



# The Ontario Gazette La Gazette de l'Ontario

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## Proclamation

*ELIZABETH THE SECOND*, by the Grace of God of the United Kingdom, Canada and Her other Realms and Territories Queen, Head of the Commonwealth, Defender of the Faith.

### PROCLAMATION

#### *COURTS OF JUSTICE ACT*

We, by and with the advice of the Executive Council of Ontario, name,

the following as additional areas in which the Family Court has jurisdiction, effective on May 13, 2019, pursuant to section 21.1(5) of the *Courts of Justice Act*:

County of Renfrew  
County of Hastings  
County of Prince Edward  
Regional Municipality of Haldimand- Norfolk  
Regional Municipality of Waterloo  
Regional Municipality of Niagara  
County of Elgin

including (for greater certainty) every municipality situated in those areas, whether or not the municipality forms part of the area for municipal purposes.

### *WITNESS:*

THE HONOURABLE  
V. ELIZABETH DOWDESWELL  
LIEUTENANT GOVERNOR OF OUR PROVINCE OF ONTARIO

GIVEN at Toronto, Ontario, on April 18, 2019.

### *BY COMMAND*

BILL WALKER  
Minister of Government and Consumer  
Services

(152-G207E)

*ELIZABETH DEUX*, par la grâce de Dieu, Reine du Royaume-Uni, du Canada et de ses autres royaumes et territoires, Chef du Commonwealth, Défenseur de la Foi.

### PROCLAMATION

#### *LOI SUR LES TRIBUNAUX JUDICIAIRES*

Sur l'avis du Conseil exécutif de l'Ontario, nous désignons :

les lieux ci-après énumérés comme secteurs additionnels où la Cour de la famille a, à compter du 13 mai 2019, compétence en vertu du paragraphe 21.1 (5) de la *Loi sur les tribunaux judiciaires* :

Comté de Renfrew  
Comté de Hastings  
Comté de Prince Edward  
Municipalité régionale de Haldimand-Norfolk  
Municipalité régionale de Waterloo  
Municipalité régionale de Niagara  
Comté d'Elgin

Il est entendu qu'elle vise notamment chaque municipalité située dans l'un de ces secteurs, sans égard à son appartenance au secteur à des fins municipales.

### *TÉMOIN:*

L'HONORABLE  
V. ELIZABETH DOWDESWELL  
LIEUTENANTE-GOUVERNEURE DE NOTRE PROVINCE DE L'ONTARIO

FAIT à Toronto (Ontario) le 18 avril 2019.

### *PAR ORDRE*

BILL WALKER  
ministre des Services gouvernementaux et  
des Services aux consommateurs

(152-G207F)

## Ontario Highway Transport Board

Periodically, temporary applications are filed with the Board. Details of these applications can be made available at anytime to any interested parties by calling (416) 326-6732.

The following are applications for extra-provincial and public vehicle operating licenses filed under the *Motor Vehicle Transport Act, 1987*, and the *Public Vehicles Act*. All information pertaining to the applicant i.e. business plan, supporting evidence, etc. is on file at the Board and is available upon request.

Any interested person who has an economic interest in the outcome of these applications may serve and file an objection within 29 days of this publication. The objector shall:

1. complete a Notice of Objection Form,
2. serve the applicant with the objection,
3. file a copy of the objection and provide proof of service of the objection on the applicant with the Board,
4. pay the appropriate fee.

Serving and filing an objection may be by hand delivery, mail, courier or facsimile. Serving means the date received by a party and filing means the date received by the Board.

**Transit Windsor 05632-F**

**3700 North Service Road East, Windsor, ON N9A 6J5**

Applies for an extension to public vehicle operating licence PV-1628 as follows:

For the transportation of passengers on a scheduled service between the City of Windsor, the Town of Essex, the Town of Kingsville, and the Municipality of Leamington via Hwy 3, and County Roads 29 and 18.

FELIX D'MELLO  
Board Secretary

(152-G208E)

## Commission des transports routiers de l'Ontario

De temps à autre, des demandes de permis temporaires sont déposées auprès de la Commission. Toute personne intéressée peut obtenir en tout temps les détails concernant ces demandes en composant le 416-326-6732.

Les demandes qui suivent visent à obtenir un permis de transport extraprovincial et de transport en commun en vertu de la *Loi de 1987 sur les transports routiers* ou de la *Loi sur les véhicules de transport en commun*. Tous les renseignements concernant le demandeur, notamment le plan d'affaires et les preuves à l'appui, sont versés au dossier de la Commission et seront fournis sur demande.

Toute personne intéressée qui possède un intérêt économique dans le résultat de la demande peut signifier et déposer une opposition dans les 29 jours suivant de la date de la présente publication. L'opposant doit suivre les étapes suivantes :

1. remplir un formulaire d'Avis d'opposition;
2. signifier l'opposition au demandeur;
3. déposer une copie de l'opposition et une preuve de la signification de l'opposition au demandeur auprès de la Commission;
4. payer les droits applicables.

La signification et le dépôt d'une opposition peuvent se faire par livraison personnelle, par la poste, par messenger ou par télécopieur. Le terme Signification désigne la date de réception par une partie et le terme Dépôt, la date de réception par la Commission.

**Transit Windsor 05632-F**

**3700 North Service Road East, Windsor, ON N9A 6J5**

Fait une demande de prolongation du permis d'exploitation de véhicule de transport en commun PVS-1628 comme suit :

Pour le transport de passagers selon un service régulier entre la ville de Windsor, la ville d'Essex, la ville de Kingsville et la municipalité de Leamington par la route 3 et les routes de comté 29 et 18.

FELIX D'MELLO  
Secrétaire de la Commission

(152-G208F)

## Government Notices Respecting Corporations Avis du gouvernement relatifs aux compagnies

### Notice of Default in Complying with the Corporations Tax Act Avis de non-observation de la Loi sur l'imposition des sociétés

The Director has been notified by the Minister of Finance that the following corporations are in default in complying with the *Corporations Tax Act*.

NOTICE IS HEREBY GIVEN under subsection 241(1) of the *Business Corporations Act*, that unless the corporations listed hereunder comply with the requirements of the *Corporations Tax Act* within 90 days of this notice, orders will be made dissolving the defaulting corporations. All enquiries concerning this notice are to be directed to Ministry of Finance, Corporations Tax, 33 King Street West, Oshawa, Ontario L1H 8H6.

Le ministre des Finances a informé le directeur que les sociétés suivantes n'avaient pas respecté la *Loi sur l'imposition des sociétés*.

AVIS EST DONNÉ PAR LA PRÉSENTE que, conformément au paragraphe 241(1) de la *Loi sur les sociétés par actions*, si les sociétés citées ci-dessous ne se conforment pas aux prescriptions énoncées par la *Loi sur l'imposition des sociétés* dans un délai de 90 jours suivant la réception du présent avis, lesdites sociétés se verront dissoutes par décision. Pour tout renseignement relatif au présent avis, veuillez vous adresser à l'Imposition des sociétés, ministère des Finances, 33, rue King ouest, Oshawa ON L1H 8H6.

| Date       | Name of Corporation<br>Dénomination sociale de la société | Ontario<br>Corporation<br>Number<br>Numéro de<br>la société en<br>Ontario |
|------------|-----------------------------------------------------------|---------------------------------------------------------------------------|
| 2019-05-18 | SOUND CITY MUSIC<br>ENTERTAINMENT INC.                    | 001120227                                                                 |

| Date       | Name of Corporation<br>Dénomination sociale de la société | Ontario<br>Corporation<br>Number<br>Numéro de<br>la société en<br>Ontario |
|------------|-----------------------------------------------------------|---------------------------------------------------------------------------|
| 2019-05-18 | 995640 ONTARIO INC.                                       | 000995640                                                                 |

BARBARA DUCKITT  
Director, Ministry of Government  
and Consumer Services  
Directrice, Ministère des Services  
gouvernementaux et des Services aux  
consommateurs

(152-G209)

### **Cancellation of Certificate of Incorporation (Corporations Tax Act Defaulters) Annulation de certificat de constitution (Non-observation de la Loi sur l'imposition des sociétés)**

NOTICE IS HEREBY GIVEN that, under subsection 241(4) of the *Business Corporations Act*, the Certificate of Incorporation of the corporations named hereunder have been cancelled by an Order for default in complying with the provisions of the *Corporations Tax Act*, and the said corporations have been dissolved on that date.

AVIS EST DONNÉ PAR LA PRÉSENTE que, conformément au paragraphe 241(4) de la *Loi sur les sociétés par actions*, le certificat de constitution de la société sous-nommé a été annulé par Ordre pour non-observation des dispositions de la *Loi sur l'imposition des sociétés* et que la dissolution de la société concernée prend effet à la date susmentionnée.

| Date       | Name of Corporation<br>Dénomination sociale de la société | Ontario<br>Corporation<br>Number<br>Numéro de<br>la société en<br>Ontario |
|------------|-----------------------------------------------------------|---------------------------------------------------------------------------|
| 2019-04-22 | FFI AFFILIATED INC.                                       | 000650447                                                                 |
| 2019-04-22 | VICTORIA CORNERS INC.                                     | 001580219                                                                 |
| 2019-04-22 | 1325457 ONTARIO INC.                                      | 001325457                                                                 |
| 2019-04-22 | 1328981 ONTARIO INC.                                      | 001328981                                                                 |
| 2019-04-22 | 1330029 ONTARIO LIMITED                                   | 001330029                                                                 |
| 2019-04-22 | 708965 ONTARIO LIMITED                                    | 000708965                                                                 |

BARBARA DUCKITT  
Director, Ministry of Government  
and Consumer Services  
Directrice, Ministère des Services  
gouvernementaux et des Services aux  
consommateurs

(152-G210)

### **Certificate of Dissolution Certificat de dissolution**

NOTICE IS HEREBY GIVEN that a certificate of dissolution under the *Business Corporations Act*, has been endorsed. The effective date of dissolution precedes the corporation listings.

AVIS EST DONNÉ PAR LA PRÉSENTE que, conformément à la *Loi sur les sociétés par actions*, un certificat de dissolution a été inscrit

pour les compagnies suivantes : la date d'entrée en vigueur précède la liste des compagnies visées.

| Date       | Name of Corporation<br>Dénomination sociale de la société | Ontario<br>Corporation<br>Number<br>Numéro de<br>la société en<br>Ontario |
|------------|-----------------------------------------------------------|---------------------------------------------------------------------------|
| 2018-01-08 | TIPPERARY SPORT PRODUCTS, INC.                            | 000657129                                                                 |
| 2019-01-01 | CANADIAN CHOICE PRODUCTIONS INC.                          | 000600322                                                                 |
| 2019-01-03 | FIRST DASH INC.                                           | 001253995                                                                 |
| 2019-01-03 | K.A. MURRAY ENTERPRISES LIMITED                           | 000836040                                                                 |
| 2019-01-03 | PETER'S APPLIANCE SERVICE INC.                            | 001540282                                                                 |
| 2019-01-03 | RICMIC INC.                                               | 001747917                                                                 |
| 2019-01-03 | 1058205 ONTARIO LIMITED                                   | 001058205                                                                 |
| 2019-01-03 | 1736084 ONTARIO INC.                                      | 001736084                                                                 |
| 2019-01-03 | 899597 ONTARIO LTD.                                       | 000899597                                                                 |
| 2019-01-04 | DISTINCT SECURITY SYSTEMS INC.                            | 002226737                                                                 |
| 2019-01-04 | EKOM CONSTRUCTION INC.                                    | 002598595                                                                 |
| 2019-01-04 | ELANTHULIR VIDEO INC.                                     | 001482271                                                                 |
| 2019-01-04 | ENGCOM INC.                                               | 002577244                                                                 |
| 2019-01-04 | STRICTLY FISH INC.                                        | 001130864                                                                 |
| 2019-01-04 | T-SKY CONSULTING INC.                                     | 002376355                                                                 |
| 2019-01-04 | WELL DONE CANADA LTD.                                     | 002437110                                                                 |
| 2019-01-04 | 2177754 ONTARIO INC.                                      | 002177754                                                                 |
| 2019-01-04 | 2281058 ONTARIO INC.                                      | 002281058                                                                 |
| 2019-01-04 | 2642561 ONTARIO INC.                                      | 002642561                                                                 |
| 2019-01-07 | BEETONSHIRE DEVELOPMENTS LTD.                             | 000857789                                                                 |
| 2019-01-07 | BIG WATER CHALLENGE PRODUCTIONS INC.                      | 002251720                                                                 |
| 2019-01-07 | DESTINATIONS INC.                                         | 002537706                                                                 |
| 2019-01-07 | FRY FIRST CLASS INC                                       | 000936482                                                                 |
| 2019-01-07 | GARDEN CITY TRADE GROUP INC.                              | 001787696                                                                 |
| 2019-01-07 | GEEVING INC.                                              | 002294436                                                                 |
| 2019-01-07 | GENERAL CONSTRUCTION SERVICES LTD.                        | 001588456                                                                 |
| 2019-01-07 | GREYMATTERS INC.                                          | 002447247                                                                 |
| 2019-01-07 | HIGHMARK INSTALLATIONS LTD.                               | 001547176                                                                 |
| 2019-01-07 | I & F CONTRACTING INC.                                    | 002478721                                                                 |
| 2019-01-07 | J PHILIP MURRAY STRATEGIC ADVISORS INC.                   | 001470254                                                                 |
| 2019-01-07 | JMS FARMS INC.                                            | 000578126                                                                 |
| 2019-01-07 | KB SALES & SERVICES INC.                                  | 002341307                                                                 |
| 2019-01-07 | KJL MANAGEMENT INC.                                       | 001044440                                                                 |
| 2019-01-07 | LESLIE FINK APPRAISALS INC.                               | 000622707                                                                 |
| 2019-01-07 | LQD OAKVILLE INC.                                         | 002315413                                                                 |
| 2019-01-07 | MAGADA CONSULTANTS LIMITED                                | 000243494                                                                 |
| 2019-01-07 | MAI-SARA INC.                                             | 001666686                                                                 |
| 2019-01-07 | MUSIHOICA INC.                                            | 002561283                                                                 |
| 2019-01-07 | NOLCAN (SCARBOROUGH) INC.                                 | 001853549                                                                 |
| 2019-01-07 | OIL PLUS SOLUTIONS INC.                                   | 001743094                                                                 |
| 2019-01-07 | PINK DRAGONS HOLDING CORP.                                | 001663224                                                                 |
| 2019-01-07 | PRIME INDUSTRIAL PRODUCTS (EASTERN CANADA) INC.           | 002243382                                                                 |
| 2019-01-07 | SANDS RESTORATION SERVICES LTD.                           | 000796673                                                                 |
| 2019-01-07 | SIGNATURE FLOWERS LIMITED                                 | 000758257                                                                 |
| 2019-01-07 | SKYMARK CAPITAL INC.                                      | 002035565                                                                 |

| Date       | Name of Corporation<br>Dénomination sociale de la société | Ontario<br>Corporation<br>Number<br>Numéro de<br>la société en<br>Ontario | Date       | Name of Corporation<br>Dénomination sociale de la société | Ontario<br>Corporation<br>Number<br>Numéro de<br>la société en<br>Ontario |
|------------|-----------------------------------------------------------|---------------------------------------------------------------------------|------------|-----------------------------------------------------------|---------------------------------------------------------------------------|
| 2019-01-07 | STRUCTURED SYSTEMS<br>(KINGSTON) INC.                     | 000941127                                                                 | 2019-01-09 | MCCF INC.                                                 | 002442624                                                                 |
| 2019-01-07 | SUNEX (CANADA) INC.                                       | 002545580                                                                 | 2019-01-09 | NEW CONCEPT DESIGN AND<br>RENOVATION INC.                 | 002471071                                                                 |
| 2019-01-07 | THE GILMORE GROUP INC.                                    | 001278781                                                                 | 2019-01-09 | O.B.D. CONTRACTING INC.                                   | 002394771                                                                 |
| 2019-01-07 | TNM INTERIOR SYSTEMS INC.                                 | 001472526                                                                 | 2019-01-09 | SANJIANG ENTERPRISE LTD.                                  | 002570026                                                                 |
| 2019-01-07 | TRANSFORMATIONS LANDSCAPE &<br>DESIGN INC.                | 002495129                                                                 | 2019-01-09 | TRIPLE T MARKETING INC.                                   | 002268274                                                                 |
| 2019-01-07 | TRUE FLOW INDUSTRIES INC.                                 | 001752093                                                                 | 2019-01-09 | VROK ENTERTAINMENT INC.                                   | 002666198                                                                 |
| 2019-01-07 | V JOHN LEE COMMUNICATION<br>GRAPHICS INC.                 | 000334382                                                                 | 2019-01-09 | 1370927 ONTARIO LIMITED                                   | 001370927                                                                 |
| 2019-01-07 | VINDAL ENTERPRISES<br>INCORPORATED                        | 002360218                                                                 | 2019-01-09 | 1416183 ONTARIO INC.                                      | 001416183                                                                 |
| 2019-01-07 | WEMPEY HOLDINGS INC.                                      | 002470504                                                                 | 2019-01-09 | 1782941 ONTARIO INC.                                      | 001782941                                                                 |
| 2019-01-07 | 1045815 ONTARIO INC                                       | 001045815                                                                 | 2019-01-09 | 1876493 ONTARIO INC.                                      | 001876493                                                                 |
| 2019-01-07 | 1192200 ONTARIO INC.                                      | 001192200                                                                 | 2019-01-09 | 2246007 ONTARIO INC.                                      | 002246007                                                                 |
| 2019-01-07 | 1353845 ONTARIO LTD.                                      | 001353845                                                                 | 2019-01-09 | 2265799 ONTARIO INC.                                      | 002265799                                                                 |
| 2019-01-07 | 1437102 ONTARIO LTD.                                      | 001437102                                                                 | 2019-01-10 | A SINCLAIR AFFAIR INC.                                    | 002339116                                                                 |
| 2019-01-07 | 1519356 ONTARIO INC.                                      | 001519356                                                                 | 2019-01-10 | ALBUS TRADING INC.                                        | 000903031                                                                 |
| 2019-01-07 | 1548131 ONTARIO LTD.                                      | 001548131                                                                 | 2019-01-10 | AMLIN LAW PROFESSIONAL<br>CORPORATION                     | 002504658                                                                 |
| 2019-01-07 | 1818769 ONTARIO LTD.                                      | 001818769                                                                 | 2019-01-10 | ARABICO INC.                                              | 002597118                                                                 |
| 2019-01-07 | 2392248 ONTARIO LTD.                                      | 002392248                                                                 | 2019-01-10 | AVI CANADA INC.                                           | 002342129                                                                 |
| 2019-01-07 | 2404359 ONTARIO INC.                                      | 002404359                                                                 | 2019-01-10 | BUYERS' AGENTS REALTY<br>INTERNATIONAL, INC.              | 000969691                                                                 |
| 2019-01-07 | 2447879 ONTARIO INC.                                      | 002447879                                                                 | 2019-01-10 | CAN-BRAMAR INDUSTRIES INC.                                | 001306960                                                                 |
| 2019-01-07 | 452109 ONTARIO INC.                                       | 000452109                                                                 | 2019-01-10 | CANADIAN TACTICAL MEDICINE<br>CONSULTANTS INC.            | 002288470                                                                 |
| 2019-01-07 | 784499 ONTARIO LIMITED                                    | 000784499                                                                 | 2019-01-10 | CAP C LP HOLDCO INC.                                      | 001699997                                                                 |
| 2019-01-07 | 889749 ONTARIO LIMITED                                    | 000889749                                                                 | 2019-01-10 | CFISHER PROJECTS INC.                                     | 001954487                                                                 |
| 2019-01-08 | BITS CONSULTING INC.                                      | 001624933                                                                 | 2019-01-10 | COUNTY CONTRACTING OF<br>WHEATLEY INCORPORATED            | 001551702                                                                 |
| 2019-01-08 | MING'S RENOVATION INC.                                    | 001819511                                                                 | 2019-01-10 | COURTESY CAB INC.                                         | 000428945                                                                 |
| 2019-01-08 | MOSAIC ASIAN KITCHEN INC.                                 | 002184591                                                                 | 2019-01-10 | CRESCENT PLUMBING & HEATING<br>LTD.                       | 000476314                                                                 |
| 2019-01-08 | SHAN HEALTHCARE INC.                                      | 002100240                                                                 | 2019-01-10 | CROZIER MEDICAL INC.                                      | 002382347                                                                 |
| 2019-01-08 | SHEILEX SEVEN INC.                                        | 001905488                                                                 | 2019-01-10 | DIVERSITY PRODUCTIONS INC.                                | 001056205                                                                 |
| 2019-01-08 | TAPE EDUCATIONAL SERVICES INC.                            | 001740991                                                                 | 2019-01-10 | E.D. SITE PROJECT MANAGEMENT<br>INC.                      | 001307855                                                                 |
| 2019-01-08 | VU PROPERTIES INC.                                        | 002223170                                                                 | 2019-01-10 | FRASER'S CLOTHES SHOPS LIMITED                            | 000085221                                                                 |
| 2019-01-08 | 1187470 ONTARIO LIMITED                                   | 001187470                                                                 | 2019-01-10 | HALTON STONE MASONRY<br>LIMITED                           | 000807709                                                                 |
| 2019-01-08 | 2246561 ONTARIO LTD.                                      | 002246561                                                                 | 2019-01-10 | HARRY YOUNG SHOES LIMITED                                 | 001843365                                                                 |
| 2019-01-08 | 2392381 ONTARIO INC.                                      | 002392381                                                                 | 2019-01-10 | HERMES LOGISTICS LTD.                                     | 002552343                                                                 |
| 2019-01-09 | AV LANDSCAPING INC.                                       | 002062703                                                                 | 2019-01-10 | J.A.B. ELECTRIC LTD.                                      | 001175712                                                                 |
| 2019-01-09 | BEAVER BASEMENTS LTD.                                     | 002595606                                                                 | 2019-01-10 | JENNIE ORMSON INTERNATIONAL<br>INC.                       | 002554893                                                                 |
| 2019-01-09 | CANADIAN AIR TECHNOLOGY INC.                              | 001718338                                                                 | 2019-01-10 | JOHN KLIM CONSULTING INC.                                 | 001395449                                                                 |
| 2019-01-09 | CONSOLI DRYWALL & CEILING<br>SYSTEMS LIMITED              | 000779916                                                                 | 2019-01-10 | JOHN MERCIER PLUMBING &<br>HEATING LTD.                   | 000385940                                                                 |
| 2019-01-09 | CROSS HOSPITALITY INC.                                    | 001629339                                                                 | 2019-01-10 | KAANDRE & CO. INC.                                        | 002110230                                                                 |
| 2019-01-09 | DE MELO TRUCKING INC.                                     | 001469302                                                                 | 2019-01-10 | KONOVALOV CONSTRUCTION INC.                               | 002604096                                                                 |
| 2019-01-09 | DHILLON SYSTEMS INC.                                      | 001306037                                                                 | 2019-01-10 | L & T EXTERIORS LIMITED                                   | 002111068                                                                 |
| 2019-01-09 | DICKERSON FLOORING LTD.                                   | 001643860                                                                 | 2019-01-10 | LABAK CONSULTING INC.                                     | 002569729                                                                 |
| 2019-01-09 | EB DESIGN INC.                                            | 002459235                                                                 | 2019-01-10 | LEGACY SYSTEMS INTERNATIONAL<br>INC.                      | 001615958                                                                 |
| 2019-01-09 | GPS BARCODES INC.                                         | 002489242                                                                 | 2019-01-10 | LONDON ROOF REPAIRS INC.                                  | 001945882                                                                 |
| 2019-01-09 | GRAPEVINE WINE CONSULTING<br>INC.                         | 000895675                                                                 | 2019-01-10 | MAUREEN SINDEN EXECUTIVE<br>SEARCH INC.                   | 001590738                                                                 |
| 2019-01-09 | GRAVES MANAGEMENT<br>CORPORATION                          | 002556550                                                                 | 2019-01-10 | MONTANHA FISH STORE LTD.                                  | 002150592                                                                 |
| 2019-01-09 | ICE EDGE AUTHENTIC INC.                                   | 002305762                                                                 |            |                                                           |                                                                           |
| 2019-01-09 | INFINITE GALAXY LIMITED                                   | 002389778                                                                 |            |                                                           |                                                                           |
| 2019-01-09 | INSIGHT QUALITY CONTROL INC.                              | 002594147                                                                 |            |                                                           |                                                                           |
| 2019-01-09 | JHJ INVESTMENTS INC.                                      | 001589889                                                                 |            |                                                           |                                                                           |

| Date       | Name of Corporation<br>Dénomination sociale de la société | Ontario<br>Corporation<br>Number<br>Numéro de<br>la société en<br>Ontario |
|------------|-----------------------------------------------------------|---------------------------------------------------------------------------|
| 2019-01-10 | RECO CONSTRUCTION & ROOFING INC.                          | 002047368                                                                 |
| 2019-01-10 | RESULTS EDUCATIONAL SERVICES INC.                         | 001203054                                                                 |
| 2019-01-10 | ROBERT BRUSCO IT INC.                                     | 002356398                                                                 |
| 2019-01-10 | SADOWICK MECHANICAL LTD.                                  | 001020075                                                                 |
| 2019-01-10 | SAMURAI SALES GROUP INC.                                  | 002257832                                                                 |
| 2019-01-10 | SASSY TEAS INC.                                           | 001912487                                                                 |
| 2019-01-10 | TANG TEACHER HOUSE INC.                                   | 001719640                                                                 |
| 2019-01-10 | TARICANI LIMITED                                          | 000101073                                                                 |
| 2019-01-10 | THE CHANGE INTERNATIONAL INC.                             | 002567315                                                                 |
| 2019-01-10 | TJF ENTERPRISES LTD.                                      | 002511503                                                                 |
| 2019-01-10 | TRIPLE SPOKE INC.                                         | 002159220                                                                 |
| 2019-01-10 | VIRDI EQUIPMENT & TRUCK REPAIRS INC.                      | 002329410                                                                 |
| 2019-01-10 | WALLTOWNRICH INC.                                         | 002146478                                                                 |
| 2019-01-10 | WILLIAM MARTINDALE DISTRIBUTING INC.                      | 001019248                                                                 |
| 2019-01-10 | 1156553 ONTARIO INC.                                      | 001156553                                                                 |
| 2019-01-10 | 1280824 ONTARIO INC.                                      | 001280824                                                                 |
| 2019-01-10 | 1310327 ONTARIO INC.                                      | 001310327                                                                 |
| 2019-01-10 | 1336175 ONTARIO LIMITED                                   | 001336175                                                                 |
| 2019-01-10 | 1465368 ONTARIO INC.                                      | 001465368                                                                 |
| 2019-01-10 | 1513382 ONTARIO INC.                                      | 001513382                                                                 |
| 2019-01-10 | 1722062 ONTARIO INC.                                      | 001722062                                                                 |
| 2019-01-10 | 1753267 ONTARIO INC.                                      | 001753267                                                                 |
| 2019-01-10 | 1865652 ONTARIO INC.                                      | 001865652                                                                 |
| 2019-01-10 | 1926893 ONTARIO LTD.                                      | 001926893                                                                 |
| 2019-01-10 | 1954896 ONTARIO LTD.                                      | 001954896                                                                 |
| 2019-01-10 | 1975258 ONTARIO INC.                                      | 001975258                                                                 |
| 2019-01-10 | 2093842 ONTARIO INC.                                      | 002093842                                                                 |
| 2019-01-10 | 2095393 ONTARIO INC.                                      | 002095393                                                                 |
| 2019-01-10 | 210288 ONTARIO LIMITED                                    | 000210288                                                                 |
| 2019-01-10 | 2110901 ONTARIO INC.                                      | 002110901                                                                 |
| 2019-01-10 | 2111836 ONTARIO INC.                                      | 002111836                                                                 |
| 2019-01-10 | 2195097 ONTARIO INC.                                      | 002195097                                                                 |
| 2019-01-10 | 2205262 ONTARIO INC.                                      | 002205262                                                                 |
| 2019-01-10 | 2265178 ONTARIO LIMITED                                   | 002265178                                                                 |
| 2019-01-10 | 2320464 ONTARIO INC.                                      | 002320464                                                                 |
| 2019-01-10 | 2341673 ONTARIO LIMITED                                   | 002341673                                                                 |
| 2019-01-10 | 2378350 ONTARIO INC.                                      | 002378350                                                                 |
| 2019-01-10 | 2389006 ONTARIO INC.                                      | 002389006                                                                 |
| 2019-01-10 | 2495850 ONTARIO INC.                                      | 002495850                                                                 |
| 2019-01-10 | 2638728 ONTARIO LTD.                                      | 002638728                                                                 |
| 2019-01-10 | 3LEOS+3 INC.                                              | 001932742                                                                 |
| 2019-01-10 | 467176 ONTARIO LIMITED                                    | 000467176                                                                 |
| 2019-01-10 | 779955 ONTARIO LIMITED                                    | 000779955                                                                 |
| 2019-01-10 | 789340 ONTARIO INC.                                       | 000789340                                                                 |
| 2019-01-10 | 792009 ONTARIO INC.                                       | 000792009                                                                 |
| 2019-01-10 | 833587 ONTARIO INC.                                       | 000833587                                                                 |
| 2019-01-10 | 835721 ONTARIO LIMITED                                    | 000835721                                                                 |
| 2019-01-10 | 977971 ONTARIO LTD.                                       | 000977971                                                                 |
| 2019-01-11 | ALLGROWTH PROPERTIES LTD.                                 | 000845287                                                                 |

