible construction is permitted for the Project, all exterior walls are to be constructed of combustible or noncombustible construction and clad with combustible or noncombustible cladding.

7.2 Exit Exposure

In accordance with Sentence 3.2.3.13.(1), where an opening in the exterior wall of the exit enclosure is within 3 m horizontally, and could be exposed to a fire from an opening in the exterior wall of the building with an intersecting angle less than 135° with the plane of the exterior wall, the opening in either the exterior wall of the exit or the exterior wall of the building is required to be protected in accordance with Sentence 3.2.3.13.(4).

In accordance with Sentence 3.2.3.13.(3), where an exterior exit door is located within 3 m horizontally of an opening in another fire compartment and the exterior walls of these fire compartments intersect at an exterior angle of less than 135°, the opening will be required to be protected in conformance with Sentence 3.2.3.13.(4).

In accordance with Sentence 3.2.3.13.(4), the opening protection referred to in Sentences 3.2.3.13.(1) and (3) will be required to consist of wired glass in fixed steel frames conforming to Supplementary Standard SB-2 Article 2.3.14., glass block conforming to the requirements of Article 3.1.8.14., or a closure installed in conformance with Subsection 3.1.8.

8.0 INTERCONNECTED FLOOR SPACES

In accordance with Sentence 3.2.8.2.(6), an interconnected floor space is permitted, and need not conform to the requirements of 3.2.8.3. to 3.2.8.11., if it consists only of the first storey and the storey next above or below, the interconnected floor space is sprinklered, and the interconnected floor space contains only Group A, Group D, Group E or Group F, Division 3 occupancies.

9.0 EGRESS/EXITING REQUIREMENTS

Exit systems in this Project, used singly or in combination, will consist of exterior doors, exit stair enclosures, and exit corridors which will discharge at locations having access to public thoroughfares. Exit systems will not re-enter floor areas.

9.1 Egress from Rooms

In accordance with Sentence 3.3.1.5.(1) and Table 3.3.1.5.B, a minimum of two egress doorways will be provided from every room or suite (including exterior terraces) intended

for an occupant load exceeding 60 persons, or where the following area and/or egress distance limits are exceeded in a floor area that is fully sprinklered:

Occupancy Type	Area	Egress Distance
Group A, Division 2	200 m ²	25 m
Group D	300 m ²	25 m
Group F, Division 3	300 m ²	25 m

In accordance with Sentence 3.3.1.5.(2), where two egress doorways are required, the doorways are to be located a minimum distance from one another equal to one-third the maximum overall dimension of the room.

Egress distance is measured from the most remote location within the room or suite to a corridor or an exit, taking into account permanent fixtures which interfere with the most direct egress path.

In accordance with Sentences 3.3.1.3.(5) and (6), a rooftop enclosure exceeding 200 m² (i.e., mechanical penthouse) is required to be provided with a minimum of two means of egress leading to an exit directly at the roof level or the storey immediately below.

9.2 **Exits Through Lobbies**

In accordance with Sentence 3.4.4.2.(2), not more than one exit from a floor area is permitted to lead through a lobby provided:

- a) the lobby floor is not more than 4.5 m above grade,
- b) the path of travel through the lobby to the outdoors is not more than 15 m,
- c) the adjacent rooms or premises having direct access to the lobby do not contain a residential or an industrial occupancy, except that dwelling units may open directly onto the lobby where the floor area is sprinklered,
- d) the lobby is not located within an interconnected floor space other than as described in Sentence 3.2.8.2.(6),
- e) the lobby conforms to the requirements for exits, except that,
 - i) rooms other than service rooms and storage rooms are permitted to open onto the lobby, and
 - ii) the fire separation between the lobby and a room used for the sole purpose of control and supervision of the building need not have a fire-resistance rating,
 - iii) the fire separation between the lobby and adjacent occupancies that are permitted to open onto the lobby need not have a fire-resistance rating provided the lobby and adjacent occupancies are sprinklered, and
 - iv) passenger elevator entrances are permitted to open onto the lobby provided the elevator entrance doors are designed to remain closed except while loading and unloading, and

- f) a fire separation, constructed in accordance with Sentence 3.4.4.1.(1), is maintained between the lobby and any exit permitted by this Sentence to lead through the lobby.

