STRUCTURAL DESIGN INFORMATION FORM

Planning and Development Services

Building Approvals

1. Description

Permit Application Number _____

Location _____

Owner's Name _____

Proposed _____

Building Area _____ m^2 Building Height _____ m Storey(s) _____ Basement(s) _____

Structural System _____

2. Design Standards

Engineer's Initials

Ontario Regulation 332/12, as amended including O.R. 191/14, 2012 Ontario Building Code, Division B, Part 4 (OBC) _____

Structural Commentaries on the National Building Code of Canada 2015 (NBC) _____

1.	CSA-086-09	"Engineering Design in Wood"	_____
2.	CAN/CSA A371-04	"Masonry Construction for Buildings"	_____
3.	CSA S304.1-04	"Design of Masonry Structures"	_____
4.	CAN/CSA-A23.3-04	"Design of Concrete Structures"	_____
5.	CSA A23.1-09	"Concrete Materials & Methods of Concrete Construction"	_____
6.	CSA S413-07	"Parking Structures"	_____
7.	CAN/CSA-S136-07	"Cold Formed Steel Structural Members"	_____
8.	CAN/CSA-Z91-02	"Health and Safety Code for Suspended Equipment Operations"	_____
9.	CSA S367-09	"Air-, Cable-, and Frame-Membrane Supported Structures"	_____
10.	CSA-S16-09	"Limit States Design of Steel Structures"	_____
11.	CAN/CSA-S157-05/S157.1-05	"Strength Design in Aluminum / Commentary on CSA S157-05,	_____
12.	CGSB CAN/CGSB-12.20-M89	"Structural Design of Glass for Buildings"	_____
13.	Canadian Foundation Engineering Manual 4th Edition/2006		_____

3. Loads and Effects

a) ***Importance Category*** (Table 4.1.2.1.B.) _____

b) ***Dead Loads***

	Self-weight	Superimposed
Ground floor	_____ kPa	_____ kPa
Other floors	_____ kPa	_____ kPa
Roof	_____ kPa	_____ kPa
Mezzanine	_____ kPa	_____ kPa
Partitions	_____ kPa	_____ kPa
Parking garages	_____ kPa	_____ kPa

Standard dead load factor _____

Overturning/uplift dead load factor _____

Engineer's Initials

c) ***Live Loads Due To Use And Occupancy***

Ground floor	_____ kPa	Balconies	_____ kPa
Other floors	_____ kPa	Mechanical areas	_____ kPa
Mezzanine	_____ kPa	Parking garages	_____ kPa
Concentrated loads	_____ kN	Crane capacity	_____ kN
Exit stairs	_____ kPa	Load on guards	H= V= _____ kN
Public corridors	_____ kPa	Fire/Garbage truck	_____ kN

Engineer's Initials

d) ***Loads Due To Snow, Ice And Rain***

Importance factor (I_s) _____

Roof specified snow load _____ kPa

Unbalanced Snow Load _____ kPa

1/50 Ground snow load (S_s) _____ kPa

1/50 Ground rain load (S_r) _____ kPa

Drift load _____ kPa calculated for height difference of _____ m

Snow distributions and snow loading factors applied as per OBC and NBC Fig. G - _____

Are the roof drains designed to retain rain water for:

(i) storm water management? ☐ Yes ☐ No

(ii) controlled flow within 24 hr period ☐ Yes ☐ No

Engineer's Initials

e) ***Loads Due to Wind***

Importance factor (Iw) _____

1/50 Hourly wind pressure for structural components (q) _____ kPa

Wind load applied as per OBC and NBC Fig. I- _____

Factored horizontal force at base in _____ direction

V= _____ kN

Factored horizontal force at base in _____ direction

V= _____ kN

f) *Full and Partial Loadings*

Applied as per OBC and NBC (Eng. Initials) _____

g) *Loads Due To Earthquakes*

$S_a(0.2)$ = _____ $S_a(0.5)$ = _____ $S_a(1.0)$ = _____ $S_a(2.0)$ = _____

Site Class: _____ F_a= _____ F_v= _____

(Table 4.1.8.4.A) (Table 4.1.8.4.B) (Table 4.1.8.5.C)

I_e= _____ $I_eF_aS_a(0.2)$ = _____

(Table 4.1.8.5.)

Type of irregularities: _____

Method of analysis: ☐ Static ☐ Dynamic ☐ Software Used

For Equivalent Static Force Procedure:

B = _____ T_a = _____ M_v = _____ J = _____

Type of SFRS (1st dir.): _____ as per Standard No. _____ Clause _____

(Table 4.1.8.9.) R_d= _____ R_o= _____

Type of SFRS (2nd dir.): _____ as per Standard No. _____ Clause _____

(Table 4.1.8.9.) Rd= _____ Ro= _____

Important Note: SFRS shall be clearly shown on the floor plans and sections.

1st Direction	Base shear V or V_d	=
	Moment at base M	=
	Max. Interstorey deflection	=
2st Direction	Base shear V or V_d	=
	Moment at base M	=
	Max. Interstorey deflection	=

Weight of the building as per 4.1.8.2.(1)

W= _____ kN

h) *Elements of Structures, Non-Structural Components and Equipment*

Applied as per Article 4.1.8.18 (Eng. Initials) _____

Typical details of connections of non-structural elements shall be shown on the permit plans. (Eng. Initials) _____

i) *Other Effects*

Applied as per Articles 4.1.5.10. through 4.1.6.4. of OBC (Eng. Initials) _____

j) *Limit States Design* (working stress design not permitted)

Safety Check for Strength and Stability as per OBC, 4.1.3.2.

Fatigue, Serviceability, Deflection and Vibration as per OBC 4.1.3.3. through 4.1.3.6. (Eng. Initials) _____

k) *Fire Resistive Designs*

Load restricted factors as per Certifications Laboratories (Eng. Initials) _____

4. Foundation System (Limited States Design)

(OBC, Div. B - 4.1.3., 4.2.) (Eng. Initials) _____

Description _____

Factored bearing resistance (ULS) _____ kPa

Bearing pressure for settlement (SLS) _____ kPa

Retaining structures: p = k (yh + q) = _____ (_____ x _____ +_____) = _____

Soil investigation report by _____ dated _____

5. Roof/Floor Construction

Lightweight Roof Frame? ☐ Yes ☐ No Type of Lightweight Roof Frame: _____

Lightweight Floor Frame? ☐ Yes ☐ No Type of Lightweight Floor Frame: _____

Professional Seal

Signature _____

Name _____

Title _____

Organization _____

Address _____

Email _____

Phone No. _____

Date _____