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| 2019-01-11 | BASAS GROUP INC.                                          | 001299289                                                                 |
| 2019-01-11 | CANADIAN FOCUS CABINETRY LTD.                             | 002441063                                                                 |
| 2019-01-11 | CANADIAN FORK TRUCK (OWEN SOUND) LTD.                     | 000864879                                                                 |
| 2019-01-11 | CANADIAN METAL COATINGS LTD.                              | 002449692                                                                 |
| 2019-01-11 | CANVAS AND CABERNET INC.                                  | 002405592                                                                 |
| 2019-01-11 | CATALPA HILL HOMES LTD.                                   | 001773131                                                                 |
| 2019-01-11 | CES TOOLS INCORPORATED                                    | 002484977                                                                 |
| 2019-01-11 | CLARENCE LOGEL HOLDINGS INC.                              | 000225791                                                                 |
| 2019-01-11 | CUCKOO CLOCK SHOP INC.                                    | 000387846                                                                 |
| 2019-01-11 | CUSTOM WOODWORKING INC.                                   | 001756275                                                                 |
| 2019-01-11 | D.J. HORSLEY CONSULTING INC.                              | 002315123                                                                 |
| 2019-01-11 | DARK WATER CONTROLS INC.                                  | 002385163                                                                 |
| 2019-01-11 | DAVENWOOD LIMITED                                         | 000239737                                                                 |
| 2019-01-11 | DAVID A. CLARK CONSULTING INC.                            | 000961206                                                                 |
| 2019-01-11 | DFW ENTERPRISES LIMITED                                   | 000554117                                                                 |
| 2019-01-11 | DMJZ HOME ENHANCEMENTS INC.                               | 002393234                                                                 |
| 2019-01-11 | DON PARKER & ASSOCIATES INC.                              | 001420363                                                                 |
| 2019-01-11 | DROMO PARK ESTATES LTD.                                   | 001955354                                                                 |
| 2019-01-11 | EMBERLEY & ASSOCIATES INC.                                | 000883075                                                                 |
| 2019-01-11 | GARDHOUSE PROCESS SERVING LTD.                            | 002598618                                                                 |
| 2019-01-11 | GLOBAL STONE SOURCE INC.                                  | 001401041                                                                 |
| 2019-01-11 | GORDON F. WILSON & ASSOCIATES INC.                        | 001314232                                                                 |
| 2019-01-11 | HARKARAN LOGISTICS INC.                                   | 002482831                                                                 |
| 2019-01-11 | HARMANDEEP TRUCK REPAIR CENTRE INC.                       | 002415421                                                                 |
| 2019-01-11 | JAMES K REID SIGNS LIMITED                                | 000428719                                                                 |
| 2019-01-11 | JOYCEALINE HOLDINGS INC.                                  | 000272081                                                                 |
| 2019-01-11 | K & K TRUCK REPAIRS LTD.                                  | 002519705                                                                 |
| 2019-01-11 | KARAM&HARSH INC.                                          | 001873384                                                                 |
| 2019-01-11 | KAYFORT PROPERTIES INC.                                   | 000314429                                                                 |
| 2019-01-11 | KFT COMPUTER SYSTEMS INC.                                 | 001246910                                                                 |
| 2019-01-11 | KMT KONSULTING INC.                                       | 002018103                                                                 |
| 2019-01-11 | M & L TOBACCO LIMITED                                     | 000497405                                                                 |
| 2019-01-11 | NEWMOON SOLUTIONS INC.                                    | 001812360                                                                 |
| 2019-01-11 | NIMANA INTERNATIONAL INC.                                 | 000741050                                                                 |
| 2019-01-11 | NORLIN HOLDINGS LIMITED                                   | 000202215                                                                 |
| 2019-01-11 | ODIS INC.                                                 | 002620423                                                                 |
| 2019-01-11 | PHYSICAL CULTURE GYM INC.                                 | 002363230                                                                 |
| 2019-01-11 | PREMIER WINES OF CANADA, INC.                             | 001040775                                                                 |
| 2019-01-11 | SAN MARCO CONTRACTING CORP.                               | 002515544                                                                 |
| 2019-01-11 | SCOTCH MOUNTAIN FARMS LIMITED                             | 000285163                                                                 |
| 2019-01-11 | SHERYL SKOPIT PROFESSIONAL CORPORATION                    | 002075689                                                                 |
| 2019-01-11 | SINORCO CONSULTING LTD.                                   | 001720199                                                                 |
| 2019-01-11 | SKENE CONSULTING SERVICES INC.                            | 001211784                                                                 |
| 2019-01-11 | SKY HIGH CLICKS INC.                                      | 001979651                                                                 |
| 2019-01-11 | TATTRIE ENTERPRISES INC.                                  | 001884181                                                                 |
| 2019-01-11 | THE MARKETING GROUP OF CANADA LTD.                        | 000694602                                                                 |

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| 2019-01-11 | THE TRAIN STATION, TECUMSEH'S<br>PERSONAL TRAINING & EXPRESS<br>WEIGHT LOSS INC. | 002437605                                                                 | 2019-01-14 | HEADLAND AND COMPANY<br>CONSULTING INC.                      | 001295616                                                                 |
| 2019-01-11 | TORONTO REGENERATION<br>EDUCATION LTD.                                           | 001951640                                                                 | 2019-01-14 | HIGH BEAM POWER INC.                                         | 002250773                                                                 |
| 2019-01-11 | UYK TECHNOLOGIES INC.                                                            | 001918203                                                                 | 2019-01-14 | HUH DEFENDER TRAFFIC<br>SERVICES PROFESSIONAL<br>CORPORATION | 002366956                                                                 |
| 2019-01-11 | WILDON REALTIES LIMITED                                                          | 000106976                                                                 | 2019-01-14 | INNOVATORS, INC.                                             | 000528231                                                                 |
| 2019-01-11 | 1095989 ONTARIO INC.                                                             | 001095989                                                                 | 2019-01-14 | J.B. ACTOR INCORPORATED                                      | 000789350                                                                 |
| 2019-01-11 | 1146845 ONTARIO LIMITED                                                          | 001146845                                                                 | 2019-01-14 | LISETTE FASHIONS CO. LTD.                                    | 000399932                                                                 |
| 2019-01-11 | 1319696 ONTARIO INC.                                                             | 001319696                                                                 | 2019-01-14 | LYTTLE MARDUS DISPLAY<br>GRAPHICS LIMITED                    | 000277287                                                                 |
| 2019-01-11 | 1700784 ONTARIO LTD.                                                             | 001700784                                                                 | 2019-01-14 | MEDEX PACKAGING INC.                                         | 001400411                                                                 |
| 2019-01-11 | 1862998 ONTARIO INC.                                                             | 001862998                                                                 | 2019-01-14 | MELDEAN LTD.                                                 | 000293408                                                                 |
| 2019-01-11 | 1890218 ONTARIO INC.                                                             | 001890218                                                                 | 2019-01-14 | MIKE MCNEELY & SON LIMITED                                   | 000808273                                                                 |
| 2019-01-11 | 1897568 ONTARIO INC.                                                             | 001897568                                                                 | 2019-01-14 | NICOL AUTO GLASS LIMITED                                     | 000690604                                                                 |
| 2019-01-11 | 1954008 ONTARIO INC.                                                             | 001954008                                                                 | 2019-01-14 | NO GAPS LTD.                                                 | 002282779                                                                 |
| 2019-01-11 | 1954873 ONTARIO INC.                                                             | 001954873                                                                 | 2019-01-14 | PAYMENTS ADVISORS INC.                                       | 002344020                                                                 |
| 2019-01-11 | 2136092 ONTARIO INC.                                                             | 002136092                                                                 | 2019-01-14 | PENREX INC.                                                  | 001491051                                                                 |
| 2019-01-11 | 2146602 ONTARIO INC.                                                             | 002146602                                                                 | 2019-01-14 | POSH NAILS & SPA INC.                                        | 002306795                                                                 |
| 2019-01-11 | 2204645 ONTARIO INC.                                                             | 002204645                                                                 | 2019-01-14 | QUINCY'S PIANO SERVICE LTD.                                  | 000561545                                                                 |
| 2019-01-11 | 2205997 ONTARIO INC.                                                             | 002205997                                                                 | 2019-01-14 | SR&ED CLAIM SERVICES INC.                                    | 002114307                                                                 |
| 2019-01-11 | 2225205 ONTARIO INC.                                                             | 002225205                                                                 | 2019-01-14 | SWFT DIGITAL INC.                                            | 002360694                                                                 |
| 2019-01-11 | 2359906 ONTARIO INC.                                                             | 002359906                                                                 | 2019-01-14 | THE COMPASS CENTRE FOR<br>MENTAL HEALTH AND WELLNESS<br>INC. | 002351638                                                                 |
| 2019-01-11 | 2389797 ONTARIO INC.                                                             | 002389797                                                                 | 2019-01-14 | THE JET RESTAURANT LIMITED                                   | 000703398                                                                 |
| 2019-01-11 | 2426122 ONTARIO INC.                                                             | 002426122                                                                 | 2019-01-14 | THE PEARSON GROUP INC.                                       | 001271490                                                                 |
| 2019-01-11 | 2450289 ONTARIO INC.                                                             | 002450289                                                                 | 2019-01-14 | TWIN TALENTS CREATIVE INC.                                   | 000897279                                                                 |
| 2019-01-11 | 2510636 ONTARIO INC.                                                             | 002510636                                                                 | 2019-01-14 | VIDO INTERNATIONAL CORP.                                     | 001335764                                                                 |
| 2019-01-11 | 2570034 ONTARIO INC.                                                             | 002570034                                                                 | 2019-01-14 | WHITEHOUSE SOAPS AND<br>CHEMICALS LIMITED                    | 000230140                                                                 |
| 2019-01-11 | 434823 ONTARIO LIMITED                                                           | 000434823                                                                 | 2019-01-14 | 1042673 ONTARIO LIMITED                                      | 001042673                                                                 |
| 2019-01-11 | 774086 ONTARIO INC.                                                              | 000774086                                                                 | 2019-01-14 | 116 BLUE SKY HOLDINGS INC.                                   | 002383102                                                                 |
| 2019-01-11 | 954713 ONTARIO LTD.                                                              | 000954713                                                                 | 2019-01-14 | 1161398 ONTARIO INC.                                         | 001161398                                                                 |
| 2019-01-14 | ABOVE REACH SOLUTIONS INC.                                                       | 001543914                                                                 | 2019-01-14 | 1284861 ONTARIO INC.                                         | 001284861                                                                 |
| 2019-01-14 | ABR ASSOCIATES INC.                                                              | 001385160                                                                 | 2019-01-14 | 1425743 ONTARIO LTD.                                         | 001425743                                                                 |
| 2019-01-14 | ARIUS PROFESSIONAL SERVICES INC.                                                 | 002507847                                                                 | 2019-01-14 | 1681678 ONTARIO LTD.                                         | 001681678                                                                 |
| 2019-01-14 | BACHRUS INC.                                                                     | 001267672                                                                 | 2019-01-14 | 1729720 ONTARIO LIMITED                                      | 001729720                                                                 |
| 2019-01-14 | BLUEPOINT LEADERSHIP<br>DEVELOPMENT LTD.                                         | 002062240                                                                 | 2019-01-14 | 1842799 ONTARIO INC.                                         | 001842799                                                                 |
| 2019-01-14 | BLUNDERBUSS GAMES INC.                                                           | 002361149                                                                 | 2019-01-14 | 1856965 ONTARIO INC.                                         | 001856965                                                                 |
| 2019-01-14 | CANOE PAPER & GIFTS INC.                                                         | 002397939                                                                 | 2019-01-14 | 2020648 ONTARIO INC.                                         | 002020648                                                                 |
| 2019-01-14 | CARLITO AUTO SERVICES<br>MISSISSAUGA INC.                                        | 002606963                                                                 | 2019-01-14 | 2039760 ONTARIO INC.                                         | 002039760                                                                 |
| 2019-01-14 | CAVANAGH ASSOCIATES<br>CONSULTING INC.                                           | 001295006                                                                 | 2019-01-14 | 2080786 ONTARIO CORP.                                        | 002080786                                                                 |
| 2019-01-14 | CHANGXIN ENTERPRISE INC.                                                         | 001978575                                                                 | 2019-01-14 | 2099233 ONTARIO INC.                                         | 002099233                                                                 |
| 2019-01-14 | CHUG-A-LUG BEVERAGES LIMITED                                                     | 000419521                                                                 | 2019-01-14 | 2222099 ONTARIO INC.                                         | 002222099                                                                 |
| 2019-01-14 | COSGROVE HOLDINGS LTD.                                                           | 000254868                                                                 | 2019-01-14 | 2240001 ONTARIO INC.                                         | 002240001                                                                 |
| 2019-01-14 | DIASYL INDUSTRIES INC.                                                           | 002105612                                                                 | 2019-01-14 | 2382081 ONTARIO INC.                                         | 002382081                                                                 |
| 2019-01-14 | DOWNSVIEW GREEN CLEANERS INC.                                                    | 002444340                                                                 | 2019-01-14 | 2437466 ONTARIO INC.                                         | 002437466                                                                 |
| 2019-01-14 | EXCLAMATION RESTAURANT INC.                                                      | 002314789                                                                 | 2019-01-14 | 2452085 ONTARIO LTD.                                         | 002452085                                                                 |
| 2019-01-14 | FITZCLAN INC.                                                                    | 001710792                                                                 | 2019-01-14 | 2489441 ONTARIO LTD.                                         | 002489441                                                                 |
| 2019-01-14 | FROST EMPLOYMENT INC.                                                            | 002521110                                                                 | 2019-01-14 | 2526190 ONTARIO INC.                                         | 002526190                                                                 |
| 2019-01-14 | GOODPLACE2RENT PROPERTY<br>MANAGEMENT LTD.                                       | 002273401                                                                 | 2019-01-14 | 752078 ONTARIO INC.                                          | 000752078                                                                 |
| 2019-01-14 | GREENWELL TECHNOLOGY INC.                                                        | 002500589                                                                 | 2019-01-14 | 884855 ONTARIO LIMITED                                       | 000884855                                                                 |
| 2019-01-14 | GUS POTTIER CONSTRUCTION LTD.                                                    | 000528698                                                                 | 2019-01-15 | KORU HOLDINGS LTD.                                           | 001799756                                                                 |
| 2019-01-14 | HANGAR RESOURCES CANADA INC.                                                     | 002428779                                                                 | 2019-01-15 | LUCAS GRAMAJO INC.                                           | 002520181                                                                 |

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| 2019-01-15 | MIVARINI CORP.                                            | 002058685                                                                 | 2019-04-24 | K4 GREEN ENERGIES LTD.                                    | 001841800                                                                 |
| 2019-01-15 | OUT OF YOUR MIND CATERING LTD.                            | 001971599                                                                 | 2019-04-24 | NCC ENTERPRISES LTD.                                      | 001099485                                                                 |
| 2019-01-15 | PRETTY ONE NAILS INC.                                     | 002601489                                                                 | 2019-04-24 | ROSA LABORDE PRODUCTIONS INC.                             | 002559659                                                                 |
| 2019-01-15 | ROBERT MICHAUD INVESTMENTS LTD.                           | 000130360                                                                 | 2019-04-24 | SEVEN SEAS FINANCIAL CONSULTANTS INC.                     | 002120579                                                                 |
| 2019-01-15 | SERIANO INVESTMENTS LIMITED                               | 002494170                                                                 | 2019-04-24 | SPECIALTY ET SERVICES INC.                                | 001835066                                                                 |
| 2019-01-15 | SHUTTER SUSTAINABILITY INC.                               | 002504890                                                                 | 2019-04-24 | SYSTEMS SUPPLY NORTHERN LIMITED                           | 001929824                                                                 |
| 2019-01-15 | WEB QUIRE INC.                                            | 002522403                                                                 | 2019-04-24 | TALISKER (GREEN MEADOW) INC.                              | 002121098                                                                 |
| 2019-01-15 | 1787400 ONTARIO INC.                                      | 001787400                                                                 | 2019-04-24 | 1336005 ONTARIO LTD.                                      | 001336005                                                                 |
| 2019-01-15 | 2657236 ONTARIO INC.                                      | 002657236                                                                 | 2019-04-24 | 1895936 ONTARIO LIMITED                                   | 001895936                                                                 |
| 2019-01-21 | 2400327 ONTARIO INC.                                      | 002400327                                                                 | 2019-04-24 | 2173854 ONTARIO LTD.                                      | 002173854                                                                 |
| 2019-01-28 | BRITTON AUTOMOTIVE & INDUSTRIAL SUPPLY (ELORA) LTD.       | 000597051                                                                 | 2019-04-24 | 2174147 ONTARIO INC.                                      | 002174147                                                                 |
| 2019-02-04 | 2563852 ONTARIO INC.                                      | 002563852                                                                 | 2019-04-24 | 2285307 ONTARIO INC.                                      | 002285307                                                                 |
| 2019-02-12 | JOJO PLAYS INC.                                           | 001923178                                                                 | 2019-04-24 | 2435837 ONTARIO INC.                                      | 002435837                                                                 |
| 2019-02-22 | 682888 ONTARIO INC                                        | 000682888                                                                 | 2019-04-24 | 59 TORBARRIE HOLDINGS INC.                                | 002207306                                                                 |
| 2019-02-27 | RED OAR GROUP LTD.                                        | 002446366                                                                 | 2019-04-24 | 940 THORNTON ROAD HOLDINGS LTD.                           | 002296611                                                                 |
| 2019-02-27 | YWT CO. LTD.                                              | 002131761                                                                 | 2019-04-25 | ACE'N JJ'S GAS & CONVENIENCE INC.                         | 001416776                                                                 |
| 2019-02-27 | 2509452 ONTARIO INC.                                      | 002509452                                                                 | 2019-04-25 | AIDEN INTERIOR CONTRACTORS LTD.                           | 002419993                                                                 |
| 2019-03-01 | THE PALEV GROUP INC.                                      | 001190518                                                                 | 2019-04-25 | ALDER RIDGE DEVELOPMENTS INC.                             | 002153387                                                                 |
| 2019-03-15 | 2433877 ONTARIO INC.                                      | 002433877                                                                 | 2019-04-25 | BASIN THEATRE DEVELOPMENT INC.                            | 001034251                                                                 |
| 2019-03-18 | 2371483 ONTARIO LIMITED                                   | 002371483                                                                 | 2019-04-25 | CLIPPO INC.                                               | 002372550                                                                 |
| 2019-03-25 | ALLERGY AND PAIN CLINIC INC.                              | 001663145                                                                 | 2019-04-25 | COUNTRYSIDE KENORA INC.                                   | 002395070                                                                 |
| 2019-03-25 | J&Y PANDA RESTAURANT INC.                                 | 002327105                                                                 | 2019-04-25 | GNS SERVICES INC.                                         | 001036837                                                                 |
| 2019-03-25 | PLAY WITH FIRE INC.                                       | 002511388                                                                 | 2019-04-25 | HOBBS PERFORMANCE GROUP INCORPORATED                      | 002558177                                                                 |
| 2019-03-28 | V'S CUPCAKES INC.                                         | 002422728                                                                 | 2019-04-25 | MADISON INVESTMENTS INC.                                  | 000551250                                                                 |
| 2019-04-12 | BEACON MARINE SECURITY LIMITED                            | 001317745                                                                 | 2019-04-25 | MALI CONSULTING LTD.                                      | 002640381                                                                 |
| 2019-04-15 | HASHAM SHAH CARRIER INC.                                  | 002144680                                                                 | 2019-04-25 | MARK WIGHT TRANSPORT INC.                                 | 000824546                                                                 |
| 2019-04-15 | LIONIZE SECURITY ONTARIO INC.                             | 002438473                                                                 | 2019-04-25 | MD CUSTOM WOODWORKING AND DESIGN INC.                     | 002587142                                                                 |
| 2019-04-15 | 1137428 ONTARIO LTD.                                      | 001137428                                                                 | 2019-04-25 | RIDEAU PARK TOWERS INC.                                   | 002246333                                                                 |
| 2019-04-15 | 2142433 ONTARIO LIMITED                                   | 002142433                                                                 | 2019-04-25 | SONIC UNYON DISTRIBUTION INC.                             | 001267558                                                                 |
| 2019-04-16 | E.A.S CANADA CORP.                                        | 002365038                                                                 | 2019-04-25 | TANABE FAMILY HOLDINGS LIMITED                            | 001942397                                                                 |
| 2019-04-18 | ABSOLUTE MOTIVATION INC.                                  | 001727675                                                                 | 2019-04-25 | 1917125 ONTARIO INC.                                      | 001917125                                                                 |
| 2019-04-18 | KUMAR'S GAS BAR LIMITED                                   | 001204256                                                                 | 2019-04-25 | 2244350 ONTARIO LIMITED                                   | 002244350                                                                 |
| 2019-04-23 | MACDONALD HOUSE FOR SENIORS INC.                          | 002303826                                                                 | 2019-04-25 | 2259088 ONTARIO INC.                                      | 002259088                                                                 |
| 2019-04-23 | 1073271 ONTARIO INC.                                      | 001073271                                                                 | 2019-04-25 | 2667740 ONTARIO INC.                                      | 002667740                                                                 |
| 2019-04-24 | A HOLLINGER TECHNOLOGY INC.                               | 002401727                                                                 | 2019-04-25 | 731351 ONTARIO LIMITED                                    | 000731351                                                                 |
| 2019-04-24 | ALLAN INVESTIGATIONS AND SECURITY CONSULTING LTD.         | 001547126                                                                 | 2019-04-25 | 972743 ONTARIO LIMITED                                    | 000972743                                                                 |
| 2019-04-24 | CALGARY BOY FILMS INC.                                    | 002369305                                                                 | 2019-04-26 | ALILA ART DESIGN STUDIO INC.                              | 002407046                                                                 |
| 2019-04-24 | DASARP INC.                                               | 001878127                                                                 | 2019-04-26 | AMITERO INC.                                              | 002550597                                                                 |
| 2019-04-24 | DR. DARLENE HALL MEDICINE PROFESSIONAL CORPORATION        | 002332986                                                                 | 2019-04-26 | BARD MOFFAT WOOLFSON MEDICINE PROFESSIONAL CORPORATION    | 002199196                                                                 |
| 2019-04-24 | ESPIE PRODUCTIONS INC.                                    | 002367129                                                                 | 2019-04-26 | CAL-BAR CONCRETE & INTERLOCK LTD.                         | 002476304                                                                 |
| 2019-04-24 | ESSENTIAL ELEMENTS LIMITED                                | 001910884                                                                 | 2019-04-26 | DAKKO ASSOC. INC.                                         | 001215965                                                                 |
| 2019-04-24 | EXTARTA CONSULTING INC.                                   | 002284552                                                                 | 2019-04-26 | DQ JAPANESE CUISINE LTD.                                  | 002639552                                                                 |
| 2019-04-24 | GEIGER SOLUTIONS INC.                                     | 002363726                                                                 | 2019-04-26 | DR. STEVEN WARING MEDICINE PROFESSIONAL CORPORATION       | 002459203                                                                 |
| 2019-04-24 | GLOBAL REAL ESTATE DIVIDEND GROWERS CORP.                 | 002468282                                                                 |            |                                                           |                                                                           |
| 2019-04-24 | INTERNATIONAL AUTOMOTIVE TRADES INC.                      | 001993603                                                                 |            |                                                           |                                                                           |
| 2019-04-24 | JDG FORTIER CONSULTING LTD.                               | 001374856                                                                 |            |                                                           |                                                                           |