9.3 Dead-End Corridors

In accordance with Sentences 3.3.1.9.(11), (12) and (13), a dead-end corridor is permitted in a business and personal services or low hazard industrial occupancy where the dead-end corridor serves an occupant load not more than 30 persons, is not more than 9 m long, and is provided with doors having self-closing devices. Alternatively, a dead-end corridor is permitted if there is a second and separate egress doorway from each room or suite not leading into a dead-end corridor.

9.4 Integrity of Exits

In accordance with Sentence 3.4.4.1.(1), exit stairways and exit corridors serving the floor areas for this Project will be separated from the adjoining floor areas by a smoke-tight fire separation having a $\frac{3}{4}$ -hour fire-resistance rating.

In accordance with Sentence 3.4.4.4.(1), fire separations that enclose exits will have no openings or penetrations except for:

- a) standpipe and sprinkler piping,
- b) electrical wires and cables, totally enclosed noncombustible raceways and noncombustible piping that serve only the exit,
- c) exit doorways, and
- d) wired glass and glass block permitted by Article 3.1.8.14.

9.5 Prohibited Rooms Opening into an Exit

In accordance with Sentences 3.4.4.4.(7), (8) and (9), service rooms, mechanical rooms, electrical rooms, and ancillary rooms, such as storage rooms, washrooms, and janitors' closets which are adjacent to exit shafts, will not open directly into an exit.

Where necessary, vestibules will be placed between the prohibited rooms and the exit.

9.6 Minimum Number of Exits

In accordance with Sentence 3.4.2.1.(1), every floor area of the Project is required to be served by at least two exits.

9.7 Main Entrance

In accordance with Sentence 3.4.2.6.(1), at least one door at every principal entrance from Level 1 (ground level) will be designed as an exit.

9.8 Distance Between Exits

In accordance with Article 3.4.2.3., the least distance between two required exits in a floor area will be:

- one-half the maximum diagonal dimension of the floor area, but not less than 9 m in floor areas not served by a public corridor, or
- one-half the maximum diagonal dimension of the floor area, but need not exceed 9 m in floor areas served by a public corridor.

The minimum distance between two exits is required to be measured as the shortest distance that smoke would travel between the exits, assuming that the smoke will not penetrate an intervening fire separation.

In accordance with Sentence 3.4.2.3.(4), the distance between exterior doors leading from two or more exit stairs serving the same floor area are required to be:

- not less than 9 m, or
- not less than 6 m, where the building is sprinklered and the exterior doors are located within 15 m of a street.

9.9 Location of Exits

In accordance with Clause 3.4.2.5.(1)(c), a 45 m maximum travel distance to an exit will be provided and will be measured from any point in a floor area of the Project.

In accordance with Sentence 3.4.2.4.(2), travel distance from a room is permitted to be measured from an egress door of the room to the nearest exit, provided the egress door opens onto a corridor that is separated from the remainder of the floor area by a non-rated fire separations.

9.10 Occupant Loads and Exit Capacities

In accordance with Sentence 3.4.3.2.(1), the aggregate required width of exits serving the floor areas of the Project has been determined by multiplying the occupant load of the area served by:

- 6.1 mm per person for ramps with a gradient of not more than 1 in 8, doorways, corridors, and passageways, and
- 8.0 mm per person for a stair consisting of steps whose rise is not more than 180 mm and whose run is not less than 280 mm.

The required exit capacities, and therefore the widths of the exit doors and stairs for the Project, will be based on the occupant loads as determined by Table 3.1.17.1. Approximate required and provided exit widths are indicated in the following table.

Where the occupant load is not based on the OBC factors, a permanent sign indicating the occupant load is required to be posted in a conspicuous location in accordance with Sentence 3.1.17.1.(2).

Level	Occupant Load (persons)	Aggregate Width of Exits Required (mm)	Aggregate Width of Exits Provided (mm)
1	172 ⁽¹⁾	1062 (at doors)	12110 (at doors)

Level	Occupant Load (persons)	Aggregate Width of Exits Required (mm)	Aggregate Width of Exits Provided (mm)
2	172 ⁽¹⁾	1062 (at doors) 1392 (at stairs)	3760 (at doors) 5770 (at stairs)

⁽¹⁾ Maximum occupant load that can be accommodated by the provided number of washrooms has been used.

9.11 **Exit and Corridor Widths**

In accordance with Subsection 3.3.1. and Sentences 3.4.3.2.(7) and 3.8.3.3.(1), the minimum widths for egress/exit facilities will be as follows:

- Corridors/Passageways/Ramps: 1100 mm
- Exit Doors: 790 mm
- Room Entry/Egress Doors: (clear) 800 mm
- Doorways in a barrier-free path of travel: (clear) 860 mm

9.12 **Direction of Door Swing**

In accordance with Sentence 3.3.1.10.(2), where a room or suite is intended for an occupant load of more than 60 persons, all egress doors from the room or suite will swing on a vertical axis in the direction of exit travel.

All exit doors will swing on a vertical axis in the direction of exit travel, as per Sentence 3.4.6.12.(1).

9.13 **Clearance beyond Door Swing**

In accordance with Sentence 3.4.3.4.(3), swinging doors in their swing will not reduce the effective width of exit stairs or landings to less than 750 mm. This effective width is measured from the arc of the door swing to the closest portion of the outer face of the dividing wall, or other obstruction. Furthermore, swinging doors in their swing will not reduce the effective width of an access to exit or an exit passageway to less than the minimum required width.

9.14 **Door Hardware**

Doors and door hardware are to be provided in accordance with Article 3.3.1.12. A door in an access to exit will be readily openable in travelling to an exit without requiring keys, special devices or specialized knowledge of the door opening mechanism.

Door release hardware will be operable by one hand, and the door will be openable with not more than one releasing operation. Door release hardware will be installed not more than 1200 mm above the finished floor. A door in an access to exit that is also a barrier-free path of travel provided with door opening devices that are the only means of operation will be designed to be operable using a closed fist and be mounted not less than 900 mm and not more than 1100 mm above the finished floor.

In accordance with Article 3.4.6.16., locking, latching and other fastening devices on every exit door will permit the door to be readily opened from the inside with not more than one releasing operation and without requiring keys, special devices or specialized knowledge of the door opening mechanism. Door hardware will be installed at a height not more than 1200 mm above the finished floor.

In accordance with Sentences 3.3.2.6.(1), 3.4.6.16.(2), and 3.8.3.3.(7), doors will be equipped with panic hardware that will release the latch and allow the door to swing open when a force of not more than 22 N for interior doors and 38 N for exterior doors is applied to the device in the direction of travel to the exit in the following locations:

- a) at every egress or exit door serving an assembly occupancy with an occupant load exceeding 100 persons, and
- b) at every exterior exit door from a stair shaft or exit lobby in a building containing an occupant load of more than 100 persons.

9.15 Electromagnetic Locks

In accordance with Article 3.4.6.16., except for doors required to be equipped with panic hardware, electromagnetic locks that do not incorporate latches, pins, or other similar devices to keep the doors closed are permitted to be installed provided:

- a) the building is equipped with a fire alarm system,
- b) the locking device, and all similar devices in the access to exit leading to the exit door, are installed as ancillary devices to the fire alarm system and release immediately upon activation,
- c) the locking device releases immediately upon loss of power to the fire alarm control panel or loss of power controlling the electromagnetic locking mechanism and its associated auxiliary controls,
- d) the locking device releases immediately upon actuation of a manually operated switch readily accessible only to authorized personnel and located near the main entrance of the building,
- e) the locking device releases immediately upon a fault being detected in the electrical circuit between the fire alarm control panel and the controller of the locking device,
- f) the locking device releases immediately upon the operation of a manual pull station for the fire alarm system located on the wall not more than 600 mm from the door,
- g) a legible sign having the words EMERGENCY EXIT UNLOCKED BY FIRE ALARM is permanently mounted on the door,
- h) the lettering on the sign required in Clause (g) is at least 25 mm high with a 5 mm stroke,
- i) upon release, the locking device must be reset manually by the actuation of the switch referred to in Clause (d),
- j) the operation of any by-pass switch, where provided for testing of the fire alarm system, causes an audible signal and a visual signal to be indicated at the fire

- alarm annunciator panel and at the monitoring station referred to in Clause 3.2.4.8.(4) (a), and
- k) emergency lighting is provided at the door.

9.16 Sliding Doors

In accordance with Article 3.4.6.14., an exit door leading directly to outdoors at ground level is permitted to be a sliding door provided it is released in conformance with Sentence 3.3.1.11.(1).