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| 2019-04-26 | DUTCH GIRL CLEANERS<br>(WINDSOR) INC.                     | 001078253                                                                 | 2019-04-29 | 567514 ONTARIO LIMITED                                    | 000567514                                                                 |
| 2019-04-26 | GOLDSTIEN & SILVERBERG<br>HOLDINGS INC.                   | 000785040                                                                 | 2019-04-30 | AZTEC REALTY CORPORATION                                  | 000500681                                                                 |
| 2019-04-26 | GREEN DELTA INC.                                          | 002501514                                                                 | 2019-04-30 | CALLIND INC.                                              | 001288633                                                                 |
| 2019-04-26 | HINZMANN ENGINEERING LTD.                                 | 002140765                                                                 | 2019-04-30 | GAFOW TOURING LTD.                                        | 001983307                                                                 |
| 2019-04-26 | JAMES SERCOMBE & SONS, LIMITED                            | 000029428                                                                 | 2019-04-30 | GRAB N GO CONVENIENCE MART<br>INC.                        | 002340915                                                                 |
| 2019-04-26 | JP4 INC.                                                  | 001993568                                                                 | 2019-04-30 | HOME PLATE HOLDINGS INC.                                  | 001661790                                                                 |
| 2019-04-26 | LESMILL BUILDING LIMITED                                  | 001514136                                                                 | 2019-04-30 | OWLSET INC.                                               | 002636086                                                                 |
| 2019-04-26 | TIGER VENTURES (ONTARIO) INC.                             | 001817175                                                                 | 2019-04-30 | STRATEGIC DEVELOPMENT<br>COLLABORATION INC.               | 002415669                                                                 |
| 2019-04-26 | TORONTO OAKS CO. LTD.                                     | 001666675                                                                 | 2019-04-30 | 1794707 ONTARIO LTD.                                      | 001794707                                                                 |
| 2019-04-26 | TUTTO PASTA & FASTA PASTA INC.                            | 002302225                                                                 | 2019-04-30 | 1843003 ONTARIO LIMITED                                   | 001843003                                                                 |
| 2019-04-26 | 1536062 ONTARIO INC.                                      | 001536062                                                                 | 2019-04-30 | 1932535 ONTARIO INC.                                      | 001932535                                                                 |
| 2019-04-26 | 1795728 ONTARIO INC.                                      | 001795728                                                                 | 2019-04-30 | 1947020 ONTARIO INC.                                      | 001947020                                                                 |
| 2019-04-26 | 2112120 ONTARIO INC.                                      | 002112120                                                                 | 2019-04-30 | 1947021 ONTARIO INC.                                      | 001947021                                                                 |
| 2019-04-26 | 2480055 ONTARIO INC.                                      | 002480055                                                                 | 2019-04-30 | 2303503 ONTARIO LIMITED                                   | 002303503                                                                 |
| 2019-04-26 | 2536345 ONTARIO LTD.                                      | 002536345                                                                 | 2019-04-30 | 2368399 ONTARIO INC.                                      | 002368399                                                                 |
| 2019-04-26 | 712506 ONTARIO LIMITED                                    | 000712506                                                                 | 2019-04-30 | 2371894 ONTARIO INC.                                      | 002371894                                                                 |
| 2019-04-26 | 819243 ONTARIO INC.                                       | 000819243                                                                 | 2019-04-30 | 2674383 ONTARIO INC.                                      | 002674383                                                                 |
| 2019-04-29 | A.R. ENG. MACHINE & TOOLS INC.                            | 000903232                                                                 | 2019-04-30 | 2674384 ONTARIO INC.                                      | 002674384                                                                 |
| 2019-04-29 | A1 STAR CARRIERS LTD.                                     | 002295053                                                                 | 2019-04-30 | 689896 ONTARIO INC.                                       | 000689896                                                                 |
| 2019-04-29 | CITI WOK CHINESE RESTAURANT<br>LTD.                       | 001632905                                                                 | 2019-05-01 | ACCURATE HARDWARE<br>INSTALLATION INC.                    | 000420125                                                                 |
| 2019-04-29 | CLODMAN HECHT<br>COMMUNICATIONS INC.                      | 000953969                                                                 | 2019-05-01 | ACSYS AUTOMATED CONTROL INC.                              | 001925489                                                                 |
| 2019-04-29 | FT PRACTICE HOLDINGS INC.                                 | 001727984                                                                 | 2019-05-01 | CIRQ HOLDINGS LTD.                                        | 001307537                                                                 |
| 2019-04-29 | GENPACT CANADA LIMITED                                    | 002655567                                                                 | 2019-05-01 | FRV RESTAURANTS LTD.                                      | 001148139                                                                 |
| 2019-04-29 | GREEN COMMUNITIES,<br>INCORPORATED                        | 002319150                                                                 | 2019-05-01 | GET ER DONE HOOD CLEANING<br>INC.                         | 001928644                                                                 |
| 2019-04-29 | IMELDA HARJONO CHIROPRACTIC<br>PROFESSIONAL CORPORATION   | 002217410                                                                 | 2019-05-01 | IMMO GP V LTD.                                            | 002159445                                                                 |
| 2019-04-29 | LES HOLMES HOLDINGS LIMITED                               | 001047700                                                                 | 2019-05-01 | J & J SAMUELS & ASSOCIATES LTD                            | 000688460                                                                 |
| 2019-04-29 | LIN CONTRACTING LIMITED                                   | 002049440                                                                 | 2019-05-01 | KINWAY CAPITAL INC.                                       | 001438641                                                                 |
| 2019-04-29 | MIMOSA PORTFOLIO LIMITED                                  | 001733606                                                                 | 2019-05-01 | LANGLAND FARMING INC.                                     | 001822049                                                                 |
| 2019-04-29 | PARK INVESTMENTS INC.                                     | 001421054                                                                 | 2019-05-01 | MARTINDALE HEATING AND AIR<br>CONDITIONING LTD.           | 002209217                                                                 |
| 2019-04-29 | QUAY DEVELOPMENTS (KINGSTON)<br>LIMITED                   | 000827335                                                                 | 2019-05-01 | PAUL A. CORNELL CONTRACTING<br>INC.                       | 002101177                                                                 |
| 2019-04-29 | RON CONSTRUCTION (1986) LTD.                              | 000694208                                                                 | 2019-05-01 | QUIMERA CARPENTRY LTD.                                    | 001348927                                                                 |
| 2019-04-29 | RRC 2 INC.                                                | 002269580                                                                 | 2019-05-01 | SCOTT VINE PLAZA INC.                                     | 002086509                                                                 |
| 2019-04-29 | SANGER INVESTMENTS LIMITED                                | 000103651                                                                 | 2019-05-01 | T. H. BROOKS SURVEYING LTD.                               | 000700440                                                                 |
| 2019-04-29 | THE LEAF ENTERTAINMENT<br>GROUP II INC.                   | 002533271                                                                 | 2019-05-01 | 1187346 ONTARIO INC.                                      | 001187346                                                                 |
| 2019-04-29 | UNIONS INC.                                               | 002404263                                                                 | 2019-05-01 | 1324313 ONTARIO LIMITED                                   | 001324313                                                                 |
| 2019-04-29 | WH ENGINEERING INC.                                       | 001482060                                                                 | 2019-05-01 | 1893124 ONTARIO INC.                                      | 001893124                                                                 |
| 2019-04-29 | YALONETSKY ENTERPRISES INC.                               | 001323072                                                                 | 2019-05-01 | 1984369 ONTARIO INC.                                      | 001984369                                                                 |
| 2019-04-29 | 1659060 ONTARIO LTD.                                      | 001659060                                                                 | 2019-05-01 | 2454967 ONTARIO INC.                                      | 002454967                                                                 |
| 2019-04-29 | 1953171 ONTARIO INC.                                      | 001953171                                                                 | 2019-05-01 | 2455168 ONTARIO INC.                                      | 002455168                                                                 |
| 2019-04-29 | 2044442 ONTARIO INC.                                      | 002044442                                                                 | 2019-05-01 | 2470600 ONTARIO INC.                                      | 002470600                                                                 |
| 2019-04-29 | 2145817 ONTARIO INC.                                      | 002145817                                                                 | 2019-05-01 | 2500948 ONTARIO INCORPORATED                              | 002500948                                                                 |
| 2019-04-29 | 2240721 ONTARIO LIMITED                                   | 002240721                                                                 | 2019-05-01 | 2650217 ONTARIO INC.                                      | 002650217                                                                 |
| 2019-04-29 | 2323997 ONTARIO LIMITED                                   | 002323997                                                                 |            |                                                           |                                                                           |
| 2019-04-29 | 2441020 ONTARIO INC.                                      | 002441020                                                                 |            |                                                           |                                                                           |
| 2019-04-29 | 2450173 ONTARIO INC.                                      | 002450173                                                                 |            |                                                           |                                                                           |
| 2019-04-29 | 2532384 ONTARIO INC.                                      | 002532384                                                                 |            |                                                           |                                                                           |
| 2019-04-29 | 2650471 ONTARIO INCORPORATED                              | 002650471                                                                 |            |                                                           |                                                                           |

BARBARA DUCKITT  
Director, Ministry of Government  
and Consumer Services  
Directrice, Ministère des Services  
gouvernementaux et des Services aux  
consommateurs

**Cancellation for Filing Default  
(Corporations Act)  
Annulation pour omission de se  
conformer à une obligation de dépôt  
(Loi sur les personnes morales)**

NOTICE IS HEREBY GIVEN that orders under Section 317(9) of the *Corporations Act* have been made cancelling the Letters Patent of the following corporations and declaring them to be dissolved. The date of the order of dissolution precedes the name of the corporation.

AVIS EST DONNÉ PAR LA PRÉSENTE que, les décrets émis en vertu de l'article 317 (9) de la *Loi sur les personnes morales* ont été émis pour annuler les lettres patentes des personnes morales suivantes et les déclarer dissoutes. La date du décret de la dissolution précède le nom de la personne morale.

| Date       | Name of Corporation<br>Dénomination sociale de la société | Ontario<br>Corporation<br>Number<br>Numéro de<br>la société en<br>Ontario |
|------------|-----------------------------------------------------------|---------------------------------------------------------------------------|
| 2019-05-08 | HAMILTON SHELTER HEALTH NETWORK                           | 1795134                                                                   |
| 2019-05-08 | LOW KONG BROTHERHOOD                                      | 21161                                                                     |

BARBARA DUCKITT  
Director, Ministry of Government  
and Consumer Services  
Directrice, Ministère des Services  
gouvernementaux et des Services aux  
consommateurs

(152-G212)

**Notice of Default in Complying with the  
Corporations Information Act  
Avis de non-observation de la  
Loi sur les renseignements exigés  
des personnes morales**

NOTICE IS HEREBY GIVEN under subsection 241(3) of the *Business Corporations Act* that unless the corporations listed hereunder comply with the filing requirements under the *Corporations Information Act* within 90 days of this notice orders dissolving the corporation(s) will be issued. The effective date precedes the corporation listings.

AVIS EST DONNÉ PAR LA PRÉSENTE que, conformément au paragraphe 241(3) de la *Loi sur les sociétés par actions*, si les sociétés mentionnées ci-dessous ne se conforment pas aux exigences de dépôt requises par la *Loi sur les renseignements exigés des personnes morales* dans un délai de 90 jours suivant la réception du présent avis, des ordonnances de dissolution seront délivrées contre lesdites sociétés. La date d'entrée en vigueur précède la liste des sociétés visées.

| Date       | Name of Corporation<br>Dénomination sociale de la société | Ontario<br>Corporation<br>Number<br>Numéro de<br>la société en<br>Ontario |
|------------|-----------------------------------------------------------|---------------------------------------------------------------------------|
| 2019-05-08 | WISEBUY HOME INC.                                         | 2126614                                                                   |
| 2019-05-08 | 1851040 ONTARIO INC.                                      | 1851040                                                                   |

BARBARA DUCKITT  
Director, Ministry of Government  
and Consumer Services  
Directrice, Ministère des Services  
gouvernementaux et des Services aux  
consommateurs

(152-G213)

**Government Notices — Other  
Avis du gouvernement — Autres**

**Mining Act  
Loi sur les mines**

**GOVERNMENT NOTICE—UNDER THE MINING ACT  
LIST OF LANDS AND/OR MINING RIGHTS OPEN FOR  
MINING CLAIM REGISTRATION  
June 01, 2019**

PURSUANT to the provisions of subsections 197(7), 184(2), 81(13), 82(8), 183(4) and 41(3) of the *Mining Act* and the authority delegated to me by the Deputy Minister, the following lands that have reverted to the Crown through forfeiture, termination or otherwise shall be open for prospecting, mining claim registration, sale or lease as of 10:00 A.M. eastern daylight time on the 1st day of June, 2019.

Note that the lands described in this notice are open for mining claim registration unless the lands or some part of them are otherwise not open for the registration of mining claims under any other provision of the Mining Act or any other legislation, regulations, orders or other instruments. You are strongly advised to investigate any of the lands listed in this notice before registering a mining claim. Mining claim maps are available through the on-line Mining Lands Administration System (MLAS) Map Viewer at <https://www.mndm.gov.on.ca/en/mines-and-minerals/applications/mlas-map-viewer>.

**AVIS GOUVERNEMENTAL—En vertu de la *Loi sur les mines*  
LISTE DES TERRAINS ET DROITS MINIERES OUVERTS À  
L'INSCRIPTION DE CLAIMS  
Le 1<sup>er</sup> juin 2019**

CONFORMÉMENT aux dispositions des paragraphes 197(7), 184(2), 81(13), 82(8), 183(4) et 41(3) de la *Loi sur les mines*, et aux pouvoirs qui m'ont été délégués par le sous-ministre, les terrains suivants, qui sont revenus à la Couronne par confiscation, résiliation ou autrement, seront ouverts à la prospection, à l'inscription de claims, à la vente ou au bail à compter de 10 h heure avancée de l'Est le 1<sup>er</sup> juin 2019.

Veuillez prendre note que les terrains décrits dans le présent avis sont ouverts à l'inscription de claims, à moins que les terrains ou une partie de ceux-ci ne soient pas ouverts à l'inscription de claims en vertu de toute autre disposition de la *Loi sur les mines* ou de toute autre loi, règlement, ordonnance ou autre instrument. Nous vous conseillons fortement d'enquêter sur les terrains énumérés dans le présent avis avant d'inscrire un claim. Les cartes des claims sont disponibles par l'entremise du visualisateur de cartes du Système d'administration des terrains miniers (SATM) à <https://www.mndm.gov.on.ca/en/mines-and-minerals/applications/mlas-map-viewer>.

D'autres recherches peuvent être nécessaires pour connaître les circonstances susceptibles d'influer sur votre décision d'inscrire un claim. Si vous avez des questions au sujet des terrains énumérés dans le présent avis avant d'inscrire un claim par l'entremise du SATM, veuillez communiquer avec le Bureau provincial d'enregistrement minier, au 1 888 415-9845.

Other research may be necessary to learn of any circumstances that might affect your decision to register a mining claim. If you have questions about any of the lands listed in this notice prior to registering a mining claim through MLAS, please contact the Provincial Recording Office at 1-888-415-9845.

Note that some of the lands listed below may have mine hazards or mine rehabilitation works within their boundaries. Please conduct your mineral exploration activities accordingly.

CHRISTINE KASZYCKI  
Assistant Deputy Minister  
Mines and Minerals Division for  
Deputy Minister  
Ministry of Energy, Northern Development  
and Mines

For further inquiries please contact:  
Senior Tax Administrator  
933 Ramsey Lake Road, 3<sup>rd</sup> Floor  
Sudbury ON P3E 6B5  
(705) 670-5781

Veuillez noter que certains des terrains énumérés ci-dessous peuvent présenter des risques miniers ou faire l'objet de travaux de réhabilitation à l'intérieur de leurs limites. Veuillez mener vos activités d'exploration minière en conséquence.

CHRISTINE KASZYCKI  
Sous-ministre adjointe  
Division des mines et des minéraux, pour le  
compte du sous-ministre  
Ministère de l'Énergie, du Développement  
du Nord et des Mines

Renseignements :  
Administratrice principale des impôts  
miniers  
933, chemin du lac Ramsey, 3<sup>e</sup> étage  
Sudbury (Ontario) P3E 6B5  
705 670-5781

**DISTRICT OF ALGOMA  
RÉGION D'ALGOMA**

**TOWNSHIP OF AWERES  
CANTON DE AWERES**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                       | HECTARES |
|-----------------------------|----------------------|---------------------------------------------------|----------|
| LA**0059-0001               | 31352-0176(LT)       | LEA-107206. Mining Claims SSM233749 and SSM233750 | 32.371   |

**TOWNSHIP OF BRUYERE  
CANTON DE BRUYERE**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                | HECTARES |
|-----------------------------|----------------------|----------------------------------------------------------------------------|----------|
| A***0023-0002               | 31142-0002(LT)       | PAT-420. Part Mining Claim SSM6579, not covered by the waters of Dog Lake  | 11.129   |
| A***0023-0004               | 31142-0005(LT)       | PAT-422. Part Mining Claim SSM12108, not covered by the waters of Dog Lake | 11.534   |

**TOWNSHIP OF GUNTERMAN  
CANTON DE GUNTERMAN**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                            | HECTARES |
|-----------------------------|----------------------|----------------------------------------|----------|
| A***0355-0001               | 31404-0402(LT)       | PAT-1859. Mining Claim S77780 (S97228) | 12.595   |
| A***0355-0002               | 31404-0403(LT)       | PAT-1860. Mining Claim S77782 (S97227) | 16.718   |
| A***0355-0003               | 31404-0398(LT)       | PAT-1861. Part Mining Claim S97238     | 12.723   |
| A***0355-0004               | 31404-0396(LT)       | PAT-1862. Part Mining Claim S97239     | 21.246   |
| A***0355-0005               | 31404-0397(LT)       | PAT-1863. Part Mining Claim S97240     | 14.051   |
| A***0355-0006               | 31404-0395(LT)       | PAT-1864. Mining Claim S97241          | 13.816   |
| A***0355-0007               | 31404-0407(LT)       | PAT-1865. Part Mining Claim S97242     | 12.424   |
| A***0355-0008               | 31404-0404(LT)       | PAT-1866. Mining Claim S97243          | 14.969   |
| A***0355-0009               | 31404-0405(LT)       | PAT-1867. Mining Claim S97244          | 23.723   |
| A***0355-0010               | 31404-0401(LT)       | PAT-1868. Mining Claim S97245          | 17.296   |
| A***0355-0011               | 31404-0400(LT)       | PAT-1869. Mining Claim S97246          | 10.922   |
| A***0355-0012               | 31404-0399(LT)       | PAT-1870. Mining Claim S97247          | 6.896    |

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                        | HECTARES |
|-----------------------------|----------------------|------------------------------------|----------|
| A***0355-0013               | 31404-0406(LT)       | PAT-1871. Mining Claim S97248      | 9.866    |
| A***0355-0014               | 31404-0408(LT)       | PAT-1872. Mining Claim S97235      | 7.677    |
| A***0355-0015               | 31404-0409(LT)       | PAT-1873. Part Mining Claim S97236 | 18.875   |
| A***0355-0016               | 31404-0410(LT)       | PAT-1874. Mining Claim S97237      | 10.510   |

**TOWNSHIP OF RIGGS  
CANTON DE RIGGS**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                  | HECTARES |
|-----------------------------|----------------------|------------------------------------------------------------------------------|----------|
| A***0023-0001               | 31125-0013(LT)       | PAT-419. Part Mining Claim SSM6577, not covered by the waters of Albert Lake | 8.296    |
| A***0023-0003               | 31142-0027(LT)       | PAT-421. Part Mining Claim SSM12107, not covered by the waters of Dog Lake   | 9.105    |

**DISTRICT OF COCHRANE  
RÉGION DE COCHRANE**

**TOWNSHIP OF BEATTY  
CANTON DE BEATTY**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                                        | HECTARES |
|-----------------------------|----------------------|----------------------------------------------------------------------------------------------------|----------|
| LC**0221-0001               | 65366-0163(LT)       | LEA-106038. NW pt of N part of broken Lot 7 Con 6, Mining Claim L532229, land and land under water | 16.633   |
| LC**0221-0002               | 65366-0165(LT)       | LEA-106037. Part of Lot 7 Con 6, Mining Claim L532230, land and land under water                   | 16.633   |
| LC**0221-0003               | 65366-0164(LT)       | LEA-106039. Part of Lot 8 Con 6, Mining Claim L532228, land and land under water                   | 16.633   |
| LC**0221-0004               | 65366-0169(LT)       | LEA-106040. NW1/4 of N1/2 Lot 6 Con 6, Mining Claim L532231, land and land under water             | 16.228   |

**TOWNSHIP OF CARMAN  
CANTON DE CARMAN**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                            | HECTARES |
|-----------------------------|----------------------|----------------------------------------|----------|
| C***0307-0001               | 65444-0001(LT)       | PAT-3372. Mining Claim P21284 (RSC242) | 17.187   |

**TOWNSHIP OF CLERGUE  
CANTON DE CLERGUE**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                        | HECTARES |
|-----------------------------|----------------------|--------------------------------------------------------------------|----------|
| LC**0232-0001               | 65346-0426(LT)       | LEA-109118. Mining Claim L527009, NE1/4 of the S1/2 of Lot 5 Con 1 | 16.187   |

**TOWNSHIP OF COULSON  
CANTON DE COULSON**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                                                                                                      | HECTARES |
|-----------------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| LC**0221-0005               | 65343-0026(LT)       | LEA-106042. S1/2 Lot 6 Con 1, Mining Claims L618557 to L618560; S1/2 Lot 7 Con 1, Mining Claims L532849, L532850, L532227 and L532226, land and land under water | 128.285  |

**TOWNSHIP OF DELOORO  
CANTON DE DELOORO**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                   | HECTARES |
|-----------------------------|----------------------|-------------------------------|----------|
| C***1093-0001               | 65442-0588(LT)       | PAT-4927. Mining Claim P24475 | 13.962   |

**TOWNSHIP OF DYER  
CANTON DE DYER**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE                                                 | DESCRIPTION                                                                                                       | HECTARES  |
|-----------------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-----------|
| LC**0301-0001               | 65210-0004(LT)<br>65211-0002(LT)<br>65187-0002(LT)<br>65186-0001(LT) | LEA-107286. Location RY81, Parts 1 to 3 on Plan 6R-3128, in the townships of Gardiner, Sutcliffe, Dyer and Morrow | 5,139.317 |

**TOWNSHIP OF HOYLE  
CANTON DE HOYLE**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                                                                                                              | HECTARES |
|-----------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| LC**0251-0003               | 65360-0143(LT)       | LEA-107056. NE1/4 and the SE1/4 of the S1/2 Lot 9 Con 5 and the NW1/4 and the SW1/4 of the S1/2 Lot 8 Con 5, Mining Claims P756526 to P756529, land and land under water | 66.065   |

**TOWNSHIP OF KIPLING  
CANTON DE KIPLING**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                    | HECTARES |
|-----------------------------|----------------------|------------------------------------------------|----------|
| C***0238-0001               | 65152-0016(LT)       | PAT-3144. Mining Claim T18492 1/2; part of PIN | 19.344   |
| C***0238-0002               | 65152-0016(LT)       | PAT-3145. Mining Claim T19482; part of PIN     | 22.015   |
| C***0238-0003               | 65152-0016(LT)       | PAT-3146. Mining Claim T21582; part of PIN     | 16.147   |
| C***0238-0004               | 65152-0016(LT)       | PAT-3147. Mining Claim T21583; part of PIN     | 16.268   |
| C***0238-0005               | 65152-0016(LT)       | PAT-3148. Mining Claim T21584; part of PIN     | 16.147   |
| C***0238-0006               | 65152-0016(LT)       | PAT-3149. Mining Claim T21585; part of PIN     | 16.794   |
| C***0238-0007               | 65152-0016(LT)       | PAT-3150. Mining Claim T21586; part of PIN     | 25.617   |
| C***0238-0008               | 65152-0016(LT)       | PAT-3151. Mining Claim T21587; part of PIN     | 24.726   |

**TOWNSHIP OF MATHESON  
CANTON DE MATHESON**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                         | HECTARES |
|-----------------------------|----------------------|-------------------------------------------------------------------------------------|----------|
| C***0105-0001               | 65361-0360(LT)       | PAT-2711. S part of broken Lot 10 Con 1                                             | 64.750   |
| C***0105-0002               | 65361-0362(LT)       | PAT-2712. S part of Lot 12 Con 1, saving and excepting Parts 2 and 3 on Plan CR-954 | 64.422   |

**TOWNSHIP OF MELBA  
CANTON DE MELBA**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                                                                                                                  | HECTARES |
|-----------------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| LC**0228-0001               | 65460-0010(LT)       | LEA-109274. Mining Claim L565474, Part 2 on Plan 6R-6005                                                                                                                     | 15.483   |
| LC**0228-0002               | 65460-0012(LT)       | LEA-109281. Mining Claims L512649, L512650, L512652 and L512634, Parts 1 to 4 on Plan 6R-5898; Mining Claims L565478 and L565479, Parts 5 and 6 on Plan 6R-6005; part of PIN | 105.643  |

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                           | HECTARES |
|-----------------------------|----------------------|-----------------------------------------------------------------------|----------|
| LC**0228-0003               | 65460-0012(LT)       | LEA-109276. Mining Claim L512653, Part 5 on Plan 6R-5898; part of PIN | 18.421   |
| LC**0228-0004               | 65460-0012(LT)       | LEA-109277. Mining Claim L512630; Part 6 on Plan 6R-5898; part of PIN | 15.447   |
| LC**0228-0005               | 65460-0012(LT)       | LEA-109278. Mining Claim L512631; Part 7 on Plan 6R-5898; part of PIN | 18.454   |
| LC**0228-0006               | 65460-0011(LT)       | LEA-109275. Mining Claim L643399, Part 1 on Plan 6R-6005              | 10.623   |
| LC**0228-0007               | 65460-0012(LT)       | LEA-109279. Mining Claim L531209; Part 3 on Plan 6R-6005; part of PIN | 18.741   |

**TOWNSHIP OF MUNRO  
CANTON DE MUNRO**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                    | HECTARES |
|-----------------------------|----------------------|----------------------------------------------------------------|----------|
| LC**0002-0019               | 65367-0088(LT)       | LEA-107100. NE1/4 of S1/2, Lot 5 Con 5, Mining Claim L44233    | 16.440   |
| LC**0031-0001               | 65367-0122(LT)       | LEA-108171. NE1/4 Lot 1 Con 2, Mining Claims L67292 and L67293 | 32.375   |

**TOWNSHIP OF OGDEN  
CANTON DE OGDEN**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                                          | HECTARES |
|-----------------------------|----------------------|------------------------------------------------------------------------------------------------------|----------|
| C***1415-0001               | 65441-0120(LT)       | PAT-47722. Mining Claim P27383, land and land covered with the waters of part of the Mattagami River | 19.890   |
| LC**0204-0003               | 65441-0174(LT)       | LEA-109120. CLM380, Mining Claims P521495, P521497, P521498, P521499, P521500 and part of P521496    | 106.121  |
| LO**0478-0001               |                      | MLO-11052. Part Mining Claim P28503, land under the water of Mattagami River                         | 2.930    |

**TOWNSHIP OF WALKER  
CANTON DE WALKER**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                          | HECTARES |
|-----------------------------|----------------------|--------------------------------------------------------------------------------------|----------|
| LC**0232-0002               | 65345-0176(LT)       | LEA-109119. Mining Claims L522469, L522470, L522471 and L522472, N1/2 of Lot 9 Con 1 | 64.952   |

**TOWNSHIP OF WILKIE  
CANTON DE WILKIE**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                   | HECTARES |
|-----------------------------|----------------------|-------------------------------------------------------------------------------|----------|
| LC**0204-0004               | 65344-0055(LT)       | LEA-109121. Mining Claims L521379 to L521390, N1/2 of Lots 9, 10 and 11 Con 1 | 194.249  |

**DISTRICT OF KENORA  
RÉGION DE KENORA**

**TOWNSHIP OF DRAYTON  
CANTON DE DRAYTON**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                           | HECTARES |
|-----------------------------|----------------------|-----------------------------------------------------------------------|----------|
| K***0287-0001               | 42042-1125(LT)       | PAT-6117. Part KRL16860, not covered by the waters of Vermillion Lake | 5.234    |

**TOWNSHIP OF GLASS  
CANTON DE GLASS**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                                                                                           | HECTARES |
|-----------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| K***0044-0002               | 42141-0023(LT)       | PAT-5707. Mining Location D200; part of PIN                                                                                                           | 27.519   |
| K***0044-0003               | 42141-0023(LT)       | PAT-5708. Mining Location D201, situate on Bag Bay of Shoal Lake, W of Lake of the Woods; part of PIN                                                 | 12.141   |
| K***0044-0004               | 42141-0023(LT)       | PAT-5709. Mining Location D201A, land and land covered with water, including islets and reefs, situate in Bag Bay; part of PIN                        | 31.970   |
| K***0044-0006               | 42141-0023(LT)       | PAT-5711. Mining Claim D204 (K2460), situate SW of Bag Bay of Shoal Lake; part of PIN                                                                 | 16.187   |
| K***0044-0009               | 42141-0023(LT)       | PAT-5714. Mining Claim D214 (K2938), situate on Shoal Lake; part of PIN                                                                               | 16.187   |
| K***0044-0010               | 42141-0023(LT)       | PAT-5715. Mining Claim D215 (K2458), situate on the W Shore of Bag Bay of Shoal Lake; part of PIN                                                     | 18.858   |
| K***0044-0011               | 42141-0023(LT)       | PAT-5716. Mining Location D216, situate W of Bag Bay, Shoal Lake, W of Lake of the Woods; part of PIN                                                 | 15.378   |
| K***0044-0012               | 42141-0023(LT)       | PAT-5717. Mining Location D217, situate on the S side of Bag Bay, Shoal Lake, W of Lake of the Woods; part of PIN                                     | 23.472   |
| K***0044-0013               | 42141-0023(LT)       | PAT-5718. Mining Claim D228 (K2978 and K2979) situate near Bag Bay of Shoal Lake of Lake of the Woods; part of PIN                                    | 29.137   |
| K***0044-0014               | 42141-0023(LT)       | PAT-5719. Mining Location D229, situate on Bag Bay, Shoal Lake, W of Lake of the Woods; part of PIN                                                   | 15.783   |
| K***0044-0019               | 42141-0023(LT)       | PAT-5724. Mining Location S97 (K3055 to K3058), situate near Bag Bay of Shoal Lake; part of PIN                                                       | 54.633   |
| K***0044-0020               | 42141-0023(LT)       | PAT-5725. Mining Location S151, being all that part not covered by Mining Location D397, situate near Shoal Lake, W of Lake of the Woods; part of PIN | 42.897   |
| K***0044-0022               | 42141-0023(LT)       | PAT-5727. Mining Location D147; part of PIN                                                                                                           | 16.187   |
| K***0044-0024               | 42141-0023(LT)       | PAT-5729. Mining Location D239, situate N of Hell Diver Bay of Shoal Lake, W of Lake of the Woods; part of PIN                                        | 32.375   |
| K***0044-0025               | 42141-0023(LT)       | PAT-5730. Mining Location D389, situate N of Hell Diver Bay on Shoal Lake, W of Lake of the Woods; part of PIN                                        | 22.662   |
| K***0044-0026               | 42141-0024(LT)       | PAT-5731. Mining Location S109, situate on the NE side of Hell Diver Bay of Shoal Lake, W of Lake of the Woods; part of PIN                           | 32.375   |
| K***0044-0027               | 42141-0024(LT)       | PAT-5732. Mining Location S126; part of PIN                                                                                                           | 18.616   |
| K***0044-0028               | 42141-0023(LT)       | PAT-5733. Mining Location S150, situate NE of Hell Diver Bay, of Shoal Lake, W of Lake of the Woods; part of PIN                                      | 34.398   |