In accordance with Article 3.3.1.11., a sliding door provided in an access to exit will be designed and installed to swing on the vertical axis in the direction of travel to the exit when pressure is applied and be identified as a swinging door by means of a label or decal affixed to it.

9.17 Exit Signs

In accordance with Sentence 3.4.5.1.(1), every exit door will have an illuminated exit sign placed over it. Where illuminated exit signs at exit doors are not visible from open floor areas or corridors used by the public, directional exit signs will be provided to indicate the direction of egress. Specifications for these exit signs will conform to the requirements of Subsection 3.4.5.

In accordance with Sentence 3.4.5.1.(2), exit signs will consist of a green pictogram and white graphic symbol meeting the visibility specifications referred to in ISO 3864-1, "Graphical Symbols – Safety Colours and Safety Signs – Part 1: Design Principles for Safety Signs and Safety Markings," and conform to ISO 7010, "Graphical Symbols – Safety Colours and Safety Signs – Registered Safety Signs" for the following symbols:

- a) E001 emergency exit left,
- b) E002 emergency exit right,
- c) E005 90-degree directional arrow, and
- d) E006 45-degree directional arrow.

10.0 HEALTH REQUIREMENTS

10.1 Water Closet Requirements

In accordance with Subsection 3.7.4., the following identifies the minimum number of washroom fixtures required to be provided for the Project and is based on area per person calculations and anticipated occupant loads.

In accordance with Sentence 3.7.4.2.(2), water closets will be provided for each sex, assuming that the occupant load is equally divided between males and females. Up to two-thirds of the required male water closets are permitted to be substituted with urinals as per Clause 3.7.4.2.(3)(b).

In accordance with Sentence 3.7.4.7.(1), water closets for business and personal service occupancies will be provided in conformance with Table 3.7.4.7. and is to be based on 14 m²/person for the floor area (as defined by the OBC).

In accordance with Table 3.7.4.7. and based on the provided number of washroom fixtures for the Project (i.e., 9 water closets), a total occupant load of 172 persons (86 males and 86 females) can be accommodated:

- 74 males based on 4 water closets for males (Item 4. of Table 3.7.4.7.)
- 74 females based on 4 water closets for females (Item 4. of Table 3.7.4.7.)
- 24 persons (12 males and 12 females) per 1 water closet (Item 4. of Table 3.7.4.7.)

11.0 REQUIREMENTS FOR BARRIER-FREE DESIGN

11.1 Applicability

The Project will comply with Section 3.8 with respect to barrier-free accessibility.

11.2 Entrances

In accordance with Article 3.8.1.2., entrances constructed as part of this Project will be required to conform to Article 3.8.3.3. In accordance with Table 3.8.1.2., on the basis that not more than three pedestrian entrances will be provided to the building, not less than one of the pedestrian entrances are required to be barrier-free. The barrier-free entrance is required to be the principal entrance to the building.

11.3 Barrier-Free Path of Travel

In accordance with Sentence 3.8.2.1.(1), a barrier-free path of travel will be provided from the barrier-free accessible main entrance and throughout the entrance storey and throughout all normally occupied floor.

In accordance with Article 3.8.1.3., a barrier-free path of travel having a minimum unobstructed width of 1100 mm will be provided throughout each floor area. An unobstructed turnaround space of 1800 mm by 1800 mm will be provided at intervals not exceeding 30 m where the barrier-free path of travel has a width less than 1600 mm.

In accordance with Sentence 3.8.2.1.(3), a barrier-free path of travel is not required to extend:

- into service rooms,
- into elevator machine rooms,
- into janitors' rooms, or
- into service spaces.

11.4 Power Door Operators

In accordance with Article 3.8.3.3., every door that provides a barrier-free path of travel through a barrier-free entrance required by Article 3.8.1.2. will be equipped with a power door operator.

Where a barrier-free entrance required by Article 3.8.1.2. incorporates a vestibule, a door leading from the vestibule into the floor area will be equipped with a power door operator.

A door will be equipped with a power door operator where the door serves:

- a washroom for public use required to be barrier-free, or
- a universal washroom conforming to Article 3.8.3.12.

11.5 Washrooms Required to be Barrier-Free

In accordance with Sentences 3.8.2.3.(2) and (3), barrier-free washrooms are to be provided where washrooms are required by Subsection 3.7.4.

Refer to **Section 11.9.6** of this report for design standards applicable to barrier-free washrooms.

Universal washrooms are required to be provided in accordance with 3.8.2.3.(2) and Table 3.8.2.3.A. Levels 1 and 2 of the building will be considered for purposes of determining the number of universal washrooms to be provided. As such, a minimum of one universal washroom complying with Article 3.8.3.12. will be required to be provided to serve the Project.

11.6 Controls

In accordance with Article 3.8.1.5., controls for the operation of building services or safety devices, including electrical switches thermostats and intercom switches, intended to be operated by the occupant will be in a barrier-free path of travel. The controls will be located so as to be adjacent to and centred on either the length or the width of a clear floor space of 810 mm by 1370 mm.

All other controls will be operable using a closed fist and with a force of not more than 22.2 N and be mounted not less than 900 mm and not more than 1100 mm above the finished floor (1200 mm for thermostats).

A signal intended for the public to indicate the operation of a building security system that controls access to a building will consist of an audible and visual signal.

11.7 Illumination

In accordance with Article 3.8.1.6., all portions of a barrier-free path of travel will be equipped to provide a level illumination and will comply with Sentence 3.2.7.1.(1). An average level not less than 50 lx at floor level must be provided.

11.8 Areas of Refuge (Protection on Floor Areas)

In accordance with Article 3.3.1.7., areas of refuge will not be required for this Project based on the provision of automatic sprinkler protection.

11.9 Barrier-Free Design Standards

11.9.1 Accessibility Signs

In accordance with Article 3.8.3.1., signs incorporating the International Symbol of Access will be installed to indicate the location of:

- the barrier-free entrance,
- ramps located in a required barrier-free path of travel serving that entrance, and
- the exterior passenger loading zone conforming to Sentence 3.8.2.2.(3)

Areas required to accommodate persons with disabilities will be identified by a sign consisting of the International Symbol of Access and such other graphic, tactile or written directions as are needed to clearly indicate the type of facilities available.

Signs will be provided to indicate the location of a washroom required to be barrier-free where a washroom is not designed to accommodate persons with disabilities in a storey that is required by Article 3.8.2.1.

Signs incorporating the International Symbol of Access will be installed where necessary to indicate the location of a barrier-free means of egress.

On wall-mounted tactile signs provided in a building, characters, symbols or pictographs on the sign will be located not less than 1200 mm and not more than 1500 mm above the finished floor. On wall-mounted tactile signs provided in a storey that is not required by Article 3.8.2.1. to have a barrier-free path of travel, characters, symbols or pictographs will conform with Sentence 3.8.3.1.(5).

11.9.2 Exterior Walks

In accordance with Sentence 3.8.3.2.(1), exterior walks that form part of a barrier-free path of travel will:

- be provided by means of a continuous plane not interrupted by steps or abrupt changes in level,
- have a permanent, firm and slip-resistant surface,
- have an uninterrupted width of not less than 1100 mm and an unobstructed turnaround space of 1800 mm by 1800 mm provided at intervals not exceeding 30 m where the barrier-free path of travel has a width less than 1600 mm,
- have a gradient not exceeding 1 in 20 or be designed as a ramp where the gradient is greater than 1 in 20,
- have not less than 1100 mm wide surface of a different texture to that surrounding it, where the line of travel is level and even with adjacent walking surfaces,
- be free from obstructions for the full width of the walk to a minimum height of 1980 mm, except that handrails are permitted to project not more than 100 mm from either side into the clear area,
- have a level area adjacent to the entrance doorway of at least 1670 mm by 1670 mm at the top and bottom of a ramp and where a door is located in a ramp, so that the level area extends at least 600 mm beyond the latch side of the door opening, except that where the door opens away from the ramp, the area extending beyond the latch side of the door opening may be reduced to 300 mm, and
- have tactile attention indicator conforming to Article 3.8.3.18. that is located to identify an entry into a vehicular route or area where no curbs or any other element separates the vehicular route or area from a pedestrian route.