**SNOWSHOE BAY AREA  
RÉGION DE SNOWSHOE BAY**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                     | HECTARES |
|-----------------------------|----------------------|---------------------------------------------------------------------------------|----------|
| K***0044-0029               | 42150-0236(LT)       | PAT-5734. Island MH22 N of Stevens Island in Shoal Lake, W of Lake of the Woods | 0.405    |
| K***0044-0032               | 42150-0239(LT)       | PAT-5737. Island MH25 N of Stevens Island in Shoal Lake, W of Lake of the Woods | 0.405    |
| K***0044-0034               | 42150-0244(LT)       | PAT-5739. Island MH59 N of Stevens Island in Shoal Lake, W of Lake of the Woods | 0.405    |
| K***0044-0036               | 42150-0246(LT)       | PAT-5741. Island MH33 in Shoal Lake                                             | 0.809    |
| K***0044-0037               | 42150-0241(LT)       | PAT-5742. Island MH46 in Shoal Lake                                             | 1.619    |

**TOWNSHIP OF DOME  
CANTON DE DOME**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                           | HECTARES |
|-----------------------------|----------------------|-----------------------------------------------------------------------|----------|
| LO**0418-0001               |                      | MLO-2535. Part Mining Claim KRL6377, land under the water of Red Lake | 7.976    |

DISTRICT OF MUSKOKA  
RÉGION DE MUSKOKAKILLARNEY  
RÉGION DE KILLARNEY

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                                  | HECTARES |
|-----------------------------|----------------------|----------------------------------------------------------------------------------------------|----------|
| LM**0002-0002               | 47137-0052(LT)       | LEA-107177. Mining Location CLM191; Mining Claims S138941 to S138956, Part 1 on Plan 31R-419 | 217.434  |

DISTRICT OF NIPISSING  
RÉGION DE NIPISSINGTOWNSHIP OF MCAUSLAN  
CANTON DE MCAUSLAN

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                                                          | HECTARES |
|-----------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------|----------|
| LN**0073-0001               | 49032-0004(LT)       | LEA-107164. Part of Mining Claim T61559, land and land under the waters of Threetrails Lake, Part 1 on Plan 36R-3811 | 16.867   |

TOWNSHIP OF STRATHY  
CANTON DE STRATHY

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                   | HECTARES |
|-----------------------------|----------------------|-----------------------------------------------|----------|
| LN**0034-0002               | 49005-0238(LT)       | LEA-107209. Mining Claims TRT6922 and TRT6923 | 28.830   |

DISTRICT OF PARRY SOUND  
RÉGION DE PARRY SOUNDTOWNSHIP OF FOLEY  
CANTON DE FOLEY

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                                                                                                                              | HECTARES |
|-----------------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| LO**0312-0006               |                      | MLO-12553. Mining Claims PS1521, PS1522 and PS1523, land lying under the waters of Richmond Lake adjacent to broken Lots 144 to 147 Con "A", and adjacent to broken Lots 26 to 28 Con 11 | 62.322   |

DISTRICT OF RAINY RIVER  
RÉGION DE RAINY RIVERBAD VERMILION LAKE AREA  
RÉGION DE BAD VERMILION LAKE

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                  | HECTARES |
|-----------------------------|----------------------|------------------------------------------------------------------------------|----------|
| RR**0280-0001               | 56066-2707(LT)       | PAT-41827. Mining Location HP430, N of Bad Vermillion Lake, near Seine River | 19.020   |

LITTLE TURTLE LAKE AREA  
RÉGION DE LITTLE TURTLE LAKE

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                                                                                                                                                                                        | HECTARES |
|-----------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| LRR*0024-0001               | 56066-3073(LT)       | LEA-106206. Parts of Mining Locations E237, E257 & HP198, part of the road allowance in front of Mining Location E237 & part of the bed of Little Turtle Lake, Parts 1, 2, 3 and 4 on Plan 48R-3110, Mining Claim K489778, land & land under water | 15.261   |

**COUNTY OF FRONTENAC**  
**COMTÉ DE FRONTENAC**

**TOWNSHIP OF BARRIE**  
**CANTON DE BARRIE**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                             | HECTARES |
|-----------------------------|----------------------|---------------------------------------------------------|----------|
| SO**0386-0003               | 36180-0075(LT)       | PAT-10098. S1/2 Lot 10 Con 10; part of PIN              | 15.783   |
| SO**0386-0007               | 36180-0073(LT)       | PAT-10102. South 57 acres of Lot 15 Con 10; part of PIN | 23.067   |

**COUNTY OF RENFREW**  
**COMTÉ DE RENFREW**

**TOWNSHIP OF BLITHFIELD**  
**CANTON DE BLITHFIELD**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                     | HECTARES |
|-----------------------------|----------------------|-------------------------------------------------|----------|
| SO**1024-0001               | 57363-0015(LT)       | PAT-27177. N1/2 Lot 1 Con 1; part of PIN        | 38.445   |
| SO**1024-0002               | 57363-0015(LT)       | PAT-27178. S1/2 broken Lot 2 Con 1; part of PIN | 40.469   |

**COUNTY OF HASTINGS**  
**COMTÉ DE HASTINGS**

**TOWNSHIP OF FARADAY**  
**CANTON DE FARADAY**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                            | HECTARES |
|-----------------------------|----------------------|--------------------------------------------------------|----------|
| SO**0405-0013               | 40060-0209(LT)       | PAT-10118. Part Lot 21 Con 10 as in QR286421 (part 1Z) | 12.440   |

**TOWNSHIP OF GRIMSTHORPE**  
**CANTON DE GRIMSTHORPE**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                  | HECTARES |
|-----------------------------|----------------------|------------------------------|----------|
| SO**0204-0001               | 40239-0054(LT)       | PAT-10012. S1/2 Lot 16 Con 5 | 20.234   |

**TOWNSHIP OF HUNGERFORD**  
**CANTON DE HUNGERFORD**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                                                       | HECTARES |
|-----------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------|----------|
| SO**0888-0001               | 40273-0056(LT)       | PAT-10367. Water lot in front of parts of Lots 32, 33 and 34 Con 1, part of Part 4 on Plan 21R-18475; part of PIN | 16.511   |

**COUNTY OF HALIBURTON**  
**COMTÉ DE HALIBURTON**

**TOWNSHIP OF GLAMORGAN**  
**CANTON DE GLAMORGAN**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                      | HECTARES |
|-----------------------------|----------------------|--------------------------------------------------|----------|
| SO**0790-0001               | 39228-0245(LT)       | PAT-10306. Lot 25 Con 2, as in instrument 187968 | 40.469   |

**TOWNSHIP OF MARMORA**  
**CANTON DE MARMORA**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE             | DESCRIPTION                                                                                  | HECTARES |
|-----------------------------|----------------------------------|----------------------------------------------------------------------------------------------|----------|
| LSO*0099-0001               | 40179-0331(LT)<br>40179-0335(LT) | LEA-105956. Mining Claims EO538210 and EO538211, Lot 6 Con 8, Parts 1 to 7 on Plan 21R-13688 | 40.647   |
| SO**0121-0001               | 40179-0183(LT)<br>40179-0184(LT) | PAT-9955. E1/2 of Lot 9 Con 8                                                                | 40.469   |

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                | HECTARES |
|-----------------------------|----------------------|--------------------------------------------|----------|
| SO**0121-0002               | 40180-0062(LT)       | PAT-9956. Part of the W1/2 of Lot 10 Con 9 | 9.712    |

**DISTRICT OF SUDBURY  
RÉGION DE SUDBURY**

**TOWNSHIP OF BRODER  
CANTON DE BRODER**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                      | HECTARES |
|-----------------------------|----------------------|----------------------------------|----------|
| LS**0105-0001               | 73474-0130(LT)       | LEA-107207. Mining Claim S378703 | 16.794   |

**TOWNSHIP OF FOSTER  
CANTON DE FOSTER**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                                                                                                                                                                         | HECTARES |
|-----------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| LS**0139-0001               | 73403-0079(LT)       | LEA-108847. Mining Claims S398131 to S398140, S398149, S471202 to S471204, S471438, S471439, S574753, S574754, S720965, S720969 and S808341, part of Lots 8, 9 and 10 Con 3                                                         | 338.884  |
| LS**0183-0001               | 73403-0078(LT)       | LEA-108592. Mining Claims S398141, S398142, S398145 to S398148, S398150, S398151 and S398153; parts of Lot 7 Con 3, Lots 7 and 8 Con 4 and parts of the beds of St. Leonard Lake and Elizabeth Lake, Parts 1 to 8 on Plan 53R-12164 | 145.642  |

**TOWNSHIP OF LEESON  
CANTON DE LEESON**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                      | HECTARES |
|-----------------------------|----------------------|----------------------------------------------------------------------------------|----------|
| LS**0123-0002               | 73003-0043(LT)       | LEA-108695. Mining Claims SSM546313 to SSM546319, Parts 1 to 7 on Plan 53R-12244 | 109.949  |

**TOWNSHIP OF MACLENNAN  
CANTON DE MACLENNAN**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                   | HECTARES |
|-----------------------------|----------------------|---------------------------------------------------------------|----------|
| S***0446-0002               | 73512-0005(LT)       | PAT-14733. Mining Claim S35799, SW1/4 of the N1/2 Lot 3 Con 3 | 14.518   |

**TOWNSHIP OF MACMURCHY  
CANTON DE MACMURCHY**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                     | HECTARES |
|-----------------------------|----------------------|---------------------------------------------------------------------------------|----------|
| LS**0002-0002               | 73185-0007(LT)       | LEA-20022. Part Mining Claim TRS2504 not covered by the waters of Wasapika Lake | 12.262   |
| LS**0002-0003               | 73185-0008(LT)       | LEA-20015. Mining Claim TRS2540                                                 | 8.822    |
| LS**0002-0004               | 73185-0009(LT)       | LEA-20016. Mining Claim TRS2541, land and land under the water of Violet Lake   | 21.448   |
| LS**0172-0001               | 73185-0004(LT)       | LEA-107351. Mining Claim MR45324, Parts 1 to 3 on Plan 53R-7281                 | 32.156   |

**TOWNSHIP OF NAIRN  
CANTON DE NAIRN**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                        | HECTARES |
|-----------------------------|----------------------|----------------------------------------------------|----------|
| S***0294-0001               | 73394-0075(LT)       | PAT-14504. North one hundred acres of Lot 10 Con 2 | 1.498    |

**DISTRICT OF THUNDER BAY**  
**RÉGION DE THUNDER BAY**

**TOWNSHIP OF MCINTYRE**  
**CANTON DE MCINTYRE**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                      | HECTARES |
|-----------------------------|----------------------|----------------------------------------------------------------------------------|----------|
| TB**1558-0001               | 62231-0133(LT)       | PAT-17455. Southerly 54 1/2 acres of the NE portion of Section 1 as in TBR426906 | 22.055   |

**TOWNSHIP OF PRISKE**  
**CANTON DE PRISKE**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                | HECTARES |
|-----------------------------|----------------------|------------------------------------------------------------|----------|
| LTB*0147-0001               | 62458-0320(LT)       | LEA-107433. Mining Claim TB221115, Part 1 on Plan 55R-4639 | 13.553   |

**SQUASH LAKE AREA**  
**RÉGION DE SQUASH LAKE**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                     | HECTARES |
|-----------------------------|----------------------|---------------------------------|----------|
| TB**1559-0001               | 62504-0601(LT)       | PAT-17456. Mining Claim TB10628 | 11.752   |

**TOWNSHIP OF SUMMERS**  
**CANTON DE SUMMERS**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                              | HECTARES |
|-----------------------------|----------------------|------------------------------------------|----------|
| LTB*0048-0001               | 62423-0006(LT)       | LEA-19587. E part of Mining Claim TB4815 | 9.687    |

**TOWNSHIP OF GILLIES LIMIT**  
**CANTON DE GILLIES LIMIT**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                     | HECTARES |
|-----------------------------|----------------------|---------------------------------|----------|
| LT**0163-0001               | 61392-0216(LT)       | LEA-107230. Mining Claim T18798 | 10.319   |

**DISTRICT OF TIMISKAMING**  
**RÉGION DE TIMISKAMING**

**TOWNSHIP OF GRENFELL**  
**CANTON DE GRENFELL**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                   | HECTARES |
|-----------------------------|----------------------|---------------------------------------------------------------|----------|
| T***1315-0001               | 61229-0039(LT)       | PAT-20450. Part of Mining Claim L9146, Part 1 on Plan TER-290 | 0.136    |
| T***1359-0001               | 61229-0368(LT)       | PAT-27804. Mining Claim L8236 1/2                             | 19.425   |
| T***1359-0002               | 61229-0360(LT)       | PAT-27805. Mining Claim L7004                                 | 17.924   |
| T***1359-0003               | 61229-0365(LT)       | PAT-27806. Mining Claim L7005                                 | 16.523   |
| T***1359-0004               | 61229-0369(LT)       | PAT-27807. Mining Claim L13038                                | 12.343   |
| T***1359-0005               | 61229-0367(LT)       | PAT-27808. Mining Claim L8261                                 | 17.523   |

**TOWNSHIP OF HAULTAIN**  
**CANTON DE HAULTAIN**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                           | HECTARES |
|-----------------------------|----------------------|---------------------------------------|----------|
| LT**0136-0003               | 61296-0007(LT)       | LEA-19630. Mining Claim GG5763        | 9.227    |
| LT**0136-0004               | 61296-0006(LT)       | LEA-19629. Mining Claim AK22 (GG6339) | 6.475    |

**TOWNSHIP OF JAMES  
CANTON DE JAMES**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                             | HECTARES |
|-----------------------------|----------------------|---------------------------------------------------------|----------|
| LT**0350-0001               | 61299-0004(LT)       | LEA-19525. Mining Claim MR6557, part broken Lot 8 Con 6 | 13.759   |

**TOWNSHIP OF KATRINE  
CANTON DE KATRINE**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                               | HECTARES |
|-----------------------------|----------------------|-----------------------------------------------------------|----------|
| T***1196-0002               | 61222-0008(LT)       | PAT-20253. Mining Claim L23549, except SRO as in LT272133 | 14.544   |
| T***1196-0003               | 61222-0007(LT)       | PAT-20254. Mining Claim L23550, except SRO as in LT272133 | 9.579    |

**TOWNSHIP OF MAISONVILLE  
CANTON DE MAISONVILLE**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                            | HECTARES |
|-----------------------------|----------------------|------------------------------------------------------------------------|----------|
| T***0121-0001               | 61218-0299(LT)       | PAT-18064. SE part of the N part Lot 11 Con 2                          | 8.094    |
| T***0275-0001               | 61218-0216(LT)       | PAT-18487. Mining Claim L65432, part of the N part broken Lot 10 Con 2 | 14.868   |

**TOWNSHIP OF MARQUIS  
CANTON DE MARQUIS**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                                            | HECTARES |
|-----------------------------|----------------------|--------------------------------------------------------------------------------------------------------|----------|
| T***0471-0001               | 61252-0023(LT)       | PAT-18957. Mining Claim L39042, part NW1/4 of the N1/2 Lot 5 Con 5, excepting the bed of Crooked Creek | 14.973   |

**TOWNSHIP OF MCARTHUR  
CANTON DE MCARTHUR**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                                 | HECTARES |
|-----------------------------|----------------------|---------------------------------------------------------------------------------------------|----------|
| LT**0155-0004               | 61208-0041(LT)       | LEA-19746. Mining Claim TRP3029, land and land covered with the water of part of Clear Lake | 14.245   |
| LT**0306-0001               | 61208-0044(LT)       | LEA-19745. Mining Claim TRP3026, land and land covered with the water of part of Clear Lake | 15.904   |
| LT**0306-0002               | 61208-0043(LT)       | LEA-19748. Mining Claim TRP3027, land and land covered with the water of part of Clear Lake | 16.835   |
| LT**0306-0003               | 61208-0042(LT)       | LEA-19747. Mining Claim TRP3028, land and land covered with the water of part of Clear Lake | 13.387   |

**TOWNSHIP OF MCVITTIE  
CANTON DE MCVITTIE**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                   | HECTARES |
|-----------------------------|----------------------|-------------------------------------------------------------------------------|----------|
| T***0828-0001               | 61225-0412(LT)       | PAT-19477. Part Mining Claim L12144, not covered by the water of Diamond Lake | 16.471   |

**TOWNSHIP OF POWELL  
CANTON DE POWELL**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                    | HECTARES |
|-----------------------------|----------------------|--------------------------------|----------|
| LT**0012-0004               | 61257-0082(LT)       | LEA-19619. Mining Claim MR9915 | 12.262   |

**TOWNSHIP OF SKEAD  
CANTON DE SKEAD**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                                                                                       | HECTARES |
|-----------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| LT**0255-0001               | 61249-0156(LT)       | LEA-107165. Mining Claims L295956 and L268837, part NE1/4 of N1/2 Lot 4 Con 6, part NW part of N part Lot 5 Con 6, Parts 1 and 2 on Plan 54R-1704 | 35.877   |

**TOWNSHIP OF WHITSON  
CANTON DE WHITSON**

| ACCT NO<br>NUMÉRO DE COMPTE | PIN<br>CÔTE FONCIÈRE | DESCRIPTION                                                                                                                | HECTARES |
|-----------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------|----------|
| LT**0068-0001               | 61365-0001(LT)       | LEA-19364. Mining Claim M.R.12838 being land and land covered by the waters of Morin Lake, Derby Lake and an unnamed river | 17.478   |

(152-G214)

## Applications to Provincial Parliament — Private Bills Demandes au Parlement provincial — Projets de loi d'intérêt privé

### PUBLIC NOTICE

The rules of procedure and the fees and costs related to applications for Private Bills are set out in the Standing Orders of the Legislative Assembly's Internet site at <http://www.ontla.on.ca> or from:

Procedural Services Branch  
Room 1405, Whitney Block, Queen's Park  
Toronto, Ontario M7A 1A2  
Telephone: 416-325-3500 (Collect calls will be accepted)

Applicants should note that consideration of applications for Private Bills that are received after the first day of September in any calendar year may be postponed until the first regular Session in the next following calendar year.

TODD DECKER  
Clerk of the Legislative Assembly.

(8699) T.F.N

## Applications to Provincial Parliament Demandes au Parlement provincial

NOTICE IS HEREBY GIVEN that on behalf of the Ontario Association of Holistic Nutrition Professionals (OAHN-Pro), application will be made to the Legislative Assembly of the Province of Ontario for an Act enabling governance and discipline of OAHN-Pro's members, and granting members exclusive use of the designations "accredited holistic nutritionist" and "accredited holistic nutrition professional". The Act will not affect or interfere with the right of practice for individuals who are not OAHN-Pro members.

The application will be considered by the Standing Committee on Regulations and Private Bills. Any person who has an interest in the application and who wishes to make submissions, for or against the application, to the Standing Committee on Regulations and Private Bills should notify, in writing, the Clerk of the Legislative Assembly, Legislative Building, Queen's Park, Toronto, Ontario, M7A 1A2.

Dated at Toronto, this 1st day of May, 2019.

LORENE SAURO, for the Ontario Association  
of Holistic Nutrition Professionals  
(152-P100) 19, 20, 21 and 22

NOTICE IS HEREBY GIVEN that on behalf of Haggart Belting Canada Ltd. application will be made to the Legislative Assembly of the Province of Ontario for an act to revive Haggart Belting Canada Ltd.

The application will be considered by the Standing Committee on Regulations and Private Bills. Any person who has an interest in the application and who wishes to make submissions, for or against the application, to the Standing Committee on Regulations and Private Bills should notify, in writing, the Clerk of the Legislative Assembly, Legislative Building, Queen's Park, Toronto, Ontario, M7A 1A2.

Dated at Oakville, this 2<sup>nd</sup> day of May, 2019.

DON HAGGART JR.  
President, Haggart Belting Canada Ltd.  
(152-P101) 19, 20, 21 and 22

NOTICE IS HEREBY GIVEN that on behalf of Zinalda Tavares application will be made to the Legislative Assembly of the Province of Ontario for an Act to revise Shyrview Limited.

The application will be considered by the Standing Committee on Regulations and Private Bills. Any person who has an interest in the application and who wishes to make submissions, for or against the application, to the Standing Committee on Regulations and Private Bills should notify, in writing, the Clerk of the Legislative Assembly, Legislative building, Queen's Park, Toronto, Ontario, M7A 1A2.

Dated at Dryden, Ontario this 2nd day of May, 2019.

ZINALDA TAVARES  
(152-P120) 20, 21, 22 and 23

NOTICE IS HEREBY GIVEN that on behalf of JUN LING YAN application will be made to the Legislative Assembly of the Province of Ontario for an Act to revive A&ONE FASHION JEWELLERY WHOLESALE LTD.

The application will be considered by the Standing Committee on Regulations and Private Bills. Any person who has an interest in the application and who wishes to make submissions, for or against the application, to the Standing Committee on Regulations and Private Bills should notify, in writing, the Clerk of the Legislative Assembly, Legislative Building, Queen's Park, Toronto, Ontario, M7A 1A2.

Dated at Toronto, this 10 th day of May, 2019

JUN LING YAN

(152-P121) 20, 21, 22 and 23

## Corporation Notices Avis relatifs aux compagnies

### Croatian (Toronto) Canadian Credit Union Limited

IN THE MATTER of the winding-up Croatian (Toronto) Credit Union Limited, pursuant to Sections 298 and 299 of the Credit Unions and Caisses Populaires Act, 1994.

#### We, Deposit Insurance Corporation of Ontario hereby give notice that:

1. On July 7, 2009, Deposit Insurance Corporation of Ontario (DICO) made an Order under Section 294 of the Credit Unions and Caisses Populaires Act, 1994 ordering the Croatian (Toronto) Credit Union Limited ("Credit Union") subject to Administration by DICO. Subsequently, on October 18, 2010, DICO as Administrator of the Credit Union, appointed DICO as Liquidator of the estate and effects of the Credit Union for the purpose of winding up its affairs and distributing its property.
2. The Credit Union has, within the prescribed 20 day period, published notice of the resolution in The Ontario Gazette and in the local newspaper having a general circulation in the locality in which the registered Head Office of the Credit Union is situated.
3. The winding-up of the Credit Union has been completed and an account of the winding-up of its affairs and disposition of its property together with an explanation was laid before the members and shareholders in accordance with the by-laws of the credit union. Final Liquidator's meetings were held on April 18, 2019 and May 7, 2019 at which a quorum was not present.
4. The winding-up of the affairs has been conducted in accordance with the requirements of Sections 298, sub-section (20) and (21) of the Credit Unions and Caisses Populaires Act, 1994, and the conditions contained in the articles and by-laws of the credit union.

Subject to Section 299, Subsection (2), Croatian (Toronto) Credit Union Limited is dissolved 3 months after the date of the Final Liquidator's meeting that was held on May 7, 2019.

Dated this 7th day of May, 2019 at the City of Toronto

Deposit Insurance Corporation of Ontario  
in its capacity as liquidator of  
Croatian (Toronto) Credit Union Limited

(152-P122E)

### Croatian (Toronto) Credit Union Limited

DANS L'AFFAIRE de la liquidation de Croatian (Toronto) Credit Union Limited, conformément aux articles 298 et 299 de la *Loi de 1994 sur les caisses populaires et les credit unions*,

#### Nous, la Société ontarienne d'assurance-dépôts, donnons avis que :

1. Le 7 juillet 2009, la Société ontarienne d'assurance-dépôts (SOAD) a rendu une ordonnance en vertu de l'article 294 de la *Loi de 1994 sur les caisses populaires et les credit unions* ordonnant que Croatian (Toronto) Credit Union Limited (« credit union ») soit placée sous l'administration de la SOAD. Par la suite, le 18 octobre 2010, la SOAD, en tant qu'administratrice de la credit union, a nommé la SOAD au poste de liquidatrice des biens de la credit union, aux fins de la liquidation de ses affaires et de la répartition de ses biens.
2. La credit union a fait publier un avis de la résolution dans la *Gazette de l'Ontario* et dans un journal à grande diffusion dans la localité où se trouve le siège social de la credit union, dans le délai prescrit de 20 jours.
3. À la suite de la clôture de la liquidation de la credit union, un compte rendu de la liquidation de ses affaires et de la répartition de ses biens a été rédigé puis présenté aux sociétaires et aux actionnaires conformément aux règlements administratifs de la credit union. Les dernières réunions convoquées aux fins de la liquidation, ont été tenues en l'absence de quorum le 18 avril et le 7 mai 2019.
4. La liquidation des affaires a été effectuée conformément aux exigences de l'article 298, paragraphes (20) et (21) de la *Loi de 1994 sur les caisses populaires et les credit unions*, et aux conditions énoncées dans les statuts et les règlements administratifs de la credit union.

Sous réserve de l'article 299, paragraphe (2), la dissolution de Croatian (Toronto) Credit Union Limited prend effet trois mois après la date de la dernière réunion convoquée aux fins de la liquidation, laquelle a eu lieu le 7 mai 2019.

Fait ce 7 jour de mai 2019, à Toronto.

Société ontarienne d'assurance-dépôts  
en sa qualité de liquidatrice de  
Croatian (Toronto) Credit Union Limited

(152-P122F)

### CCB Employees' Credit Union Limited

IN THE MATTER of the winding-up of CCB Employees Credit Union Limited, pursuant to Sections 298 and 299 of the Credit Unions and Caisses Populaires Act, 1994.

#### We, Deposit Insurance Corporation of Ontario hereby give notice that:

1. We are the liquidator of the estate and effects of CCB Employees' Credit Union Limited, appointed by the members and shareholders of the Credit Union at a duly called meeting for that purpose that was held on April 18, 2018.
2. The Credit Union has, within the prescribed 20 day period, published notice of the resolution in The Ontario Gazette.
3. The voluntary winding-up of the Credit Union has been completed and an account of the winding-up of its affairs and disposition of its property together with an explanation was laid before the members and shareholders in accordance with the by-laws of the credit union. Final Liquidator's meeting was held on May 7, 2019 at which a quorum was present.

4. The voluntary winding-up of the affairs has been conducted in accordance with the requirements of Sections 298, sub-section (20) and (21) of the Credit Unions and Caisses Populaires Act, 1994, and the conditions contained in the articles and by-laws of the credit union.

Subject to Section 299, Subsection (2), CCB Employees' Credit Union Limited is dissolved 3 months after the date of the Final Liquidator's meeting that was held on May 7, 2019.

Dated this 8th day of May, 2019 at the City of Toronto

Deposit Insurance Corporation of Ontario  
in its capacity as liquidator of CCB  
Employees' Credit Union Limited

(152-P123E)

#### CCB Employees' Credit Union Limited

DANS L'AFFAIRE de la liquidation de **CCB Employees' Credit Union Limited**, conformément aux articles 298 et 299 de la *Loi de 1994 sur les caisses populaires et les credit unions*.

Nous, la **Société ontarienne d'assurance-dépôts**, donnons avis que :

1. Nous agissons à titre de liquidatrice des biens de **CCB Employees' Credit Union Limited**, désignée par les sociétaires et les actionnaires de la credit union lors d'une réunion dûment convoquée et tenue à cette fin le 18 avril 2018.
2. La credit union a fait publier un avis de la résolution dans la *Gazette de l'Ontario* dans le délai prescrit de 20 jours.
3. À la suite de la liquidation volontaire de la credit union, un compte rendu de la liquidation de ses affaires et de la répartition de ses biens a été rédigé puis présenté aux sociétaires et aux actionnaires conformément aux règlements administratifs de la credit union. La dernière réunion convoquée aux fins de la liquidation, a été tenue le 7 de mai 2019 en présence d'un quorum.
4. La liquidation volontaire a été effectuée conformément aux exigences de l'article 298, paragraphes (20) & (21) de la *Loi de 1994 sur les caisses populaires et les credit unions*, et aux conditions énoncées dans les statuts et les règlements administratifs de la credit union.

Sous réserve de l'article 299, paragraphe (2), la dissolution de **CCB Employees' Credit Union Limited** prend effet trois mois après la date de la dernière réunion convoquée aux fins de la liquidation, laquelle a eu lieu le 7 mai 2019.

Fait ce 8<sup>e</sup> jour de mai 2019, à Toronto.