A curb ramp may be provided where a difference in elevation between levels in a walkway is not more than 200 mm. The curb ramp will:

- have a running slope of:
 - 1:10 to 1:12 for a vertical rise between 75 and 200 mm, and
 - 1:8 to 1:10 for a vertical rise less than 75 mm.,
- have a width of not less than 1500 mm exclusive of flared sides,
- have a surface including flared sides that will:
 - be slip-resistant,
 - have detectable warning surface that is colour -and texture-contrasted with the adjacent surfaces, and
 - have a smooth transition from the ramp to adjacent surfaces, and
- have flared sides with a slope of not more than 1:10 where pedestrians are likely to walk across them.

A curb ramp does not require handrails or guards.

11.9.3 Doorways and Doors

In accordance with Sentence 3.8.3.3.(10), doorways in a barrier-free path of travel will have a clear width of 860 mm. All doors in a barrier-free path of travel will be required to provide a clear space of 600 mm on the latch side of the door when the door swings toward the approach side. A 300 mm clear space is required on the latch side of the door when the door swings away from the approach side or on both sides of a sliding door. Alternatively, a power door operator may be provided in lieu of the latch-side clear spaces.

In accordance with Sentence 3.8.3.3.(11), vestibules located in a barrier-free path of travel will be arranged to allow the movement of wheelchairs between doors. A distance of 1500 mm plus the width of any door that swings into the space in the path of travel from one door to another is required when the doors into the vestibule are in series. A turning diameter of 1500 mm is required within the vestibule, clear of any door swing, when the doors into the vestibule are not aligned.

In accordance with Sentence 3.8.3.3.(15), a door in a barrier-free path of travel consisting of a sheet of glass will be marked with a continuous opaque strip that:

- will be colour and brightness contrasted to the background of the door,
- will be at least 50 mm wide,
- will be located across the width of the door at a height of 1350 mm to 1500 above the finished floor, and
- may incorporate a logo or symbol, provided such logo or symbol does not diminish,
 - the opacity of the strip.
 - the width of the strip,

- the colour and brightness contrast of the strip to the background of the door, and
- the continuity of the strip across the width of the door.

11.9.4 Ramps

In accordance with Article 3.8.3.4., ramps and floors or walks in a barrier-free path of travel having a slope steeper than 1 in 20 will be designed as ramps.

11.9.5 Passenger Elevating Devices

In accordance with Sentence 3.5.2.2.(1), passenger elevators will conform to Appendix E of ASME A17.1 / CSA B44-10, "Safety Code for Elevators and Escalators."

In accordance with Sentence 3.8.3.5. (1), a passenger elevating device will conform to CSA B355-09, "Lifts for Persons with Physical Disabilities."

11.9.6 Universal Washrooms

11.9.6.1 Water Closets

In accordance with Article 3.8.3.8., the water closet will be located so that the centre line of the water closet is not less than 460 mm and not more than 480 mm from one side wall. In addition, a clear transfer space of at least 900 mm wide and 1500 mm deep will be provided on the other side of the water closet.

The water closet will be equipped with a seat located at not less than 430 mm and not more than 485 mm above the finished floor. The water closet will be designed to flush automatically or be equipped with a flushing control that is located between 500 mm and 900 mm above the finished floor, is operable from the transfer side, and is operable using a closed fist and with a force of not more than 22.2 N. A back support will be provided if there is no seat lid or tank.

11.9.6.2 Grab Bars

In accordance with Article 3.8.3.8., a grab bar will be provided at the side wall that is a continuous L-shape with 750 mm long horizontal and vertical components, and will be wall mounted with the horizontal component 750 mm above the finished floor and the vertical component 150 mm in front of the water closet.

Provided behind the water closet will be a grab bar that is at least 600 mm in length and mounted horizontally from 840 mm to 920 mm above the finished floor; where the water closet has a water tank, the grab bar will be wall mounted 150 mm above the tank.