Société ontarienne d'assurance-dépôts  
En sa qualité de liquidatrice de CCB  
Employees' Credit Union Limited

(152-P123F)

## Sheriff's Sale of Lands Ventes de terrains par le shérif

UNDER AND BY VIRTUE OF a Writ of Execution filed with the Sheriff of the United Counties of Stormont, Dundas and Glengarry dated June 28, 2016, under writ file number 16-00170, the real and personal property of **STEVEN RICHARD HUNT**, Debtor, at the request of Royal Bank of Canada, Creditor, I have seized and taken in execution all the right, title, interest and equity of redemption of **STEVEN RICHARD HUNT**, Debtor, in and to:

**PART LOT 35, RANGE 1, CONCESSION 1, MATILDA, BEING PART 2 ON PLAN 8R3688 AND PART 5 ON PLAN 8R5031; S/T EASEMENT IN GROSS OVER PART 1, PLAN 8R5634 AS IN DU28570; MUNICIPALITY OF SOUTH DUNDAS**, municipally known as **10117 COUNTY ROAD 2, IROQUOIS, ONTARIO K0E 1K0**.

All of which said right, title, interest and equity of redemption of **STEVEN RICHARD HUNT**, Debtor, in the said lands and tenements described above, I shall offer for sale by Public Auction subject to the conditions set out below at

**The Cornwall Court House, 29 Second Street West, Courtroom #9, Cornwall, Ontario K6J 1G3 (Tel: 613 933-7500) on Thursday, June 20<sup>th</sup>, 2019 at 10:00 a.m.**

THE SALE OF THE AFOREMENTIONED PROPERTY IS SUBJECT THE FOLLOWING TERMS AND CONDITIONS:

The Purchase to assume responsibility for all mortgages, charges, liens, outstanding taxes, and other encumbrances. No representation is made regarding the title of the land or any other matter relating to the interest to be sold. Vacant possession is not included in the sale of this property. Responsibility for ascertaining these matters rests with the potential purchaser(s).

#### TERMS:

- A deposit of 10% of bid price or \$1,000, whichever is greater.
- Payable at time of sale by successful bidder;
- To be applied to purchase price; and
- Non-refundable – Failure of the successful bidder to comply with these terms and conditions may result in a forfeit of any deposits paid at the time of the sale or any time thereafter.
- Ten business days from date of sale to arrange financing and pay balance in full at the **Cornwall Court House, 29 Second Street West, Cornwall, Ontario K6J 1G3**.
- All payments to be provided in cash or by bank draft, certified cheque or money order made payable to the Minister of Finance.
- A Deed Poll will be provided by the Sheriff only upon satisfactory payment in full of purchase price.
- Other conditions as announced.

THIS SALE IS SUBJECT TO CANCELLATION BY THE SHERIFF WITHOUT FURTHER NOTICE UP TO THE TIME OF THE SATISFACTION OF THE SALE TERMS BY A SUCCESSFUL BIDDER.

**Note:** No employee of the Ministry of the Attorney General may purchase any goods or chattels, lands or tenements exposed for sale by a Sheriff under legal process, directly or indirectly.

Date: May 9<sup>th</sup>, 2019

JOHANNE CARDINAL  
Sheriff  
29 Second Street West,  
Cornwall, Ontario K6J 1G3

(152-P124E)

EN VERTU D'UN MANDAT D'EXÉCUTION déposé auprès du shérif des Comtés unis de Stormont, Dundas et Glengarry daté du 28 juin 2016, portant le numéro de mandat 16-00170, les biens réels et personnels de **STEVEN RICHARD HUNT**, débiteur, à la demande de **ROYAL BANK OF CANADA**, créancier, j'ai saisi et exécuté le droit, le titre, l'intérêt et la valeur de rachat de **STEVEN RICHARD HUNT**, à l'égard de :

**PART LOT 35, RANGE 1, CONCESSION 1, MATILDA, BEING PART 2 ON PLAN 8R3688 AND PART 5 ON PLAN 8R5031; S/T EASEMENT IN GROSS OVER PART 1, PLAN 8R5634 AS IN DU28570; MUNICIPALITY OF SOUTH DUNDAS** à l'adresse municipale suivante : **10117 COUNTY ROAD 2, IROQUOIS, ONTARIO K0E 1K0**.

Je procèderai à la vente desdits droit, titre, intérêt et valeur de rachat de **STEVEN RICHARD HUNT**, débiteur, à l'égard desdits biens-fonds

et immeubles décrits ci-dessus, dans le cadre d'une vente aux enchères assujettie aux conditions énoncées ci-dessous au

**Palais de justice, 29 ouest, rue Second, salle d'audience #9, Cornwall (Ontario) K6J 1G3, (Tél : 613 933-7500), jeudi le 20 juin 2019 à 10h.**

LA VENTE DES BIENS SUSMENTIONNÉS EST ASSUJETTIE AUX CONDITIONS SUIVANTES :

L'acheteur assume l'entière responsabilité à l'égard des hypothèques, charges, privilèges, impôts impayés et autres engagements. Aucune déclaration n'est faite concernant le titre des biens ou toute autre question liée à l'intérêt qui sera vendu. La libre possession n'est pas comprise dans la vente du bien. La responsabilité de la vérification de ces questions revient à l'acheteur potentiel.

**CONDITIONS :**

- Une avance de 10 % du prix demandé ou 1 000 \$, selon le montant le plus élevé,
- est exigible au moment de la vente par le soumissionnaire gagnant;
- à déduire du prix d'achat;
- non remboursable. Le non-respect de ces conditions par le soumissionnaire gagnant risque de conduire à la saisie de toute avance versée au moment de la vente ou par la suite.
- Dix jours ouvrables après la date de vente sont prévus pour établir le financement et verser le solde intégral au **Palais de justice, 29 ouest, rue Second, Cornwall (Ontario) K6J 1G3.**
- Tous les paiements doivent être effectués en espèces ou par traite bancaire, chèque certifié ou mandat à l'ordre du ministre des Finances.
- Un acte unilatéral sera remis par le shérif après le paiement satisfaisant du prix d'achat total.
- Toute autre condition annoncée.

LA VENTE PEUT ÊTRE ANNULÉE PAR LE SHÉRIF SANS AUTRE PRÉAVIS TANT QUE LE SHÉRIF N'EST PAS SATISFAIT DU RESPECT DES CONDITIONS DE VENTE PAR LE SOUMISSIONNAIRE GAGNANT.

**Nota :** Nul employé du ministère du Procureur général ne peut acheter des biens ou biens meubles, terres ou immeubles mis en vente par un shérif dans le cadre d'une procédure juridique, directement ou indirectement.

Date : le 9 mai 2019

JOHANNE CARDINAL  
Le shérif  
29 ouest, rue Second  
Cornwall (Ontario) K6J 1G3

(152-P124F)

UNDER AND BY VIRTUE OF a Writ of Execution filed with the Sheriff of **THE CITY OF TORONTO**, dated **AUGUST 16, 2012** under writ file number **12-0004980** the real and personal property **PETER PETRAKOS aka P. PETRAKOS**, Debtor, at the request of **ROYAL BANK OF CANADA** Creditor(s), I have seized and taken in execution all of the right, title, interest and equity of redemption of **PETER PETRAKOS**, Debtor(s) in and to: ALL AND SINGULAR that certain parcel or tract of land and premises situated, being:

**UNIT 8, LEVEL 10, YORK CONDOMINIUM PLAN NO. 366, PT BLOCKS P, Q, R, S & T AND ALL OF BLOCK R PLAN 6955 AS DESCRIBED IN SCHEDULE A OF DECLARATION B565796 TWP OF YORK/NORTH YORK, CITY OF TORONTO**, municipally known as **10 TANGREEN COURT, SUITE #1008, TORONTO, ONTARIO.**

All of which said right, title, interest and equity of redemption **PETER PETRAKOS**, Debtor(s), in the said lands and tenements described above, I shall offer for sale by Public Auction subject to the conditions set out below at:

**393 University Avenue, 6th Floor, Toronto, Ontario, 416-327-0514 on Thursday, June 20, 2019, at 11:00 a.m.** (Registration from 9:30 a.m. – 10:30 a.m.)

THE SALE OF THE AFOREMENTIONED PROPERTY IS SUBJECT TO THE FOLLOWING TERMS AND CONDITIONS:

The purchaser to assume responsibility for all mortgages, charges, liens, outstanding taxes, and other encumbrances. No representation is made regarding the title of the land or any other matter relating to the interest to be sold. Vacant possession is not included in the sale of this property. Responsibility for ascertaining these matters rests with the potential purchaser(s).

**TERMS:**

- A deposit of 10% of bid price or \$1,000.00, whichever is greater.
- Payable at time of sale by successful bidder;
- To be applied to purchase price; and
- Non-refundable – Failure of the successful bidder to comply with these terms and conditions may result in a forfeit of any deposits paid at the time of the sale or any time thereafter.
- Ten business days from date of sale to arrange financing and pay balance in full at **393 University Avenue, 6th Floor, Toronto, Ontario.**
- All payments to be provided in cash or by bank draft, certified cheque or money order made payable to the "Sheriff, City of Toronto".
- A Deed Poll will be provided by the Sheriff only upon satisfactory payment in full of purchase price.
- Other conditions as announced.

THIS SALE IS SUBJECT TO CANCELLATION BY THE SHERIFF WITHOUT FURTHER NOTICE UP TO THE TIME OF THE SATISFACTION OF THE SALE TERMS BY A SUCCESSFUL BIDDER.

**Note:** No employee of the Ministry of the Attorney General may purchase any goods or chattels, lands or tenements exposed for sale by a Sheriff under legal process, directly or indirectly.

**Date: April 16, 2019**

DEBBIE DYKSTRA  
Sheriff  
393 University Avenue, 19th Floor  
Toronto, ON, M5G 1E6

(152-P125E)

EN VERTU D'UN MANDAT D'EXÉCUTION déposé auprès du shérif de la **VILLE DE TORONTO**, daté du **16 AOÛT 2012**, portant le numéro de mandat **12-0004980**, les biens réels et personnels de **PETER PETRAKOS alias P. PETRAKOS**, débiteur, à la demande de **BANQUE ROYALE DU CANADA**, créancière, j'ai saisi et exécuté le droit, le titre, l'intérêt et la valeur de rachat **PETER PETRAKOS**, débiteur, à l'égard de la totalité et chacune des parties d'une certaine parcelle ou bande de terrain et bâtiments composée de :

**UNIT 8, LEVEL 10, YORK CONDOMINIUM PLAN NO. 366, PT BLOCKS P, Q, R, S & T AND ALL OF BLOCK R PLAN 6955 AS DESCRIBED IN SCHEDULE A OF DECLARATION B565796 TWP OF YORK/NORTH YORK, CITY OF TORONTO**, à l'adresse municipale suivante : **10 TANGREEN COURT, BUREAU 1008, TORONTO, ONTARIO.**

Je procèderai à la vente desdits droit, titre, intérêt et valeur de rachat de **PETER PETRAKOS**, débiteur, à l'égard desdits biens-fonds et immeubles décrits ci-dessus, dans le cadre d'une vente aux enchères assujettie aux conditions énoncées ci-dessous, au

**393, avenue University, 6e étage, Toronto, Ontario 416-327-0514, le jeudi 20 juin 2019, à 11 h.** (Inscription de 9 h 30 à 10 h 30.)

LA VENTE DES BIENS SUSMENTIONNÉS EST ASSUJETTIE AUX CONDITIONS SUIVANTES :

L'acheteur assumera la responsabilité de l'ensemble des hypothèques, charges, privilèges, impôts impayés et autres gages grevant le bien-fonds. Aucune déclaration n'est faite concernant le titre du bien-fonds ou toute autre question relative à l'intérêt qui sera vendu. La libre possession n'est pas incluse dans la vente du bien-fonds. Il est de la responsabilité de l'acheteur potentiel de déterminer ces questions.

#### CONDITIONS :

- Une avance de 10 % du prix demandé ou 1 000 \$, selon le montant le plus élevé,
- est exigible au moment de la vente par le soumissionnaire gagnant;
- à déduire du prix d'achat;
- non remboursable. Le non-respect de ces conditions par le soumissionnaire gagnant risque de conduire à la saisie de toute avance versée au moment de la vente ou par la suite.
- Dix jours ouvrables après la date de vente sont prévus pour établir le financement et verser le solde intégral au **393, avenue University, 6e étage, Toronto, Ontario**.
- Tous les paiements doivent être effectués en espèces ou par traite bancaire, chèque certifié ou mandat à l'ordre du « Shérif, ville de Toronto ».
- Un acte unilatéral sera remis par le shérif après le paiement satisfaisant du prix d'achat total.
- Toute autre condition annoncée.

LA VENTE PEUT ÊTRE ANNULÉE PAR LE SHÉRIF SANS AUTRE PRÉAVIS TANT QUE LE SHÉRIF N'EST PAS SATISFAIT DU RESPECT DES CONDITIONS DE VENTE PAR LE SOUMISSIONNAIRE GAGNANT.

**Nota :** nul employé du ministère du Procureur général ne peut acheter des biens ou biens meubles, terres ou immeubles mis en vente par un shérif dans le cadre d'une procédure juridique, directement ou indirectement.

Date : 16 avril 2019

La shérif  
DEBBIE DYKSTRA  
393, avenue University, 19e étage  
Toronto (ON) M5G 1E6

(152-P125F)

UNDER AND BY VIRTUE OF a Writ of Execution filed with the Sheriff of **THE CITY OF TORONTO**, dated **MAY 3, 2016** under writ file number **16-0003353** the real and personal property **ANANTH NAVARATNARAJAH aka NAVAN ANANTH**, Debtor, at the request of **ROYAL BANK OF CANADA** Creditor(s), I have seized and taken in execution all of the right, title, interest and equity of redemption of **ANANTH NAVARATNARAJAH aka NAVAN ANANTH** Debtor(s) in and to: ALL AND SINGULAR that certain parcel or tract of land and premises situated, being:

**UNIT 2, LEVEL 19, YORK CONDOMINIUM PLAN NO. 456, PT LOTS 17 AND 18 CON D SCARBOROUGH AS DESCRIBED IN SCHEDULE 'A' OF DECLARATION B617551. SCARBOROUGH, CITY OF TORONTO**, municipally known as **3380 EGLINTON AVENUE EAST, APT#2002, SCARBOROUGH, ONTARIO**

All of which said right, title, interest and equity of redemption **ANANTH NAVARATNARAJAH aka NAVAN ANANTH**, Debtor(s), in the said lands and tenements described above, I shall offer for sale by Public Auction subject to the conditions set out below at:

**393 University Avenue, 6th Floor, Toronto, Ontario, 416-327-0514 on Thursday, June 20, 2019, at 11:00 a.m.** (Registration from 9:30 a.m. – 10:30 a.m.)

THE SALE OF THE AFOREMENTIONED PROPERTY IS SUBJECT TO THE FOLLOWING TERMS AND CONDITIONS:

The purchaser to assume responsibility for all mortgages, charges, liens, outstanding taxes, and other encumbrances. No representation is made regarding the title of the land or any other matter relating to the

interest to be sold. Vacant possession is not included in the sale of this property. Responsibility for ascertaining these matters rests with the potential purchaser(s).

#### TERMS:

- A deposit of 10% of bid price or \$1,000.00, whichever is greater.
- Payable at time of sale by successful bidder;
- To be applied to purchase price; and
- Non-refundable – Failure of the successful bidder to comply with these terms and conditions may result in a forfeit of any deposits paid at the time of the sale or any time thereafter.
- Ten business days from date of sale to arrange financing and pay balance in full at **393 University Avenue, 19th Floor, Toronto, Ontario**.
- All payments to be provided in cash or by bank draft, certified cheque or money order made payable to the "Sheriff, City of Toronto".
- A Deed Poll will be provided by the Sheriff only upon satisfactory payment in full of purchase price.
- Other conditions as announced.

THIS SALE IS SUBJECT TO CANCELLATION BY THE SHERIFF WITHOUT FURTHER NOTICE UP TO THE TIME OF THE SATISFACTION OF THE SALE TERMS BY A SUCCESSFUL BIDDER.

**Note:** No employee of the Ministry of the Attorney General may purchase any goods or chattels, lands or tenements exposed for sale by a Sheriff under legal process, directly or indirectly.

Date: April 30, 2019

DEBBIE DYKSTRA  
Sheriff  
393 University Avenue, 19th Floor  
Toronto, ON, M5G 1E6

(152-P126E)

EN VERTU D'UN MANDAT D'EXÉCUTION déposé auprès du shérif de la **VILLE DE TORONTO** daté du **3 MAI 2016**, portant le numéro de mandat **16-0003353**, les biens réels et personnels d'**ANANTH NAVARATNARAJAH alias NAVAN ANANTH**, débiteur, à la demande de la **BANQUE ROYALE DU CANADA**, créancière, j'ai saisi et exécuté le droit, le titre, l'intérêt et la valeur de rachat **ANANTH NAVARATNARAJAH alia NAVAN ANANTH**, débiteur, à l'égard de LA TOTALITÉ ET CHACUNE DES PARTIES d'une certaine parcelle ou bande de terrain et bâtiments composée de :

**UNIT 2, LEVEL 19, YORK CONDOMINIUM PLAN NO. 456, PT LOTS 17 AND 18 CON D SCARBOROUGH AS DESCRIBED IN SCHEDULE 'A' OF DECLARATION B617551. SCARBOROUGH, CITY OF TORONTO** à l'adresse municipale suivante : **3380 EGLINTON AVENUE EAST, APP. 2002, SCARBOROUGH, ONTARIO**

Je procéderai à la vente desdits droit, titre, intérêt et valeur de rachat de **ANANTH NAVARATNARAJAH alias NAVAN ANANTH**, débiteur, à l'égard desdits biens-fonds et immeubles décrits ci-dessus, dans le cadre d'une vente aux enchères assujettie aux conditions énoncées ci-dessous, au

**393, avenue UNIVERSITY, 6<sup>e</sup> étage, TORONTO, ONTARIO, 416-327-0514, le 20 JUIN 2019, à 11 h.** (Inscription de 9 h 30 à 10 h 30.)

LA VENTE DES BIENS SUSMENTIONNÉS EST ASSUJETTIE AUX CONDITIONS SUIVANTES :

L'acheteur assumera la responsabilité de l'ensemble des hypothèques, charges, privilèges, impôts impayés et autres gages grevant le bien-fonds. Aucune déclaration n'est faite concernant le titre du bien-fonds ou toute autre question relative à l'intérêt qui sera vendu. La libre possession n'est pas incluse dans la vente du bien-fonds. Il est de la responsabilité de l'acheteur potentiel de déterminer ces questions.

**CONDITIONS :**

- Une avance de 10 % du prix demandé ou 1 000 \$, selon le montant le plus élevé,
- est exigible au moment de la vente par le soumissionnaire gagnant;
- à déduire du prix d'achat;
- non remboursable. Le non-respect de ces conditions par le soumissionnaire gagnant risque de conduire à la saisie de toute avance versée au moment de la vente ou par la suite.
- Dix jours ouvrables après la date de vente sont prévus pour établir le financement et verser le solde intégral à/au **393, avenue University, 19e étage, Toronto, Ontario.**
- Tous les paiements doivent être effectués en espèces ou par traite bancaire, chèque certifié ou mandat à l'ordre du « Shérif, ville de Toronto ».
- Un acte unilatéral sera remis par le shérif après le paiement satisfaisant du prix d'achat total.
- Toute autre condition annoncée.

LA VENTE PEUT ÊTRE ANNULÉE PAR LE SHÉRIF SANS AUTRE PRÉAVIS TANT QUE LE SHÉRIF N'EST PAS SATISFAIT DU RESPECT DES CONDITIONS DE VENTE PAR LE SOUMISSIONNAIRE GAGNANT.

**Nota :** nul employé du ministère du Procureur général ne peut acheter des biens ou biens meubles, terres ou immeubles mis en vente par un shérif dans le cadre d'une procédure juridique, directement ou indirectement.

Date : 30 avril 2019

La shérif  
DEBBIE DYKSTRA  
393, avenue University, 19e étage  
Toronto (ON) M5G 1E6

(152-P126F)

UNDER AND BY VIRTUE OF a Writ of Execution filed with the Sheriff of **THE CITY OF TORONTO**, dated **JANUARY 18, 2017** under writ file number **17-0000436** the real and personal property **PARSURAM PARSURAM A.K.A PARURAM P PARURAM**, Debtor, at the request of **CANADIAN IMPERIAL BANK OF COMMERCE** Creditor(s), I have seized and taken in execution all of the right, title, interest and equity of redemption of **PARSURAM PARURAM PARURAM a.k.a PARURAM P PARURAM**, Debtor(s) in and to: **ALL AND SINGULAR** that certain parcel or tract of land and premises situated, being:

**UNIT 5, LEVEL 6, YORK CONDOMINIUM PLAN NO. 46, PART OF LOT 4 CON 3, WEST OF YONGE ST. AS DESCRIBED IN SCHEDULE 'A' OF DECLARATION B343173 TWP OF YORK/ NORTH YORK, CITY OF TORONTO; SAVE AND EXCEPT PARTS 1, 2, & 3 ON EXPROPRIATION PLAN AT4887949, municipally known as 605-100 LOTHERTON PATHWAY, TORONTO, ONTARIO**

All of which said right, title, interest and equity of redemption **PARSURAM PARURAM a.k.a PARURAM P PARURAM**, Debtor(s), in the said lands and tenements described above, I shall offer for sale by Public Auction subject to the conditions set out below at:

**393 University Avenue, 6th Floor, Toronto, Ontario, 416-327-0514 on Thursday, June 20, 2019, at 11:00 a.m.** (Registration from 9:30 a.m. – 10:30 a.m.)

THE SALE OF THE AFOREMENTIONED PROPERTY IS SUBJECT TO THE FOLLOWING TERMS AND CONDITIONS:

The purchaser to assume responsibility for all mortgages, charges, liens, outstanding taxes, and other encumbrances. No representation is made regarding the title of the land or any other matter relating to the interest to be sold. Vacant possession is not included in the sale of this property. Responsibility for ascertaining these matters rests with the potential purchaser(s).

**TERMS:**

- A deposit of 10% of bid price or \$1,000.00, whichever is greater.
- Payable at time of sale by successful bidder;
- To be applied to purchase price; and
- Non-refundable – Failure of the successful bidder to comply with these terms and conditions may result in a forfeit of any deposits paid at the time of the sale or any time thereafter.
- Ten business days from date of sale to arrange financing and pay balance in full at **393 University Avenue, 6th Floor, Toronto, Ontario.**
- All payments to be provided in cash or by bank draft, certified cheque or money order made payable to the "Sheriff, City of Toronto".
- A Deed Poll will be provided by the Sheriff only upon satisfactory payment in full of purchase price.
- Other conditions as announced.

THIS SALE IS SUBJECT TO CANCELLATION BY THE SHERIFF WITHOUT FURTHER NOTICE UP TO THE TIME OF THE SATISFACTION OF THE SALE TERMS BY A SUCCESSFUL BIDDER.

**Note:** No employee of the Ministry of the Attorney General may purchase any goods or chattels, lands or tenements exposed for sale by a Sheriff under legal process, directly or indirectly.

Date: April 25, 2019

DEBBIE DYKSTRA  
Sheriff  
393 University Avenue, 19th Floor  
Toronto, ON, M5G 1E6

(152-P127E)

EN VERTU D'UN MANDAT D'EXÉCUTION déposé auprès du shérif de la **VILLE DE TORONTO**, daté du **18 JANVIER 2017**, portant le numéro de mandat **17-0000436**, les biens réels et personnels de **PARSURAM PARURAM alias PARURAM P PARURAM**, débiteur, à la demande de la **CANADIAN IMPERIAL BANK OF COMMERCE**, créancière, j'ai saisi et exécuté le droit, le titre, l'intérêt et la valeur de rachat **PARSURAM PARURAM alias PARURAM P PARURAM** débiteur, à l'égard de LA TOTALITÉ ET CHACUNE DES PARTIES d'une certaine parcelle ou bande de terrain et bâtiments composée de :

**UNIT 5, LEVEL 6, YORK CONDOMINIUM PLAN NO. 46, PART OF LOT 4 CON 3, WEST OF YONGE ST. AS DESCRIBED IN SCHEDULE 'A' OF DECLARATION B343173 TWP OF YORK/ NORTH YORK, CITY OF TORONTO; SAVE AND EXCEPT PARTS 1, 2, & 3 ON EXPROPRIATION PLAN AT4887949, à l'adresse municipale suivante : 605-100 LOTHERTON PATHWAY, TORONTO, ONTARIO**

Je procéderai à la vente desdits droit, titre, intérêt et valeur de rachat de **PARSURAM PARURAM alias PARURAM P PARURAM** débiteur, à l'égard desdits biens-fonds et immeubles décrits ci-dessus, dans le cadre d'une vente aux enchères assujettie aux conditions énoncées ci-dessous, au

**393, avenue University, 6e étage, Toronto, Ontario, 416 327-0514, le 20 JUIN 2019, à 11 h.** (Inscription de 9 h 30 à 10 h 30.)

LA VENTE DES BIENS SUSMENTIONNÉS EST ASSUJETTIE AUX CONDITIONS SUIVANTES :

L'acheteur assumera la responsabilité de l'ensemble des hypothèques, charges, privilèges, impôts impayés et autres gages grevant le bien-fonds. Aucune déclaration n'est faite concernant le titre du bien-fonds ou toute autre question relative à l'intérêt qui sera vendu. La libre possession n'est pas incluse dans la vente du bien-fonds. Il est de la responsabilité de l'acheteur potentiel de déterminer ces questions.

**CONDITIONS :**

- Une avance de 10 % du prix demandé ou 1 000 \$, selon le montant le plus élevé,

- est exigible au moment de la vente par le soumissionnaire gagnant;
- à déduire du prix d'achat;
- non remboursable. Le non-respect de ces conditions par le soumissionnaire gagnant risque de conduire à la saisie de toute avance versée au moment de la vente ou par la suite.
- Dix jours ouvrables après la date de vente sont prévus pour établir le financement et verser le solde intégral au **393, avenue University, 6e étage, Toronto, Ontario.**
- Tous les paiements doivent être effectués en espèces ou par traite bancaire, chèque certifié ou mandat à l'ordre du « Shérif, ville de Toronto ».
- Un acte unilatéral sera remis par le shérif après le paiement satisfaisant du prix d'achat total.
- Toute autre condition annoncée.

LA VENTE PEUT ÊTRE ANNULÉE PAR LE SHÉRIF SANS AUTRE PRÉAVIS TANT QUE LE SHÉRIF N'EST PAS SATISFAIT DU RESPECT DES CONDITIONS DE VENTE PAR LE SOUMISSIONNAIRE GAGNANT.

**Nota :** nul employé du ministère du Procureur général ne peut acheter des biens ou biens meubles, terres ou immeubles mis en vente par un shérif dans le cadre d'une procédure juridique, directement ou indirectement.

Date : 25 avril 2019

La shérif  
DEBBIE DYKSTRA  
393, avenue University, 19e étage  
Toronto (ON) M5G 1E6

(152-P127F)

UNDER AND BY VIRTUE OF a Writ of Execution filed with the Sheriff of **THE CITY OF TORONTO**, dated **DECEMBER 6, 2017** under writ file number **17-0007401** the real and personal property **ROSARIO POSCA**, Debtor, at the request of **THE COATINGS ALLIANCE, LLC** Creditor(s), I have seized and taken in execution all of the right, title, interest and equity of redemption of **ROSARIO POSCA**, Debtor(s) in and to: **ALL AND SINGULAR** that certain parcel or tract of land and premises situated, being:

**UNIT 1, LEVEL 13, TORONTO STANDARD CONDOMINIUM PLAN NO. 1649 AND ITS APPURTENANT INTEREST. THE DESCRIPTION OF THE CONDOMINIUM PROPERTY IS: PART BLOCKS 2 AND 3 PLAN 616-E PARTS 2, 3, 4, 5, 6, 9, 11, 12, 13, 14, 18, 19, 20, 21, 23, 25, 28, 29, 30 AND 31 PLAN 66R-20928 AND PARTS 1, 2, 3 PLAN 66R-21350.; S/T AND T/W EASE AS SET OUT IN SCHEDULE A OF THE DECLARATION AT-695059. CITY OF TORONTO, municipally known as 208 QUEENS QUAY, SUITE 1401, TORONTO, ONTARIO**

All of which said right, title, interest and equity of redemption **ROSARIO POSCA**, Debtor(s), in the said lands and tenements described above, I shall offer for sale by Public Auction subject to the conditions set out below at:

**393 University Avenue, 6th Floor, Toronto, Ontario, 416-327-0514 on Thursday, June 20, 2019, at 11:00 a.m.** (Registration from 9:30 a.m. – 10:30 a.m.)

THE SALE OF THE AFOREMENTIONED PROPERTY IS SUBJECT TO THE FOLLOWING TERMS AND CONDITIONS:

The purchaser to assume responsibility for all mortgages, charges, liens, outstanding taxes, and other encumbrances. No representation is made regarding the title of the land or any other matter relating to the interest to be sold. Vacant possession is not included in the sale of this property. Responsibility for ascertaining these matters rests with the potential purchaser(s).

#### TERMS:

- A deposit of 10% of bid price or \$1,000.00, whichever is greater.
- Payable at time of sale by successful bidder;
- To be applied to purchase price; and

- Non-refundable – Failure of the successful bidder to comply with these terms and conditions may result in a forfeit of any deposits paid at the time of the sale or any time thereafter.
- Ten business days from date of sale to arrange financing and pay balance in full at **393 University Avenue, 6th Floor, Toronto, Ontario.**
- All payments to be provided in cash or by bank draft, certified cheque or money order made payable to the “Sheriff, City of Toronto”.
- A Deed Poll will be provided by the Sheriff only upon satisfactory payment in full of purchase price.
- Other conditions as announced.

THIS SALE IS SUBJECT TO CANCELLATION BY THE SHERIFF WITHOUT FURTHER NOTICE UP TO THE TIME OF THE SATISFACTION OF THE SALE TERMS BY A SUCCESSFUL BIDDER.

**Note:** No employee of the Ministry of the Attorney General may purchase any goods or chattels, lands or tenements exposed for sale by a Sheriff under legal process, directly or indirectly.

Date: April 30, 2019

DEBBIE DYKSTRA  
Sheriff  
393 University Avenue, 19th Floor  
Toronto, ON, M5G 1E6

(152-P128E)

EN VERTU D'UN MANDAT D'EXÉCUTION déposé auprès du shérif de la **VILLE DE TORONTO**, daté du **6 DÉCEMBRE 2017**, portant le numéro de mandat **17-0007401**, les biens réels et personnels de **ROSARIO POSCA**, débiteur, à la demande de **THE COATINGS ALLIANCE, LLC**, créancier, j'ai saisi et exécuté le droit, le titre, l'intérêt et la valeur de rachat **ROSARIO POSCA**, débiteur, à l'égard de LA TOTALITÉ ET CHACUNE DES PARTIES d'une certaine parcelle ou bande de terrain et bâtiments composée de :

**UNIT 1, LEVEL 13, TORONTO STANDARD CONDOMINIUM PLAN NO. 1649 AND ITS APPURTENANT INTEREST. THE DESCRIPTION OF THE CONDOMINIUM PROPERTY IS: PART BLOCKS 2 AND 3 PLAN 616-E PARTS 2, 3, 4, 5, 6, 9, 11, 12, 13, 14, 18, 19, 20, 21, 23, 25, 28, 29, 30 AND 31 PLAN 66R-20928 AND PARTS 1, 2, 3 PLAN 66R-21350.; S/T AND T/W EASE AS SET OUT IN SCHEDULE A OF THE DECLARATION AT-695059. CITY OF TORONTO, à l'adresse municipale suivante : 208 QUEENS QUAY, BUREAU 1401, TORONTO, ONTARIO**

Je procéderai à la vente desdits droit, titre, intérêt et valeur de rachat de **ROSARIO POSCA**, débiteur(s), à l'égard desdits biens-fonds et immeubles décrits ci-dessus, dans le cadre d'une vente aux enchères assujettie aux conditions énoncées ci-dessous, **393, avenue UNIVERSITY, 6e étage, TORONTO, ONTARIO, 416-327-0514, le JEUDI 20 JUIN 2019, à 11 h.** (Inscription de 9 h 30 à 10 h 30.)

LA VENTE DES BIENS SUSMENTIONNÉS EST ASSUJETTIE AUX CONDITIONS SUIVANTES :

L'acheteur assumera la responsabilité de l'ensemble des hypothèques, charges, privilèges, impôts impayés et autres gages grevant le bien-fonds. Aucune déclaration n'est faite concernant le titre du bien-fonds ou toute autre question relative à l'intérêt qui sera vendu. La libre possession n'est pas incluse dans la vente du bien-fonds. Il est de la responsabilité de l'acheteur potentiel de déterminer ces questions.

#### Conditions :

- Une avance de 10 % du prix demandé ou 1 000 \$, selon le montant le plus élevé,
- est exigible au moment de la vente par le soumissionnaire gagnant;
- à déduire du prix d'achat;
- non remboursable. Le non-respect de ces conditions par le soumissionnaire gagnant risque de conduire à la saisie de toute avance versée au moment de la vente ou par la suite.

- Dix jours ouvrables après la date de vente sont prévus pour établir le financement et verser le solde intégral au **393, avenue University, 6e étage, Toronto, Ontario.**
- Tous les paiements doivent être effectués en espèces ou par traite bancaire, chèque certifié ou mandat à l'ordre du « Shérif, ville de Toronto ».
- Un acte unilatéral sera remis par le shérif après le paiement satisfaisant du prix d'achat total.
- Toute autre condition annoncée.

LA VENTE PEUT ÊTRE ANNULÉE PAR LE SHÉRIF SANS AUTRE PRÉAVIS TANT QUE LE SHÉRIF N'EST PAS SATISFAIT DU RESPECT DES CONDITIONS DE VENTE PAR LE SOUMISSIONNAIRE GAGNANT.

**Nota :** nul employé du ministère du Procureur général ne peut acheter des biens ou biens meubles, terres ou immeubles mis en vente par un shérif dans le cadre d'une procédure juridique, directement ou indirectement.

Date : 16 avril 2019

Le shérif  
DEBBIE DYKSTRA  
393, avenue University, 19e étage  
Toronto (ON) M5G 1E6

(152-P128F)

UNDER AND BY VIRTUE OF a Writ of Execution filed with the Sheriff of **THE CITY OF TORONTO**, dated **JUNE 20, 2017** under writ file number **17-0003998** the real and personal property **PAUL WILKINS**, Debtor, at the request of Creditor(s) **SREBROLOW LEBOWITZ SPADAFORA PC**, I have seized and taken in execution all of the right, title, interest and equity of redemption of **PAUL WILKINS**, Debtor(s) in and to: ALL AND SINGULAR that certain parcel or tract of land and premises situated, being:

**PARCEL 10635, SECTON WEST YORK PART OF LOT 9 ON THE NORTH SIDE OF CAMERON AVENUE LYING TO THE WEST OF THE EASTERLY 80 FEET FROM FRONT TO REAR AND THE EASTERLY 36 FEET 10 1/2 INCHES FROM FRONT TO REAR OF LOT 10 PLAN YORK, 66M442. TWP OF YORK/ NORTH YORK, CITY OF TORONTO**, municipally known as **214 CAMERON AVENUE, TORONTO, ONTARIO**

All of which said right, title, interest and equity of redemption **PAUL WILKINS**, Debtor(s), in the said lands and tenements described above, I shall offer for sale by Public Auction subject to the conditions set out below at:

**393 University Avenue, 6th Floor, Toronto, Ontario, 416-327-0514 on Thursday, June 20, 2019, at 11:00 a.m.** (Registration from 9:30 a.m. – 10:30 a.m.)

THE SALE OF THE AFOREMENTIONED PROPERTY IS SUBJECT TO THE FOLLOWING TERMS AND CONDITIONS:

The purchaser to assume responsibility for all mortgages, charges, liens, outstanding taxes, and other encumbrances. No representation is made regarding the title of the land or any other matter relating to the interest to be sold. Vacant possession is not included in the sale of this property. Responsibility for ascertaining these matters rests with the potential purchaser(s).

#### TERMS:

- A deposit of 10% of bid price or \$1,000.00, whichever is greater.
- Payable at time of sale by successful bidder;
- To be applied to purchase price; and
- Non-refundable – Failure of the successful bidder to comply with these terms and conditions may result in a forfeit of any deposits paid at the time of the sale or any time thereafter.
- Ten business days from date of sale to arrange financing and pay balance in full at **393 University Avenue, 6th Floor, Toronto, Ontario.**

- All payments to be provided in cash or by bank draft, certified cheque or money order made payable to the "Sheriff, City of Toronto".
- A Deed Poll will be provided by the Sheriff only upon satisfactory payment in full of purchase price.
- Other conditions as announced.

THIS SALE IS SUBJECT TO CANCELLATION BY THE SHERIFF WITHOUT FURTHER NOTICE UP TO THE TIME OF THE SATISFACTION OF THE SALE TERMS BY A SUCCESSFUL BIDDER.

Note: No employee of the Ministry of the Attorney General may purchase any goods or chattels, lands or tenements exposed for sale by a Sheriff under legal process, directly or indirectly.

Date: April 25, 2019

DEBBIE DYKSTRA  
Sheriff  
393 University Avenue, 19th Floor  
Toronto, ON, M5G 1E6

(152-P129E)

EN VERTU D'UN MANDAT D'EXÉCUTION déposé auprès du shérif de la **VILLE DE TORONTO**, daté du **20 JUIN 2017**, portant le numéro de mandat **17-0003998**, les biens réels et personnels de **PAUL WILKINS**, débiteur, à la demande de **SREBROLOW LEBOWITZ SPADAFORA PC**, créancier, j'ai saisi et exécuté le droit, le titre, l'intérêt et la valeur de rachat de **PAUL WILKINS**, débiteur, à l'égard de LA TOTALITÉ ET CHACUNE DES PARTIES d'une certaine parcelle ou bande de terrain et bâtiments composée de :

**PARCEL 10635, SECTON WEST YORK PART OF LOT 9 ON THE NORTH SIDE OF CAMERON AVENUE LYING TO THE WEST OF THE EASTERLY 80 FEET FROM FRONT TO REAR AND THE EASTERLY 36 FEET 10 1/2 INCHES FROM FRONT TO REAR OF LOT 10 PLAN YORK, 66M442. TWP OF YORK/ NORTH YORK, CITY OF TORONTO**, à l'adresse municipale suivante : **214, AVENUE CAMERON, TORONTO, ONTARIO.**

Je procéderai à la vente desdits droit, titre, intérêt et valeur de rachat de **PAUL WILKINS**, débiteur, à l'égard desdits biens-fonds et immeubles décrits ci-dessus, dans le cadre d'une vente aux enchères assujettie aux conditions énoncées ci-dessous, au **393, avenue University, 6e étage, Toronto, Ontario 416-327-0514 le jeudi 20 juin 2019, à 11 h.** (Inscription de 9 h 30 à 10 h 30.)

LA VENTE DES BIENS SUSMENTIONNÉS EST ASSUJETTIE AUX CONDITIONS SUIVANTES :

L'acheteur assumera la responsabilité de l'ensemble des hypothèques, charges, privilèges, impôts impayés et autres gages grevant le bien-fonds. Aucune déclaration n'est faite concernant le titre du bien-fonds ou toute autre question relative à l'intérêt qui sera vendu. La libre possession n'est pas incluse dans la vente du bien-fonds. Il est de la responsabilité de l'acheteur potentiel de déterminer ces questions.

#### CONDITIONS :

- Une avance de 10 % du prix demandé ou 1 000 \$, selon le montant le plus élevé,
- est exigible au moment de la vente par le soumissionnaire gagnant;
- à déduire du prix d'achat;
- non remboursable. Le non-respect de ces conditions par le soumissionnaire gagnant risque de conduire à la saisie de toute avance versée au moment de la vente ou par la suite.
- Dix jours ouvrables après la date de vente sont prévus pour établir le financement et verser le solde intégral au **393, avenue University, 6e étage, Toronto, Ontario.**
- Tous les paiements doivent être effectués en espèces ou par traite bancaire, chèque certifié ou mandat à l'ordre du « Shérif, ville de Toronto ».
- Un acte unilatéral sera remis par le shérif après le paiement satisfaisant du prix d'achat total.
- Toute autre condition annoncée.

LA VENTE PEUT ÊTRE ANNULÉE PAR LE SHÉRIF SANS AUTRE PRÉAVIS TANT QUE LE SHÉRIF N'EST PAS SATISFAIT DU RESPECT DES CONDITIONS DE VENTE PAR LE SOUMISSIONNAIRE GAGNANT.

**Nota :** nul employé du ministère du Procureur général ne peut acheter des biens ou biens meubles, terres ou immeubles mis en vente par un shérif dans le cadre d'une procédure juridique, directement ou indirectement.

Date : 25 avril 2019

La shérif  
DEBBIE DYKSTRA  
393, avenue University, 19e étage  
Toronto (ON) M5G 1E6

(152-P129F)

## Sale of Land for Tax Arrears By Public Tender Ventes de terrains par appel d'offres pour arriéré d'impôt

FORM 6

MUNICIPAL ACT, 2001

SALE OF LAND BY PUBLIC TENDER

THE CORPORATION OF THE  
TOWNSHIP OF EAST HAWKESBURY

TAKE NOTICE that tenders are invited for the purchase of the lands described below and will be received until 2:00 p.m. local time on June 7, 2019 at the Town Hall at 5151 County Rd, 14 in St-Eugene, ON.

The tenders will then be opened in public on the same day as soon as possible after 2:00 p.m. at the Town Hall at 5151 County Rd, 14 in St-Eugene, ON.

### Description of Land(s):

Roll No. 02 01 000 032 01500; 1063-1065 Labrosse, St-Eugene, ON; PIN 54189-0305(LT) being Part 11 N/S Labrosse St; Lot 12 Labrosse Street, Plan 7, designated as Part 1 on 46R-4662; Township of East Hawkesbury, County of Prescott.

**Minimum Tender Amount: \$34,601.05**

Roll No. 02 01 004 06502 0000; 1444 Concession 3, St-Eugene, ON; PIN 54188-0239(LT) being Part of Lot 14, Concession 4, designated as Part 1 and 2 on 46R-3079; Township of East Hawkesbury, County of Prescott.

**Minimum Tender Amount: \$27,730.05**

Roll No. 02 01 000 005 04010 000; 5675 County Rd 14, St-Eugene, ON; PIN 54190-0295 (LT) being Part SE ¼ Lot 12, Concession 5; Part SW ¼ Lot 12, Concession 5, designated as Part 1 on 46R-7205; Township of East Hawkesbury, County of Prescott.

**Minimum Tender Amount: \$95,841.34**

Role No. 02 01 000 005 11804 000; 3720 Happy Hallow Rd, St-Eugene, ON; PIN 54159-0545 LT being Part of Lot 37, Concession 5, designated as Part 2 on 46R-4738; Township of East Hawkesbury, County of Prescott.

**Minimum Tender Amount: \$13,054.92**

Tenders must be submitted in the prescribed form and must be accompanied by a deposit in the form of a money order or of a bank draft or cheque certified by a bank or trust corporation payable to the municipality and representing at least 20 per cent of the tender amount.

**Except as follows, the municipality makes no representation regarding the title to or any other matters relating to the lands to be sold. Responsibility for ascertaining these matters rests with the potential purchasers.**

This sale is governed by the *Municipal Act, 2001* and the Municipal Tax Sales Rules made under that Act. The successful purchaser will be required to pay the amount tendered plus accumulated taxes, HST if applicable and the relevant land transfer tax.

The municipality has no obligation to provide vacant possession to the successful purchaser.

For further information regarding this sale and a copy of the prescribed form of tender, you may visit our website [www.easthawkesbury.ca](http://www.easthawkesbury.ca) under Tax Sale ; pick up forms at the office or contact:

LUC LALONDE  
CAO Clerk-Treasurer  
The Corporation of the  
Township of East Hawkesbury  
5151 County Rd 14, P.O. Box 340  
St-Eugene, On, K0B1P0  
613-674-2170 ext. 1006

(152-P130)

FORM 6

MUNICIPAL ACT, 2001

SALE OF LAND BY PUBLIC TENDER

ONTARIO REGULATION 181/03

MUNICIPAL TAX SALES RULES

THE CORPORATION OF THE TOWNSHIP OF CRAMAHE

TAKE NOTICE that tenders are invited for the purchase of the land(s) described below and will be received until 3:00 p.m. local time on Thursday, June 13, 2019, at the Town Hall, 1 Toronto St., P.O. Box 357, Colborne, ON K0K 1S0.

The tenders will then be opened in public on the same day as soon as possible after 3:00 p.m. at the Town Hall, 1 Toronto St., P.O. Box 357, Colborne.

### Description of Land(s):

ROLL NO. 14 11 011 020 30800 0000, 856 PURDY RD, PART OF PIN 51149-0230 LT, PT LT 23 CON 3 CRAMAHE AS SECONDLY DESCRIBED IN NC211454; CRAMAHE, FILE NDCE17-012

**Minimum Tender Amount: \$18,165.91**

ROLL NO. 14 11 011 020 31016 0000, 205 CRANDALL RD, PIN 51241-0186 LT, PT LT 24 CON 3 CRAMAHE PT 1, 39R6334; CRAMAHE, FILE NDCE17-017

**Minimum Tender Amount: \$28,994.83**

ROLL NO. 14 11 011 030 22420 0000, PIN 51238-0133 LT, PT LT 22 CON 6 CRAMAHE PT 105, RDCO79, S/T RIGHT IN CL58460; T/W CL58460; CRAMAHE, FILE NDCE17-023

**Minimum Tender Amount: \$8,057.84**

ROLL NO. 14 11 011 040 01455 0000, PIN 51236-0129 LT, N 1/2 LT 12 CON 7 CRAMAHE EXCEPT NC294762; CRAMAHE, FILE NDCE17-024

**Minimum Tender Amount: \$9,532.47**

Tenders must be submitted in the prescribed form and must be accompanied by a deposit of at least 20 per cent of the tender amount, which deposit shall be made by way of a certified cheque/bank draft/money order payable to the municipality (or board).

**Except as follows, the municipality makes no representation regarding the title to, existing interests in favour of the Crown, environmental concerns or any other matters relating to the land(s) to be sold. Any existing Federal or Provincial Crown liens or executions will remain on title and may become the responsibility of the potential purchaser. Responsibility for ascertaining these matters rests with the potential purchasers.**

This sale is governed by the *Municipal Act, 2001* and the Municipal Tax Sales Rules made under that Act. The successful purchaser will be required to pay the amount tendered plus accumulated taxes and any taxes that may be applicable, such as a land transfer tax and HST.

15% Non-Resident Speculation Tax (NRST) applies to the purchase price for a transfer of residential property located in the Greater Golden Horseshoe Region which contains at least one and not more than six single family residences if any one of the transferees is a non-resident of Canada, foreign entity or taxable trustee.

The municipality has no obligation to provide vacant possession to the successful purchaser.

For further information regarding this sale and a copy of the prescribed form of tender visit: [www.Tri-Target.com](http://www.Tri-Target.com) | **Ontario's Tax Sale Community Info@Tri-Target.com** or if no internet access available, contact:

TRACEY DONALDSON  
Financial Clerk-Revenues  
The Corporation of the Township  
of Cramahe  
1 Toronto St.  
P.O. Box 357  
Colborne, ON K0K 1S0  
(905) 355-2821 Ext. 231  
[www.cramahe.ca](http://www.cramahe.ca)

(152-P131)

*MUNICIPAL ACT, 2001*

SALE OF LAND BY PUBLIC TENDER

ONTARIO REGULATION 181/03

MUNICIPAL TAX SALES RULES

#### THE CORPORATION OF THE TOWN OF FORT FRANCES

TAKE NOTICE that tenders are invited for the purchase of the lands described below and will be received until 3:00 p.m. local time on June 5, 2019, at the Town of Fort Frances Civic Centre, 320 Portage Avenue, Fort Frances Ontario.

The tenders will then be opened in public on the same day as soon as possible after 3:00 p.m. at the Town of Fort Frances Civic Centre, 320 Portage Avenue, Fort Frances.

#### Description of Land(s):

Roll No. 59 12 020 002 05900 0000; 555 Scott St.; PIN 56018-0441 (LT); Parcel 382-1 Section ALBTP; LT 382 Town Plot Alberton; Fort Frances; File No. 17-01

**According to the last returned assessment roll, the assessed value of the land is \$23,000**

**Minimum Tender Amount: \$10,200.98**

Roll No. 59 12 030 001 12205 0000; 406 Crowe Ave.; PIN 56018-0800 (LT); Parcel A-1 Section SM93; Private Lane marked A on Plan SM93 McIrvine; Fort Frances; File No. 17-02

**According to the last returned assessment roll, the assessed value of the land is \$18,000**

**Minimum Tender Amount: \$7,258.07**

Roll No. 59 12 030 001 12300 0000; 408 Crowe Ave., Fort Frances; PIN 56018-0540 (LT); Parcel 387-1 Section ALBTP; S 1/2 Lot 387 Town Plot Alberton S/T SLT16783; Fort Frances; File No. 17-03

**According to the last returned assessment roll, the assessed value of the land is \$90,250**

**Minimum Tender Amount: \$19,538.12**

Tenders must be submitted in the prescribed form and must be accompanied by a deposit of at least 20 per cent of the tender amount, which deposit shall be made by way of a certified cheque/bank draft/money order payable to the municipality.

**Except as follows, the municipality makes no representation regarding the title to or any other matters relating to the lands to be sold. Responsibility for ascertaining these matters rests with the potential purchasers. The assessed value according to the last returned assessment roll may or may not be representative of the current market value of the property**

The lands were previously advertised for a sale to be held on the 22nd day of May, 2019 but the sale was postponed.

This sale is governed by the *Municipal Act, 2001* and the Municipal Tax Sales Rules made under that Act. The successful purchaser will be required to pay the amount tendered plus accumulated taxes and any taxes that may be applicable, such as a land transfer tax and HST.

The municipality has no obligation to provide vacant possession to the successful purchaser.

A copy of the prescribed form of tender is available on the website of the Government of Ontario Central Forms Repository under the listing for the Ministry of Municipal Affairs.

For further information regarding this sale contact:

HEATHER HATCH  
Tax Administrator  
The Corporation of the Town of Fort  
Frances  
320 Portage Avenue  
Fort Frances ON P9A 3P9  
(807) 274-5323 x1228  
[town@fortfrances.ca](mailto:town@fortfrances.ca)

(152-P132)

*MUNICIPAL ACT, 2001*

SALE OF LAND BY PUBLIC TENDER

ONTARIO REGULATION 181/03

MUNICIPAL TAX SALES RULES

#### THE CORPORATION OF THE MUNICIPALITY OF SOUTH BRUCE

TAKE NOTICE that tenders are invited for the purchase of the land described below and will be received until 3:00 p.m. local time on June 13, 2019, at the South Bruce Municipal Office, P.O. Box 540, 21 Gordon St. E., Teeswater ON N0G 2S0.

The tenders will then be opened in public on the same day as soon as possible after 3:00 p.m. at the Municipal Office, 21 Gordon St. E., Teeswater.

**Description of Land(s):**

Roll No. 41 05 060 005 20000 0000; 4 Hillcrest St. W, Teeswater; PIN 33222-0357 (LT); Part Lots 23 and 24 S/S Teeswater River, Plan 16 as in R205901; South Bruce; File No. 17-01

**Minimum Tender Amount:** **\$16,138.38**

Tenders must be submitted in the prescribed form and must be accompanied by a deposit in the form of a money order or of a bank draft or cheque certified by a bank or trust corporation payable to the municipality and representing at least 20 per cent of the tender amount.

**Except as follows, the municipality makes no representation regarding the title to or any other matters relating to the land to be sold. Responsibility for ascertaining these matters rests with the potential purchasers.**

This sale is governed by the *Municipal Act, 2001* and the Municipal Tax Sales Rules made under that Act. The successful purchaser will be required to pay the amount tendered plus accumulated taxes and any taxes that may be applicable, such as a land transfer tax and HST.

The municipality has no obligation to provide vacant possession to the successful purchaser.

For further information regarding this sale and a copy of the prescribed form of tender, visit: [www.OntarioTaxSales.ca](http://www.OntarioTaxSales.ca) or if no internet access available, contact:

Debbie Kennedy  
Deputy Treasurer/Tax Collector  
The Corporation of the  
Municipality of South Bruce  
P.O. Box 540  
21 Gordon St. E.  
Teeswater ON N0G 2S0  
519-392-6623

(152-P133)

*MUNICIPAL ACT, 2001*

SALE OF LAND BY PUBLIC TENDER

ONTARIO REGULATION 181/03

MUNICIPAL TAX SALES RULES

**THE MUNICIPALITY OF RAINY RIVER**

TAKE NOTICE that tenders are invited for the purchase of the land(s) described below and will be received until 3:00 p.m local time on June 19, 2019 at the Town of Rainy River Municipal Office, 201 Atwood Avenue, Rainy River, ON, P0W 1L0

The tenders will then be opened in public on the same day at 3:01 pm at the Town of Rainy River Municipal Office, 201 Atwood Avenue, Rainy River, ON P0W 1L0

**Description of Land(s):**

PIN 56056-0282; 316 SECOND STREET; PCL BLK 1-18-1 SEC M77; LT 18 BLK 1 PL M77 ATWOOD; RAINY RIVER

**Minimum Tender Amount:** **\$11,900.00**

Tenders must be submitted in the prescribed form and must be accompanied by a deposit of at least 20 per cent of the tender amount, which deposit shall be made by way of a certified cheque/bank draft/ money payable to the municipality (or board).

**Except as follows, the municipality makes no representation regarding the title to or any other matters relating to the land(s) to be sold. Responsibility for ascertaining these matters rests with the potential purchasers.**

**If applicable, please check the following box:**

✓ The land(s) does (do) not include mobile homes situate on the land(s).

This sale is governed by the *Municipal Act, 2001* and the Municipal Tax Sales Rules made under that Act. The successful purchaser will be required to pay the amount tendered plus accumulated taxes and any taxes that may be applicable, such as a land transfer tax.

The municipality has no obligation to provide vacant possession to the successful purchaser.

**According to the last returned assessment roll, the assessed value of the land is \$29,500.**

A copy of the prescribed form of tender is available on the website of the Government of Ontario Central Forms Repository under the listing for the Ministry of Municipal Affairs.

For further information regarding this sale contact:

VELDRON VOGAN  
Chief Administrative Officer  
Municipality of Rainy River  
Rainy River, Ontario P0W 1L0

(152-P134)

**Publications under Part III (Regulations) of the Legislation Act, 2006**  
**Règlements publiés en application de la partie III (Règlements)**  
**de la Loi de 2006 sur la législation**

2019—05—18

**ONTARIO REGULATION 75/19**

made under the

**PROVINCIAL PARKS AND CONSERVATION RESERVES ACT, 2006**

Made: January 31, 2019

Filed: April 29, 2019

Published on e-Laws: April 29, 2019

Printed in *The Ontario Gazette*: May 18, 2019

Amending O. Reg. 347/07

(PROVINCIAL PARKS: GENERAL PROVISIONS)

**1. Section 13 of Ontario Regulation 347/07 is revoked.**

**2. Section 36 of the Regulation is revoked and the following substituted:**

OCCUPATION OF LAND

**Required lease, licence of occupation, etc.**

**36.** No person shall occupy land in a provincial park except under a lease, licence of occupation, land use permit or agreement, or any extension or renewal thereof, or pursuant to a right conferred by a grant of easement.

**Non-commercial residential occupation in certain parks**

**37.** (1) No person shall occupy land for non-commercial residential purposes in Algonquin Provincial Park or Rondeau Provincial Park except under a lease or licence of occupation that expires on or before,

- (a) December 31, 2038, in the case of Algonquin Provincial Park; or
- (b) December 31, 2019, in the case of Rondeau Provincial Park.

(2) A person who occupies land in Algonquin Provincial Park or Rondeau Provincial Park under a lease or licence of occupation, in accordance with subsection (1), shall comply with the terms and conditions of the lease or licence of occupation.

**Land use permits in Algonquin Provincial Park**

**38.** (1) This section applies with respect to any cottage lot that exists in Algonquin Provincial Park on *April 29, 2019*.