11.9.6.3 Lavatories

In accordance with Article 3.8.3.11., lavatories will be located so that:

- the distance between the centre line of the lavatory and the side wall is not less than 460 mm,
- the rim height of the lavatory is not more than 865 mm above the finished floor,

- the clearance beneath the lavatory is not less than,
 - 920 mm wide,
 - 735 mm high at the front edge,
 - 685 mm high at a point 200 mm back from the front edge, and
 - 350 mm high from a point 280 mm to a point 430 mm back from the front edge,
- faucets operate automatically or have lever-type handles (or are otherwise operable with a closed fist) that do not require the application of continuous force to maintain water flow, and that are located so that the distance from the centre line of the faucet to the edge of the basin or, where the basin is mounted in a vanity, to the front edge of the vanity, is not more than 485 mm,
- there is a minimum 1370 mm deep floor space to allow for a forward approach, of which a maximum of 500 mm can be located under the lavatory,
- a soap dispenser that operates automatically or is operable using a closed fist and a force of not more than 22.2 N, and is located not more than 1100 mm above the finished floor, within 500 mm from the front of the lavatory, and
- a towel dispenser or other hand-drying equipment that is operable with one hand and located to be accessible to persons in wheelchairs, and not more than 1200 mm above the finished floor (dispensing height) and not more than 610 mm measured horizontally from the edge of the lavatory.

A mirror will be provided above that lavatory that is mounted with its bottom edge not more than 1000 mm above the finished floor or inclined to the vertical to be usable by a person in a wheelchair.

11.9.6.4 Room Dimensions

In accordance with Article 3.8.3.12., a universal washroom will be served by a barrier-free path of travel and have a minimum internal dimension of 1700 mm. In addition, the washroom will have an unobstructed turning diameter of 1700 mm for a wheelchair.

11.9.6.5 Adult-Size Change Table

In accordance with Article 3.8.3.12., a clear space not less than 810 mm wide and 1830 mm long will be provided in each universal washroom for an adult-size change table.

The space for the adult-sized change table may encroach upon the 1700 mm turning circle only where the change table is moveable and is not permanently fixed or stored within the washroom.

Where the clear space provided for an adult-size change table is adjacent to a wall, reinforcement will be installed in the wall to permit the future installation of the change table.

Where an adult-size change table is installed, it will:

- when fully loaded, have a surface height above the finished floor that can be adjusted from between 450 mm and 500 mm at the low range to between 850 mm and 900 mm at the high range,
- be designed to carry a minimum load of 1.33 kN,
- have a clear floor space parallel to the long side of the table not less than 760 mm wide and 1500 mm long, and
- in the case of a fold-down table,
 - be installed so that it does not encroach into a clear transfer space described in the washrooms section above, and
 - have no operating mechanisms higher than 1200 mm.

11.9.6.6 Door Hardware

In accordance with Article 3.8.3.12., door hardware will consist of a graspable latch-operating mechanism that is operable with a closed fist and with a force of not more than 22.2. N, and located not less than 900 mm and not more than 1000 mm above the finished floor. The door will be capable of being locked from the inside and released from the outside in case of emergency.

A door to a public washroom and a door to a universal washroom will also be equipped with a powered door operator.

11.9.6.7 Emergency Call Button

In accordance with Article 3.8.3.12., an emergency call system will be provided that consists of audible and visual signal devices inside and outside of the washroom that are activated by a control device inside the washroom.

In addition, an emergency sign will be posted above the emergency call button that contains the words IN THE EVENT OF AN EMERGENCY PUSH EMERGENCY BUTTON AND AUDIBLE AND VISUAL SIGNAL WILL ACTIVATE in letters at least 25 mm high with a 5 mm stroke.

11.9.7 Tactile Attention Indicators

In accordance with Sentence 3.4.6.1.(2), a tactile attention indicator will be installed at the top of the stairs, starting one tread depth back from the edge of the top stair, and at the leading edge of landings where a doorway opens onto stairs, starting one tread depth back from the edge of the landing.

In accordance with Article 3.8.3.18, a tactile attention indicator will have a depth not less than 300 mm and not more than 610 mm. The tactile attention indicator will conform to Clauses 4.1.1. and 4.1.2. of ISO 23599: 2012, "Assistive Products for Blind and Vision-Impaired Persons – Tactile Walking Surface Indicators."

12.0 CONCLUSION

The 2012 Ontario Building Code provides a minimum set of requirements which establishes an acceptable level of fire protection and life safety for buildings. This Building Code Outline Report outlines the various approaches to meet the intent of the applicable requirements with the 2012 Ontario Building Code.

In conclusion, the proposed fire protection and life safety features for the Project, as described in this report, will provide a level of fire protection and life safety which equals or exceeds the minimum acceptable levels established by the requirements of the 2012 Ontario Building Code.

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