(2) In this section,

“boathouse” means a structure with a roof and walls that is built or erected on or over water and that is used primarily for the purpose of storing boats and boat accessories but does not include a dock that is attached to the boathouse; (“hangar à bateaux”)

“boat port” means a roof that is built or erected on or over water, that spans two or more floating platforms, that has no walls and under which boats are parked but does not include a dock that is attached to the boat port; (“port à bateaux”)

“boat shed” means a land structure with a roof and walls that is used primarily for the purpose of storing boats and boat accessories; (“remise à bateaux”)

“cottage lot” means land,

- (a) in respect of which a lease or licence of occupation has been issued by the Minister for non-commercial residential purposes in accordance with section 37, and
- (b) on which a cottage or cottage-like structure has been built or erected or may be built or erected under the terms of the lease or licence of occupation; (“lot pour chalet”)

“dock” includes a crib dock, a floating dock or a pole dock; (“quai”)

“land structure” means any structure such as a driveway, road, utility pole, water pump shed or sewage system that is or is intended to be placed, built or erected on land not covered by water; (“structure au sol”)

“swim raft” means a floating platform that is not attached to the shore that is or is intended to be placed on or above water, but does not include a water trampoline or an inflatable structure; (“radeau de baignade”)

“water structure” means a dock, boathouse, boat port or swim raft. (“structure sur l’eau”)

(3) The Minister may issue a land use permit under subsection 14 (2.1) of the Act with respect to land in Algonquin Provincial Park if all of the following circumstances exist:

1. The person to whom the permit is issued holds a lease or a licence of occupation for a cottage lot in the park.
2. The permit applies to land outside of the cottage lot that,
  - i. in the case of a cottage lot other than a cottage lot situated on Source Lake, is near or adjacent to the cottage lot, or
  - ii. in the case of a cottage lot situated on Source Lake,
    - A. is near or adjacent to the cottage lot,
    - B. is near or adjacent to the public access point to the lake, or
    - C. includes both land that is near or adjacent to the cottage lot and land that is near or adjacent to the public access point to the lake.
3. The permit authorizes the permit holder to occupy the land to which the permit applies for the purpose of placing, building or erecting one or more of the following structures on the land or for the purpose of using any such structures that were built, erected or placed on the land before April 29, 2019:
  - i. If the permit applies to land near or adjacent to a cottage lot,
    - A. a water structure that meets the requirements of subsections (4) and (5), or
    - B. a land structure that meets the requirements of subsection (7).
  - ii. If the permit applies to land near or adjacent to the public access point on Source Lake, a boat shed, a boathouse or a dock that,
    - A. was placed, built or erected on the land before April 29, 2019,
    - B. is used for private non-commercial purposes ancillary to the use or enjoyment of the cottage lot, and
    - C. in the case of a dock, meets the requirements of subsection (5).
4. Any structure referred to in paragraph 3 shall not include a kitchen or washroom facility or an area intended to be used for sleeping accommodations.
- (4) A water structure referred to in sub-subparagraph 3 i A of subsection (3) must meet the following requirements:
  1. The water structure must be used for private non-commercial purposes that are necessary or ancillary to the use or enjoyment of the cottage lot.
  2. The water structure must be located as close as reasonably possible to the cottage lot and at least a part of the structure must be located within 100 metres of the cottage lot.
  3. In the case of a crib dock, boathouse or boat port, it must have been built, erected or placed on or above the land before April 29, 2019.
- (5) The total area occupied by all water structures described in subsection (6) that are associated with a cottage lot, when measured together, shall not exceed the following maximum area:
  1. If the permit is issued on or before December 31, 2023, 60 square metres.
  2. If the permit is issued after December 31, 2023, 30 square metres.
- (6) The area occupied by each of the following water structures shall be included when determining the total area of all water structures associated with a cottage lot, whether the water structures are authorized under one or more land use permits:
  1. Every water structure located near or adjacent to the cottage lot, other than a boathouse or a boat port.
  2. In the case of a cottage lot on Source Lake, every water structure described in paragraph 1 and any dock located near or adjacent to the public access point to the lake.
- (7) A land structure referred to in sub-subparagraph 3 i B of subsection (3) must meet the following requirements:

1. The structure must be for private non-commercial purposes that are necessary to support the occupation and use of the cottage lot.
2. The land structure cannot practically or reasonably be placed, built or erected on the cottage lot due to,
  - i. the topography,
  - ii. the distance from the cottage lot to the nearest hydro corridor or road, or
  - iii. legal requirements.
3. In the case of a driveway or a road, the driveway or road must have been built before April 29, 2019.
4. In the case of a sewage system that was placed on the land before April 29, 2019, the sewage system must be,
  - i. a Class 1, 2 or 4 sewage system described in section 8.1.2 of Ontario Regulation 332/12 (Building Code) made under the *Building Code Act, 1992*, and
  - ii. located so as to allow for a water setback of at least 15 metres.
5. In the case of a sewage system that is placed on the land on or after April 29, 2019, the sewage system must be,
  - i. a Class 1 or 2 sewage system described in section 8.1.2 of Ontario Regulation 332/12, and
  - ii. located so as to allow for a water setback of at least 30 metres, subject to subsection (8).
6. The structure must not be a boat shed, a tent platform, a shed, a gazebo, a sauna or a hot tub.
- (8) A land use permit issued on or after April 29, 2019 may allow a sewage system described in paragraph 5 of subsection (7) to be located so as to allow for a water setback of at least 15 metres if,
  - (a) the sewage system cannot practically or reasonably be located so as to allow for a water setback of at least 30 metres due to the topography; or
  - (b) allowing a water setback of at least 15 metres would, in the Minister's opinion, be less harmful to the environment, to park wildlife or to the ecological integrity of the park.
- (9) For the purposes of subsections (7) and (8), a water setback is the distance between the sewage system and the waterfront as measured from,
  - (a) if the cottage lot is on a lake that is listed in Column 2 of the Table to this subsection, the maximum shoreline water level for the lake set out opposite the lake in Column 3 of the Table; or
  - (b) if the cottage lot is not on a lake listed in the Table to this subsection, the water's edge at normal spring high water levels.

TABLE

| Column 1<br>Item | Column 2<br>Lakes  | Column 3<br>Maximum Shoreline Water Level (metres above sea level) |
|------------------|--------------------|--------------------------------------------------------------------|
| 1.               | Canoe Lake         | 418.2                                                              |
| 2.               | Tea Lake           | 418.2                                                              |
| 3.               | Smoke Lake         | 418.2                                                              |
| 4.               | Bonita Lake        | 418.2                                                              |
| 5.               | Galeairy Lake      | 390.0                                                              |
| 6.               | Joe Lake           | 422.2                                                              |
| 7.               | Little Joe Lake    | 422.2                                                              |
| 8.               | Cache Lake         | 429.75                                                             |
| 9.               | Lake of Two Rivers | 393.37                                                             |

- (10) A land use permit issued under this section shall expire on the earlier of,

- (a) December 31, 2038; or
- (b) the day the permit holder ceases to be the holder of the lease or licence of occupation for the cottage lot in respect of which the land use permit was issued.

(11) If a land use permit issued under this section on or before December 31, 2023 authorizes the permit holder to occupy lands for the purpose of placing, building or erecting one or more water structures or for the purpose of using pre-existing water structures, the permit holder shall ensure, as a condition of the permit, that on and after January 1, 2024 the total area occupied by all water structures described in subsection (5) that are associated with the permit holder's cottage lot, when measured together, does not exceed 30 square metres.

(12) A person who holds a land use permit issued under this section shall comply with the terms and conditions of the permit.

**3. Subsection 37 (1) of the Regulation, as made by section 2, is revoked and the following substituted:**

(1) No person shall occupy land for non-commercial residential purposes in Algonquin Provincial Park or Rondeau Provincial Park except under a lease or licence of occupation that expires on or before December 31, 2038.

**Revocation**

**4. Subsection 1 (2) and section 4 of Ontario Regulation 386/17 are revoked.**

**Commencement**

**5. (1) Subject to subsection (2), this Regulation comes into force on the day it is filed.**

**(2) Section 3 comes into force on July 1, 2019.**

**RÈGLEMENT DE L'ONTARIO 75/19**

pris en vertu de la

**LOI DE 2006 SUR LES PARCS PROVINCIAUX ET LES RÉSERVES DE CONSERVATION**

pris le 31 janvier 2019

déposé le 29 avril 2019

publié sur le site Lois-en-ligne le 29 avril 2019

imprimé dans la *Gazette de l'Ontario* le 18 mai 2019

modifiant le Règl. de l'Ont. 347/07

(PARCS PROVINCIAUX : DISPOSITIONS GÉNÉRALES)

**1. L'article 13 du Règlement de l'Ontario 347/07 est abrogé.****2. L'article 36 du Règlement est abrogé et remplacé par ce qui suit :****OCCUPATION DE BIENS-FONDS****Bail ou permis d'occupation obligatoire**

**36.** Nul ne doit occuper des biens-fonds situés dans un parc provincial sauf en vertu d'un bail, d'un permis d'occupation, d'un permis d'utilisation des terres ou d'une entente ou du renouvellement ou de la prolongation de ceux-ci, ou conformément à un droit conféré par la concession d'une servitude.

**Occupation à des fins résidentielles non commerciales dans certains parcs**

**37.** (1) Nul ne doit occuper des biens-fonds à des fins résidentielles non commerciales dans les parcs provinciaux Algonquin ou Rondeau, sauf en vertu d'un bail ou d'un permis d'occupation qui expire au plus tard :

- a) le 31 décembre 2038, dans le cas du parc provincial Algonquin;
- b) le 31 décembre 2019, dans le cas du parc provincial Rondeau.

(2) La personne qui occupe des biens-fonds dans les parcs provinciaux Algonquin ou Rondeau en vertu d'un bail ou d'un permis d'occupation, conformément au paragraphe (1), doit se conformer aux conditions du bail ou du permis d'occupation.

**Permis d'utilisation des terres dans le parc provincial Algonquin**

**38.** (1) Le présent article s'applique à l'égard de tout lot pour chalet qui existe dans le parc provincial Algonquin le 29 avril 2019.

(2) Les définitions qui suivent s'appliquent au présent article.

«hangar à bateaux» Structure, munie d'un toit et de murs, qui est construite ou érigée sur l'eau ou au-dessus de l'eau et qui est utilisée principalement pour entreposer des bateaux et des accessoires de bateau. Sont toutefois exclus les quais fixés au hangar à bateaux. («boathouse»)

«lot pour chalet» S'entend d'un bien-fonds :

- a) à l'égard duquel un bail ou un permis d'occupation a été délivré par le ministre à des fins résidentielles non commerciales conformément à l'article 37;
- b) sur lequel un chalet ou une structure du même genre a été construite ou érigée, ou pourrait l'être, conformément aux conditions du bail ou du permis d'occupation. («cottage lot»)

«port à bateaux» Toit sans murs qui est construit ou érigé sur l'eau ou au-dessus de l'eau, couvrant deux plateformes flottantes ou plus et sous lequel des bateaux sont stationnés. Sont toutefois exclus les quais fixés au port à bateaux. («boat port»)

«quai» S'entend notamment d'un quai à encoffrement, d'un quai flottant ou d'un quai sur poteaux. («dock»)

«radeau de baignade» Plateforme flottante qui n'est pas fixée à la rive et qui est placée sur l'eau ou au-dessus de l'eau ou est destinée à l'être. Sont toutefois exclus les tremplins nautiques ou les structures gonflables. («swim raft»)

«remise à bateaux» Structure au sol, munie d'un toit et de murs, qui est utilisée principalement pour entreposer des bateaux et des accessoires de bateau. («boat shed»)

«structure au sol» Structure telle qu'une allée, une route, un poteau de ligne de transmission, un abri pour pompe à eau ou un système d'égouts qui est ou est destinée à être placée, construite ou érigée sur un bien-fonds non couvert par l'eau. («land structure»)

«structure sur l'eau» S'entend d'un quai, d'un hangar à bateaux, d'un port à bateaux ou d'un radeau de baignade. («water structure»)

(3) Le ministre peut délivrer un permis d'utilisation des terres en vertu du paragraphe 14 (2.1) de la Loi à l'égard d'un bien-fonds dans le parc provincial Algonquin si toutes les conditions suivantes sont réunies :

1. La personne à qui le permis est délivré est titulaire d'un bail ou d'un permis d'occupation visant un lot pour chalet dans le parc.
2. Le permis s'applique à un bien-fonds à l'extérieur du lot pour chalet qui :
  - i. dans le cas d'un lot pour chalet autre qu'un lot pour chalet situé sur le lac Source, est adjacent au lot pour chalet ou est situé à proximité de celui-ci,
  - ii. dans le cas d'un lot pour chalet situé sur le lac Source :
    - A. soit est adjacent au lot pour chalet ou est situé à proximité de celui-ci,
    - B. soit est adjacent au point d'accès public au lac ou est situé à proximité de ce point d'accès,
    - C. soit comprend à la fois un bien-fonds adjacent au lot pour chalet ou situé à proximité de celui-ci et un bien-fonds adjacent au point d'accès public au lac ou situé à proximité de ce point d'accès.
3. Le permis autorise son titulaire à occuper le bien-fonds auquel il s'applique aux fins du placement, de la construction ou de l'érection d'une ou plusieurs des structures suivantes sur le bien-fonds ou aux fins de l'utilisation de telles structures qui ont été construites, érigées ou placées sur le bien-fonds avant le 29 avril 2019.
  - i. Si le permis s'applique à un bien-fonds adjacent à un lot pour chalet ou situé à proximité de celui-ci :
    - A. une structure sur l'eau qui satisfait aux exigences des paragraphes (4) et (5),
    - B. une structure au sol qui satisfait aux exigences du paragraphe (7).
  - ii. Si le permis s'applique à un bien-fonds adjacent au point d'accès public sur le lac Source ou situé à proximité de celui-ci, une remise à bateaux, un hangar à bateaux ou un quai qui, à la fois :
    - A. a été placé, construit ou érigé sur le bien-fonds avant le 29 avril 2019,
    - B. est utilisé à des fins privées non commerciales qui sont accessoires à l'utilisation ou à la jouissance du lot pour chalet,
    - C. dans le cas d'un quai, satisfait aux exigences du paragraphe (5).
4. Aucune des structures visées à la disposition 3 ne doit comprendre une cuisine, une salle de toilette ou une aire destinée à être utilisée comme installation de couchage.

(4) La structure sur l'eau mentionnée à la sous-sous-disposition 3 i A du paragraphe (3) doit satisfaire aux exigences suivantes :

1. La structure sur l'eau doit être utilisée à des fins privées non commerciales qui sont nécessaires ou accessoires à l'utilisation ou à la jouissance du lot pour chalet.
2. La structure sur l'eau doit être située aussi près que raisonnablement possible du lot pour chalet et au moins une partie de la structure doit être située dans un rayon de 100 mètres du lot pour chalet.
3. Dans le cas d'un quai à encoffrement, d'un hangar à bateaux ou d'un port à bateaux, la structure doit avoir été construite, érigée ou placée à la surface ou au-dessus du bien-fonds avant le 29 avril 2019.

(5) La superficie totale occupée par toutes les structures sur l'eau visées au paragraphe (6) qui sont associées à un lot pour chalet, mesurées ensemble, ne doit pas être supérieure à la superficie maximale suivante :

1. 60 mètres carrés, si le permis est délivré au plus tard le 31 décembre 2023.
2. 30 mètres carrés, si le permis est délivré après le 31 décembre 2023.

(6) La superficie occupée par chacune des structures sur l'eau suivantes doit être incluse aux fins du calcul de la superficie totale de toutes les structures sur l'eau associées à un lot pour chalet, peu importe que les structures sur l'eau soient autorisées en vertu d'un ou plusieurs permis d'utilisation des terres :

1. Chaque structure sur l'eau, autre qu'un hangar à bateaux ou un port à bateaux, qui est adjacente au lot pour chalet ou située à proximité de celui-ci.
2. Dans le cas d'un lot pour chalet situé sur le lac Source, chaque structure sur l'eau visée à la disposition 1 et tout quai adjacent au point d'accès public au lac ou situé à proximité de ce point d'accès.

(7) La structure au sol visée à la sous-sous-disposition 3 i B du paragraphe (3) doit satisfaire aux exigences suivantes :

1. La structure doit servir à des fins privées non commerciales qui sont nécessaires pour soutenir l'occupation et l'utilisation du lot pour chalet.
  2. Il n'est pas pratique ou raisonnable de placer, construire ou ériger la structure au sol sur le lot pour chalet en raison de l'un ou l'autre des facteurs suivants :
    - i. la topographie,
    - ii. la distance du lot pour chalet au couloir hydroélectrique le plus proche ou à la route la plus proche,
    - iii. des exigences légales.
  3. Dans le cas d'une allée ou d'une route, l'une ou l'autre doit avoir été construite avant le 29 avril 2019.
  4. Dans le cas d'un système d'égouts qui a été placé sur le bien-fonds avant le 29 avril 2019, le système d'égouts doit être à la fois :
    - i. un système d'égouts de catégorie 1, 2 ou 4 visé à l'article 8.1.2 du Règlement de l'Ontario 332/12 (Building Code) pris en vertu de la *Loi de 1992 sur le code du bâtiment*,
    - ii. situé de façon à permettre une marge de reculement sur les eaux d'au moins 15 mètres.
  5. Dans le cas d'un système d'égouts qui est placé sur le bien-fonds le 29 avril 2019 ou par la suite, le système d'égouts doit être à la fois :
    - i. un système d'égouts de catégorie 1 ou 2 visé à l'article 8.1.2 du Règlement de l'Ontario 332/12,
    - ii. situé de façon à permettre une marge de reculement sur les eaux d'au moins 30 mètres, sous réserve du paragraphe (8).
  6. La structure ne doit pas être une remise à bateaux, un tablier de tente, une remise, un pavillon de jardin, un sauna ou un bain à remous.
- (8) Tout permis d'utilisation des terres délivré le 29 avril 2019 ou par la suite peut permettre qu'un système d'égouts visé à la disposition 5 du paragraphe (7) soit situé de façon à permettre une marge de reculement sur les eaux d'au moins 15 mètres si, selon le cas :
- a) il n'est pas pratique ou raisonnable de situer le système d'égouts de façon à permettre une marge de reculement sur les eaux d'au moins 30 mètres, en raison de la topographie;
  - b) le ministre est d'avis qu'autoriser une marge de reculement sur les eaux d'au moins 15 mètres nuirait moins à l'environnement, à la faune du parc ou à l'intégrité écologique de celui-ci.
- (9) Pour l'application des paragraphes (7) et (8), la marge de reculement sur les eaux est la distance entre le système d'égouts et le bord de l'eau, mesurée à partir d'un des paramètres suivants :
- a) si le lot pour chalet est situé sur un lac figurant à la colonne 2 du tableau du présent paragraphe, le niveau d'eau maximal sur la rive pour le lac indiqué en regard du lac à la colonne 3 du tableau;
  - b) si le lot pour chalet n'est pas situé sur un lac figurant au tableau du présent paragraphe, la rive du lac aux niveaux élevés d'eau normaux au printemps.

TABLEAU

| Colonne 1<br>Point | Colonne 2<br>Lacs    | Colonne 3<br>Niveau d'eau maximal sur la rive (mètres au-dessus du niveau de la mer) |
|--------------------|----------------------|--------------------------------------------------------------------------------------|
| 1.                 | Lac Canoe            | 418,2                                                                                |
| 2.                 | Lac Tea              | 418,2                                                                                |
| 3.                 | Lac Smoke            | 418,2                                                                                |
| 4.                 | Lac Bonita           | 418,2                                                                                |
| 5.                 | Lac Galeairy         | 390,0                                                                                |
| 6.                 | Lac Joe              | 422,2                                                                                |
| 7.                 | Lac Little Joe       | 422,2                                                                                |
| 8.                 | Lac Cache            | 429,75                                                                               |
| 9.                 | Lac de Deux Rivières | 393,37                                                                               |

- (10) Tout permis d'utilisation des terres délivré en vertu du présent article expire le premier en date des jours suivants :

- a) le 31 décembre 2038;
- b) le jour où le titulaire du permis cesse d'être titulaire du bail ou du permis d'occupation visant le lot pour chalet à l'égard duquel le permis a été délivré.

(11) Si un permis d'utilisation des terres délivré en vertu du présent article au plus tard le 31 décembre 2023 autorise son titulaire à occuper des biens-fonds aux fins du placement, de la construction ou de l'érection d'une ou plusieurs structures sur l'eau ou aux fins d'utilisation de structures sur l'eau préexistantes, le titulaire doit faire en sorte, comme condition du permis, qu'à compter du 1<sup>er</sup> janvier 2024, la superficie totale occupée par toutes les structures sur l'eau visées au paragraphe (5) qui sont associées à son lot pour chalet, mesurées ensemble, ne soit pas supérieure à 30 mètres carrés.

(12) Toute personne titulaire d'un permis d'utilisation des terres délivré en vertu du présent article doit se conformer aux conditions du permis.

**3. Le paragraphe 37 (1) du Règlement, tel qu'il est pris par l'article 2, est abrogé et remplacé par ce qui suit :**

(1) Nul ne doit occuper des biens-fonds à des fins résidentielles non commerciales dans les parcs provinciaux Algonquin ou Rondeau, sauf en vertu d'un bail ou d'un permis d'occupation qui expire au plus tard le 31 décembre 2038.

**Abrogation**

**4. Le paragraphe 1 (2) et l'article 4 du Règlement de l'Ontario 386/17 sont abrogés.**

**Entrée en vigueur**

**5. (1) Sous réserve du paragraphe (2), le présent règlement entre en vigueur le jour de son dépôt.**

**(2) L'article 3 entre en vigueur le 1<sup>er</sup> juillet 2019.**

**ONTARIO REGULATION 76/19**

made under the

**PLANNING ACT**

Made: April 29, 2019

Filed: April 29, 2019

Published on e-Laws: April 29, 2019

Printed in *The Ontario Gazette*: May 18, 2019**ZONING AREA — CITY OF VAUGHAN, REGIONAL MUNICIPALITY OF YORK****Interpretation****1.** In this Order,

“accessory” means a use that is normally incidental or subordinate to the large-format retail stores use on the same lot, including but not limited to,

- (a) outdoor display of seasonal merchandise,
- (b) outdoor garden centres,
- (c) drive-through grocery pickup areas,
- (d) loading areas,
- (e) motor vehicle and bicycle parking,
- (f) eating establishments and take-out,
- (g) sale and installation of automotive parts,
- (h) carwash,
- (i) dispensing of gasoline,
- (j) convenience stores,
- (k) lottery sales,
- (l) income tax and accounting services,
- (m) sale of insurance-related products,
- (n) mortgage services,
- (o) real estate services,
- (p) one-hour photo services,
- (q) children’s amusement centre, and
- (r) repair of jewellery;

“large-format retail store” means a building or part of a building having a minimum gross floor area of 10,000 square metres in which goods and merchandise including food are displayed, stored and sold;

“zoning by-law” means Zoning By-Law No. 1-88 of the City of Vaughan.

**Application**

**2.** (1) This Order applies to lands in the City of Vaughan in the Regional Municipality of York, in the Province of Ontario, being Blocks 4, 5, 6 and 7 on Registered Plan 65M-3606 and identified as Property Identifier Numbers 03278-0353 (LT), 03278-0354 (LT), 03278-0342 (LT), 03278-0343 (LT), 03278-0344 (LT), 03278-0345 (LT), 03278-0346 (LT) and 03278-0319 (LT) filed in the Land Registry Office for the Land Titles Division of York Region (No. 65).

(2) For the purposes of this Order, the lands described in subsection (1) shall be considered to be a single lot.

**Permitted uses**

**3.** Every use of land and every erection, location or use of any building or structure is prohibited on the lands described in subsection 2 (1), except for,

- (a) a large-format retail store and accessory uses;

- (b) optical facilities and optometrist services;
- (c) medical offices;
- (d) dental services;
- (e) hearing aid services;
- (f) telephone and telecommunication services;
- (g) travel sales;
- (h) uses permitted in the “Corporate District Zone (C10)” in the zoning by-law; and
- (i) the uses permitted in the “Prestige Employment Area Zone (EM1)” in the zoning by-law.

**Zoning requirements**

4. The zoning requirements for the lands described in subsection 2 (1) are as follows:

- 1. There is no minimum lot area.
- 2. There is no minimum lot frontage.
- 3. There is no maximum height of buildings and structures.
- 4. The minimum yard setback to the north, south and east lot lines is 6 metres.
- 5. The minimum yard setback to the west lot line is 14 metres.
- 6. The maximum lot coverage is 60 per cent.
- 7. A minimum 3-metre-wide landscaped open space shall be provided along the east and south lot lines.
- 8. A minimum 8-metre-wide landscaped open space shall be provided along the west lot line.
- 9. A minimum of two loading spaces for a large-format retail store, if any, shall be provided, with minimum dimensions of 3.5 metres by 9.0 metres and a minimum vertical clearance of 4.2 metres.
- 10. The number of parking spaces required by the zoning by-law shall be provided.
- 11. The number of accessible parking spaces required by the zoning by-law shall be provided.
- 12. Short-term and long-term bicycle parking shall be provided in accordance with section 3.8.2 of the zoning by-law.

**Terms of use**

5. (1) Every use of land and every erection, location or use of any building or structure shall be in accordance with this Order.

(2) Nothing in this Order prevents the use of any land, building or structure for any use prohibited by this Order if the land, building or structure is lawfully used on the day this Order comes into force.

(3) Nothing in this Order prevents the reconstruction of any building or structure that is damaged or destroyed by causes beyond the control of the owner if the dimensions of the original building or structure are not increased or its original use altered.

(4) Nothing in this Order prevents the strengthening or restoration to a safe condition of any building or structure.

**Deemed by-law**

6. This Order is deemed for all purposes, except the purposes of section 24 of the *Planning Act*, to be and to always have been a by-law passed by the council of the City of Vaughan.

**Commencement**

**7. This Regulation comes into force on the day it is filed.**

Made by:

STEVE CLARK  
*Minister of Municipal Affairs and Housing*

Date made: April 29, 2019

20/19

**ONTARIO REGULATION 77/19**  
made under the  
**ENVIRONMENTAL PROTECTION ACT**

Made: April 18, 2019  
Filed: April 30, 2019  
Published on e-Laws: April 30, 2019  
Printed in *The Ontario Gazette*: May 18, 2019

Amending O. Reg. 390/18  
(GREENHOUSE GAS EMISSIONS: QUANTIFICATION, REPORTING AND VERIFICATION)

**1. (1) The definitions of “Cap and Trade Program Regulation”, “capped participant”, “fractionation facility”, “liquefied natural gas”, “mandatory participant”, “natural gas”, “petroleum product”, “process gas” and “voluntary participant” in subsection 1 (1) of Ontario Regulation 390/18 are revoked.**

**(2) Subsection 1 (1) of the Regulation is amended by adding the following definition:**

“electricity importation” means the importation of electricity into Ontario for consumption in Ontario; (“importation d’électricité”)

**(3) The definition of “Ontario Regulation 143/16” in subsection 1 (1) of the Regulation is amended by striking out “the day before Ontario Regulation 389/18 made under that Act comes into force” and substituting “on July 31, 2018”.**

**(4) The definition of “Ontario Regulation 452/09” in subsection 1 (1) of the Regulation is amended by striking out “immediately before Ontario Regulation 390/18 made under the Act comes into force” and substituting “on July 31, 2018”.**

**2. Section 4 of the Regulation is revoked and the following substituted:**

**Calculation of amount of greenhouse gas**

**4. (1) The amount of greenhouse gas in tonnes of CO<sub>2</sub>e shall be calculated for the purposes of this Regulation by applying the following formula:**

$$E = \sum_{i=1}^n GHG_i \times GWP_i$$

where,

E = the amount of greenhouse gas, expressed in tonnes of CO<sub>2</sub>e,

GHG<sub>i</sub> = the total amount of greenhouse gas i, expressed in tonnes,

GWP<sub>i</sub> = the applicable global warming potential for greenhouse gas i, as determined in accordance with subsection (2),

n = the number of greenhouse gases, and

i = the greenhouse gas.

**(2) For the purposes of applying the formula set out in subsection (1), the applicable global warming potential for a greenhouse gas is,**

**(a) in the case of a calculation in respect of 2018, the number set out in Column 5 of Schedule 1 opposite the greenhouse gas; and**

**(b) in the case of a calculation in respect of 2019 or a subsequent year, the number set out in Column 6 of Schedule 1 opposite the greenhouse gas.**

**3. (1) Subsections 5 (3) and (4) of the Regulation are revoked.**

**(2) Subsection 5 (5) of the Regulation is amended by striking out “and any amount calculated under subsection (3)” at the end.**

**(3) Subsection 5 (7) of the Regulation is amended by striking out “or an amount to be calculated under subsection (3)” in the portion before paragraph 1.**

**(4) Paragraph 1 of subsection 5 (7) of the Regulation is amended by striking out “or all subsequent calculations of the amount under subsection (3), as the case may be”.**

**(5) Paragraph 2 of subsection 5 (7) of the Regulation is amended by striking out “or all subsequent calculations of the amount under subsection (3), as the case may be”.**

**4. The definition of variable “C” in subsection 6 (2) of the Regulation is revoked and the following substituted:**

C = the amount of greenhouse gas emitted during the generation of indirect useful thermal energy at another facility in respect of which a calculation is required under the Guideline.

**5. Subsections 7 (6) and (7) of the Regulation are revoked and the following substituted:**

(6) The requirements in subsections (1) and (2) cease to apply to a person if the specified GHG activities permanently cease to be engaged in at the facility and the person,

(a) provides notice to the Director that the activities have ceased permanently;

(b) gives the Director a report in respect of the final year in which the activities were engaged in at the facility; and

(c) complies with the applicable requirement in subsection (7).

(7) For the purposes of clause (6) (c),

(a) if the permanent cessation of activities occurred in 2018 and the person was required to have a report for the facility verified in 2018, the person shall have the report mentioned in clause (6) (b) verified by an accredited verification body in accordance with this Regulation and shall submit to the Director a verification statement prepared in accordance with section 18 and a verification report prepared in accordance with section 21; or

(b) if the permanent cessation of activities occurred in 2019 or a subsequent year and the person was required to have a report for the facility verified in the year prior to the year in which the permanent cessation occurred, the person shall have the report mentioned in clause (6) (b) verified by an accredited verification body in accordance with this Regulation and shall submit to the Director a verification statement prepared in accordance with section 18 and a verification report prepared in accordance with section 21.

**6. The definition of variable “C” in subsection 8 (1) of the Regulation is revoked and the following substituted:**

C = the amount of greenhouse gas emitted during the generation of indirect useful thermal energy at another facility in respect of which a calculation is required under the Guideline,

**7. Paragraph 2 of subsection 9 (1) of the Regulation is revoked and the following substituted:**

2. A person who was required under Ontario Regulation 143/16 to have a GHG report with respect to specified GHG activities engaged in at a facility during 2017 verified, if the verification amount in respect of the facility is 25,000 tonnes of CO<sub>2</sub>e or more.

3. A person who was required under Ontario Regulation 452/09 to have a report with respect to activities engaged in during 2015 or 2016 verified, if the result of the calculation under paragraph 4 of subsection 7.3 (2) of that Regulation in respect of the facility for one of those years is 25,000 tonnes of CO<sub>2</sub>e or more.

**8. Sections 10 to 13 of the Regulation are revoked and the following substituted:**

#### ELECTRICITY IMPORTATION

##### Duty to calculate, report and verify

**10. (1)** This section applies to a person who engages in electricity importation and is a market participant within the meaning of subsection 2 (1) of the *Electricity Act, 1998*.

(2) The person shall calculate, in each year, the amount of the greenhouse gas emissions associated with the person's electricity importation, which is the amount emitted by the generation of the electricity imported by the person into Ontario for consumption in Ontario.

(3) If the amount calculated for the year under subsection (2) is greater than zero tonnes of CO<sub>2</sub>e, the person shall,

(a) give the Director a report with respect to the electricity importation during the year; and

(b) have the report verified by an accredited verification body in accordance with this Regulation.

(4) The person shall use the standard quantification method or methods set out in the Guideline to calculate the amount of greenhouse gas emissions.

(5) The following rules apply where the standard quantification methods in respect of electricity importation include a choice of calculation methodologies:

1. The person shall select one of the calculation methodologies and use it for all subsequent quantifications, unless the Director consents in writing to the use of another methodology.

2. If the Director consents to the use of another methodology, the person shall use the methodology consented to for all subsequent quantifications, unless the Director consents in writing to the use of another methodology.
- (6) All amounts of greenhouse gas emissions calculated shall be expressed as tonnes of CO<sub>2</sub>e.
- (7) If the amount of greenhouse gas emissions in respect of electricity importation is a number that is not a whole number when expressed in tonnes, the number shall be rounded up to the nearest tonne.
- (8) The report shall contain all applicable information set out in Schedule 5.
- (9) A report with respect to electricity importation engaged in during a year shall be given to the Director on or before June 1 in the following year.
- (10) The person shall submit a verification statement prepared in accordance with section 18 and a verification report prepared in accordance with section 21 to the Director on or before September 1 in the same year in which the verified report was required to be given to the Director.

**Continuing duty to report, verify**

11. (1) A person who is required to give the Director a report with respect to electricity importation for a year shall give the Director a report with respect to the activity for each subsequent year, which report shall be given on or before June 1 in the year following the subsequent year.
- (2) Subject to subsection (3), the requirement in subsection (1) to give reports for subsequent years ceases to apply in a year to a person in respect of electricity importation if the person has complied with the applicable requirements of this Regulation or Ontario Regulation 143/16, as the case may be, for the three consecutive years preceding the year and the amount of greenhouse gas emissions associated with the activity has been zero tonnes of CO<sub>2</sub>e for each of those years.
- (3) Subsection (2) ceases to apply to a person if, for any year following its application, the amount of greenhouse gas emissions associated with the activity is more than zero tonnes of CO<sub>2</sub>e.
- (4) The requirement in subsection (1) to give reports for subsequent years ceases to apply to a person in respect of electricity importation if the person permanently ceases to engage in the activity and the person,
  - (a) provides notice to the Director that the activity has ceased permanently;
  - (b) gives the Director a report in respect of the final year in which the activity was engaged in; and
  - (c) has the report mentioned in clause (b) verified by an accredited verification body in accordance with this Regulation and submits a verification statement in accordance with section 18 and a verification report in accordance with section 21 to the Director.
- (5) The report shall contain all applicable information set out in Schedule 5.
- (6) A report with respect to electricity importation engaged in during a year shall be given to the Director on or before June 1 in the following year.
- (7) The person shall submit a verification statement prepared in accordance with section 18 and a verification report prepared in accordance with section 21 to the Director on or before September 1 in the same year in which the verified report was required to be given to the Director.

**9. Subsections 14 (4) and (5) of the Regulation are revoked and the following substituted:**

- (4) If a person is required to give the Director a report with respect to electricity importation, the report shall not be combined with a report with respect to a specified GHG activity engaged in at a facility.

**10. (1) Subsection 15 (2) of the Regulation is revoked and the following substituted:**

- (2) For the purposes of subsection (1), the relevant amount is the verification amount in respect of specified GHG activities or the amount of greenhouse gas emissions associated with electricity importation, as the case may be.

**(2) Subsection 15 (10) of the Regulation is revoked.**

11. (1) Subsection 16 (4) of the Regulation is amended by striking out “natural gas distribution or petroleum product supply” in the portion before clause (a).

- (2) Subsection 16 (5) of the Regulation is amended by adding “as those provisions read immediately before the day section 8 of Ontario Regulation 77/19 made under the Act came into force” after “section 10 or 13”.

**12. (1) Paragraph 3 of subsection 17 (2) of the Regulation is revoked and the following substituted:**

3. If the report was given to the Director with respect to electricity importation,
  - i. the accredited verification body has provided greenhouse gas consultancy services to the person having the report verified within the previous three years and the resulting threat to the body’s impartiality cannot be effectively managed with a mitigation plan that the Director has consented to in writing, or

- ii. the accredited verification body has verified six consecutive reports prepared by the person having the report verified, unless at least three years have passed since the last verification.

(2) Subsection 17 (5) of the Regulation is amended by adding “as those provisions read immediately before the day section 8 of Ontario Regulation 77/19 made under the Act came into force” after “section 10 or 13”.

13. Subsection 18 (3) of the Regulation is revoked.

14. (1) Item 1 of the Table to subsection 19 (1) of the Regulation is amended by striking out “or, if it was given to the Director before the day this section comes into force, it was prepared in accordance with Ontario Regulation 143/16” in Column 2.

(2) Item 2 of the Table to subsection 19 (1) of the Regulation is amended by striking out “or, if it was given to the Director before the day this section comes into force, it was prepared substantially in accordance with Ontario Regulation 143/16” in Column 2.

(3) Item 3 of the Table to subsection 19 (1) of the Regulation is amended by striking out “or, if it was given to the Director before the day this section comes into force, it was not prepared substantially in accordance with Ontario Regulation 143/16” in Column 2.

(4) Paragraphs 2 and 3 of subsection 19 (2) of the Regulation are revoked and the following substituted:

2. The amount of greenhouse gas emissions associated with electricity importation, if the report was with respect to that activity.

15. (1) Subsection 20 (1) of the Regulation is amended by striking out “Subject to subsection (3)” at the beginning.

(2) Item 1 of the Table to subsection 20 (1) of the Regulation is amended by striking out “or, if it was given to the Director before the day this section comes into force, it was prepared in accordance with Ontario Regulation 143/16” in Column 2.

(3) Item 2 of the Table to subsection 20 (1) of the Regulation is amended by striking out “or, if it was given to the Director before the day this section comes into force, it was prepared substantially in accordance with Ontario Regulation 143/16” in Column 2.

(4) Item 3 of the Table to subsection 20 (1) of the Regulation is amended by striking out “or, if it was given to the Director before the day this section comes into force, it was not prepared substantially in accordance with Ontario Regulation 143/16” in Column 2.

(5) Subsection 20 (3) of the Regulation is revoked.

16. (1) Paragraph 3 of subsection 21 (1) of the Regulation is amended by striking out “natural gas distribution or petroleum product supply”.

(2) Paragraph 13 of subsection 21 (1) of the Regulation is revoked.

17. Section 25 of the Regulation is amended by striking out “or with respect to natural gas distribution”.

18. Schedule 1 to the Regulation is revoked and the following substituted:

SCHEDULE 1  
GREENHOUSE GASES AND GLOBAL WARMING POTENTIALS

| Item | Column 1<br>Common Name of<br>Greenhouse Gas | Column 2<br>Chemical<br>Formula               | Column 3<br>Chemical Name                 | Column 4<br>Chemical<br>Abstract Service<br>Registry No. | Column 5<br>Global<br>Warming<br>Potential, 2018 | Column 6<br>Global<br>Warming<br>Potential, 2019<br>and subsequent<br>years |
|------|----------------------------------------------|-----------------------------------------------|-------------------------------------------|----------------------------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------------|
| 1.   | Carbon dioxide                               | CO <sub>2</sub>                               | Carbon dioxide                            | 124-38-9                                                 | 1                                                | 1                                                                           |
| 2.   | Methane                                      | CH <sub>4</sub>                               | Methane                                   | 74-82-8                                                  | 21                                               | 25                                                                          |
| 3.   | Nitrous oxide                                | N <sub>2</sub> O                              | Nitrous oxide                             | 10024-97-2                                               | 310                                              | 298                                                                         |
| 4.   | Sulfur hexafluoride                          | SF <sub>6</sub>                               | Sulfur hexafluoride                       | 2551-62-4                                                | 23,900                                           | 22,800                                                                      |
| 5.   | Nitrogen trifluoride                         | NF <sub>3</sub>                               | Nitrogen trifluoride                      | 7783-54-2                                                | 17,200                                           | 17,200                                                                      |
| 6.   | HFC-23                                       | CHF <sub>3</sub>                              | Trifluoromethane                          | 75-46-7                                                  | 11,700                                           | 14,800                                                                      |
| 7.   | HFC-32                                       | CH <sub>2</sub> F <sub>2</sub>                | Difluoromethane                           | 75-10-5                                                  | 650                                              | 675                                                                         |
| 8.   | HFC-41                                       | CH <sub>3</sub> F                             | Fluoromethane                             | 593-53-3                                                 | 150                                              | 92                                                                          |
| 9.   | HFC-43-10mee                                 | C <sub>5</sub> H <sub>2</sub> F <sub>10</sub> | 1,1,1,2,3,4,4,5,5,5-<br>Decafluoropentane | 138495-42-8                                              | 1,300                                            | 1,640                                                                       |
| 10.  | HFC-125                                      | C <sub>2</sub> HF <sub>5</sub>                | Pentafluoroethane                         | 354-33-6                                                 | 2,800                                            | 3,500                                                                       |
| 11.  | HFC-134                                      | C <sub>2</sub> H <sub>2</sub> F <sub>4</sub>  | 1,1,2,2-Tetrafluoroethane                 | 359-35-3                                                 | 1,000                                            | 1,100                                                                       |
| 12.  | HFC-134a                                     | C <sub>2</sub> H <sub>2</sub> F <sub>4</sub>  | 1,1,1,2-Tetrafluoroethane                 | 811-97-2                                                 | 1,300                                            | 1,430                                                                       |
| 13.  | HFC-143                                      | C <sub>2</sub> H <sub>3</sub> F <sub>3</sub>  | 1,1,2-Trifluoroethane                     | 430-66-0                                                 | 300                                              | 353                                                                         |

| Item | Column 1<br>Common Name of<br>Greenhouse Gas | Column 2<br>Chemical<br>Formula              | Column 3<br>Chemical Name         | Column 4<br>Chemical<br>Abstract Service<br>Registry No. | Column 5<br>Global<br>Warming<br>Potential, 2018 | Column 6<br>Global<br>Warming<br>Potential, 2019<br>and subsequent<br>years |
|------|----------------------------------------------|----------------------------------------------|-----------------------------------|----------------------------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------------|
| 14.  | HFC-143a                                     | C <sub>2</sub> H <sub>3</sub> F <sub>3</sub> | 1,1,1-Trifluoroethane             | 420-46-2                                                 | 3,800                                            | 4,470                                                                       |
| 15.  | HFC-152                                      | C <sub>2</sub> H <sub>4</sub> F <sub>2</sub> | 1,2-Difluoroethane                | 624-72-6                                                 | 43                                               | 53                                                                          |
| 16.  | HFC-152a                                     | C <sub>2</sub> H <sub>4</sub> F <sub>2</sub> | 1,1-Difluoroethane                | 75-37-6                                                  | 140                                              | 124                                                                         |
| 17.  | HFC-161                                      | C <sub>2</sub> H <sub>5</sub> F              | Fluoroethane                      | 353-36-6                                                 | 12                                               | 12                                                                          |
| 18.  | HFC-227ea                                    | C <sub>3</sub> HF <sub>7</sub>               | 1,1,1,2,3,3,3- Heptafluoropropane | 431-89-0                                                 | 2,900                                            | 3,220                                                                       |
| 19.  | HFC-236cb                                    | C <sub>3</sub> H <sub>2</sub> F <sub>6</sub> | 1,1,1,2,2,3-Hexafluoropropane     | 677-565                                                  | 1,300                                            | 1,340                                                                       |
| 20.  | HFC-236ea                                    | C <sub>3</sub> H <sub>2</sub> F <sub>6</sub> | 1,1,1,2,3,3-Hexafluoropropane     | 431-63-0                                                 | 1,200                                            | 1,370                                                                       |
| 21.  | HFC-236fa                                    | C <sub>3</sub> H <sub>2</sub> F <sub>6</sub> | 1,1,1,3,3,3-Hexafluoropropane     | 690-39-1                                                 | 6,300                                            | 9,810                                                                       |
| 22.  | HFC-245ca                                    | C <sub>3</sub> H <sub>3</sub> F <sub>5</sub> | 1,1,2,2,3-Pentafluoropropane      | 679-86-7                                                 | 560                                              | 693                                                                         |
| 23.  | HFC-245fa                                    | C <sub>3</sub> H <sub>3</sub> F <sub>5</sub> | 1,1,1,3,3-Pentafluoropropane      | 460-73-1                                                 | 950                                              | 1,030                                                                       |
| 24.  | HFC-365mfc                                   | C <sub>4</sub> H <sub>5</sub> F <sub>5</sub> | 1,1,1,3,3-Pentafluorobutane       | 406-58-6                                                 | 890                                              | 794                                                                         |
| 25.  | Perfluoromethane                             | CF <sub>4</sub>                              | Tetrafluoromethane                | 75-73-0                                                  | 6,500                                            | 7,390                                                                       |
| 26.  | Perfluoroethane                              | C <sub>2</sub> F <sub>6</sub>                | Hexafluoroethane                  | 76-16-4                                                  | 9,200                                            | 12,200                                                                      |
| 27.  | Perfluoropropane                             | C <sub>3</sub> F <sub>8</sub>                | Octafluoropropane                 | 76-19-7                                                  | 7,000                                            | 8,830                                                                       |
| 28.  | Perfluorobutane                              | C <sub>4</sub> F <sub>10</sub>               | Decafluorobutane                  | 355-25-9                                                 | 7,000                                            | 8,860                                                                       |
| 29.  | Perfluorocyclobutane                         | c-C <sub>4</sub> F <sub>8</sub>              | Octafluorocyclobutane             | 115-25-3                                                 | 8,700                                            | 10,300                                                                      |
| 30.  | Perfluoropentane                             | C <sub>5</sub> F <sub>12</sub>               | Dodecafluoropentane               | 678-26-2                                                 | 7,500                                            | 9,160                                                                       |
| 31.  | Perfluorohexane                              | C <sub>6</sub> F <sub>14</sub>               | Tetradecafluorohexane             | 355-42-0                                                 | 7,400                                            | 9,300                                                                       |
| 32.  | Perfluorodecalin                             | C <sub>10</sub> F <sub>18</sub>              | Octadecafluorodecalin             | 306-94-5                                                 | N/A                                              | 7,500                                                                       |
| 33.  | Perfluorocyclopropane                        | c-C <sub>3</sub> F <sub>6</sub>              | Hexafluorocyclopropane            | 931-91-9                                                 | N/A                                              | 17,340                                                                      |

19. (1) Section 10 of Schedule 5 to the Regulation is amended by striking out “natural gas distribution or petroleum product supply” in the portion before subparagraph i.

(2) Section 11 of Schedule 5 to the Regulation is revoked.

20. Schedule 6 to the Regulation is revoked.

**Commencement**

21. This Regulation comes into force on the day it is filed.

**RÈGLEMENT DE L'ONTARIO 77/19**

pris en vertu de la

**LOI SUR LA PROTECTION DE L'ENVIRONNEMENT**

pris le 18 avril 2019

déposé le 30 avril 2019

publié sur le site Lois-en-ligne le 30 avril 2019

imprimé dans la *Gazette de l'Ontario* le 18 mai 2019

modifiant le Règl. de l'Ont. 390/18

(ÉMISSIONS DE GAZ À EFFET DE SERRE : QUANTIFICATION, DÉCLARATION ET VÉRIFICATION)

**1. (1) Les définitions de «gaz de procédé», «gaz naturel», «gaz naturel liquéfié», «installation de fractionnement», «participant à émissions plafonnées», «participant assujéti», «participant volontaire», «produit pétrolier» et de «Règlement sur le programme de plafonnement et d'échange» au paragraphe 1 (1) du Règlement de l'Ontario 390/18 sont abrogées.**

**(2) Le paragraphe 1 (1) du Règlement est modifié par adjonction de la définition suivante :**

«importation d'électricité» Importation d'électricité en Ontario aux fins de consommation en Ontario. («electricity importation»)

**(3) La définition de «Règlement de l'Ontario 143/16» au paragraphe 1 (1) du Règlement est modifiée par remplacement de «la veille de l'entrée en vigueur du Règlement de l'Ontario 389/18, pris en vertu de cette loi» par «le 31 juillet 2018».**

**(4) La définition de «Règlement de l'Ontario 452/09» au paragraphe 1 (1) du Règlement est modifiée par remplacement de «immédiatement avant l'entrée en vigueur du Règlement de l'Ontario 390/18, pris en vertu de la Loi» par «le 31 juillet 2018».**

**2. L'article 4 du Règlement est abrogé et remplacé par ce qui suit :**

Calcul de la quantité de gaz à effet de serre

**4. (1) Pour l'application du présent règlement, la quantité de gaz à effet de serre en tonnes d'éq. CO<sub>2</sub> est calculée en appliquant la formule suivante :**

$$E = \sum_{i=1}^n \text{GES}_i \times \text{PRP}_i$$

où :

«E» représente la quantité de gaz à effet de serre, exprimée en tonnes d'éq. CO<sub>2</sub>;

«GES<sub>i</sub>» représente la quantité totale de gaz à effet de serre i, exprimée en tonnes;

«PRP<sub>i</sub>» représente le potentiel applicable de réchauffement planétaire du gaz à effet de serre i, établi conformément au paragraphe (2);

«n» représente le nombre de gaz à effet de serre;

«i» représente le gaz à effet de serre.

**(2) Pour l'application de la formule énoncée au paragraphe (1), le potentiel applicable de réchauffement planétaire d'un gaz à effet de serre est :**

- a) dans le cas d'un calcul à l'égard de l'année 2018, le nombre indiqué dans la colonne 5 de l'annexe 1 en regard du gaz à effet de serre;
- b) dans le cas d'un calcul à l'égard de l'année 2019 ou d'une année subséquente, le nombre indiqué dans la colonne 6 de l'annexe 1 en regard du gaz à effet de serre.

**3. (1) Les paragraphes 5 (3) et (4) du Règlement sont abrogés.**

**(2) Le paragraphe 5 (5) du Règlement est modifié par suppression de «et toute quantité calculée en application du paragraphe (3)» à la fin du paragraphe.**

**(3) Le paragraphe 5 (7) du Règlement est modifié par suppression de «ou d'une quantité à calculer en application du paragraphe (3)» dans le passage qui précède la disposition 1.**

**(4) La disposition 1 du paragraphe 5 (7) du Règlement est modifiée par suppression de «ou pour tous les calculs subséquents de la quantité visée au paragraphe (3), selon le cas».**

**(5) La disposition 2 du paragraphe 5 (7) du Règlement est modifiée par suppression de «ou pour tous les calculs subséquents de la quantité visée au paragraphe (3), selon le cas».**

**4. La définition de l'élément «C» au paragraphe 6 (2) du Règlement est abrogée et remplacée par ce qui suit :**

«C» représente la quantité de gaz à effet de serre émise par la production d'énergie thermique utile indirecte dans une autre installation qui doit être calculée en application de la Ligne directrice.

**5. Les paragraphes 7 (6) et (7) du Règlement sont abrogés et remplacés par ce qui suit :**

(6) Les obligations prévues aux paragraphes (1) et (2) cessent de s'appliquer à une personne si les activités émettrices de GES précisées cessent d'être exercées de façon permanente dans l'installation et si la personne se conforme aux exigences suivantes :

- a) elle avise le directeur que les activités ont cessé de façon permanente;
- b) elle remet au directeur un rapport à l'égard de la dernière année où les activités ont été exercées dans l'installation;
- c) elle se conforme à l'exigence applicable prévue au paragraphe (7).

(7) Pour l'application de l'alinéa (6) c) :

- a) si la cessation permanente des activités est survenue en 2018 et si la personne était tenue de faire vérifier un rapport en 2018 à l'égard de l'installation, la personne fait vérifier le rapport visé à l'alinéa (6) b) par un organisme de vérification accrédité conformément au présent règlement et remet au directeur une déclaration de vérification rédigée conformément à l'article 18 et un rapport de vérification rédigé conformément à l'article 21;
- b) si la cessation permanente des activités est survenue en 2019 ou au cours d'une année subséquente et si la personne était tenue de faire vérifier un rapport à l'égard de l'installation au cours de l'année précédant l'année au cours de laquelle la cessation permanente est survenue, la personne fait vérifier le rapport visé à l'alinéa (6) b) par un organisme de vérification accrédité conformément au présent règlement et remet au directeur une déclaration de vérification rédigée conformément à l'article 18 et un rapport de vérification rédigé conformément à l'article 21.

**6. La définition de l'élément «C» au paragraphe 8 (1) du Règlement est abrogée et remplacée par ce qui suit :**

«C» représente la quantité de gaz à effet de serre émise par la production d'énergie thermique utile indirecte dans une autre installation qui doit être calculée en application de la Ligne directrice;

**7. La disposition 2 du paragraphe 9 (1) du Règlement est abrogée et remplacée par ce qui suit :**

- 2. Une personne qui était tenue, en application du Règlement de l'Ontario 143/16, de faire vérifier un rapport d'émissions de GES à l'égard des activités émettrices de GES précisées exercées dans une installation en 2017, si la quantité de vérification à l'égard de l'installation est égale ou supérieure à 25 000 tonnes d'éq. CO<sub>2</sub>.
- 3. Une personne qui était tenue, en application du Règlement de l'Ontario 452/09, de faire vérifier un rapport à l'égard d'activités exercées en 2015 ou en 2016, si le résultat du calcul visé à la disposition 4 du paragraphe 7.3 (2) de ce règlement à l'égard de l'installation pour l'une ou l'autre de ces années est égal ou supérieur à 25 000 tonnes d'éq. CO<sub>2</sub>.

**8. Les articles 10 à 13 du Règlement sont abrogés et remplacés par ce qui suit :**

#### IMPORTATION D'ÉLECTRICITÉ

##### Obligation de calculer, de déclarer et de faire vérifier

**10. (1)** Le présent article s'applique à toute personne qui importe de l'électricité et qui est un intervenant du marché au sens du paragraphe 2 (1) de la *Loi de 1998 sur l'électricité*.

(2) La personne calcule chaque année la quantité des émissions de gaz à effet de serre associées à l'importation d'électricité par elle, à savoir la quantité provenant de la production de l'électricité qu'elle a importée en Ontario aux fins de consommation en Ontario.

(3) Si la quantité calculée pour l'année en application du paragraphe (2) est supérieure à zéro tonne d'éq. CO<sub>2</sub>, la personne fait ce qui suit :

- a) elle remet au directeur un rapport à l'égard de l'importation d'électricité au cours de l'année;
- b) elle fait vérifier le rapport par un organisme de vérification accrédité conformément au présent règlement.

(4) La personne utilise la ou les méthodes de quantification normalisées énoncées dans la Ligne directrice pour calculer la quantité des émissions de gaz à effet de serre.

(5) Les règles suivantes s'appliquent lorsque les méthodes de quantification normalisées à l'égard de l'importation d'électricité comprennent un choix de méthodes de calcul :

1. La personne choisit l'une des méthodes de calcul et l'utilise pour toutes les déterminations subséquentes des quantités, à moins que le directeur ne consente par écrit à l'utilisation d'une autre méthode.
2. Si le directeur consent à l'utilisation d'une autre méthode, la personne utilise cette autre méthode pour toutes les déterminations subséquentes des quantités, à moins que le directeur ne consente par écrit à l'utilisation d'une autre méthode.

(6) Toutes les quantités d'émissions de gaz à effet de serre calculées sont exprimées en tonnes d'éq. CO<sub>2</sub>.

(7) Si la quantité des émissions de gaz à effet de serre à l'égard de l'importation d'électricité, lorsqu'elle est exprimée en tonnes, ne correspond pas à un nombre entier, ce nombre est arrondi à la tonne la plus proche.

(8) Le rapport contient tous les renseignements applicables énoncés à l'annexe 5.

(9) Le rapport à l'égard de l'importation d'électricité au cours d'une année doit être remis au directeur au plus tard le 1<sup>er</sup> juin de l'année suivante.

(10) La personne remet au directeur une déclaration de vérification rédigée conformément à l'article 18 et un rapport de vérification rédigé conformément à l'article 21 au plus tard le 1<sup>er</sup> septembre de l'année où le rapport vérifié devait être remis au directeur.

#### **Obligation continue de déclarer et de faire vérifier**

**11. (1)** La personne qui est tenue de remettre au directeur un rapport à l'égard de l'importation d'électricité pour une année remet au directeur un rapport à l'égard de l'activité pour chacune des années subséquentes, et ce, au plus tard le 1<sup>er</sup> juin de l'année qui suit l'année subséquente.

(2) Sous réserve du paragraphe (3), l'obligation prévue au paragraphe (1) de remettre des rapports pour les années subséquentes cesse de s'appliquer pour une année à une personne à l'égard de l'importation d'électricité si cette dernière s'est conformée aux exigences applicables du présent règlement ou du Règlement de l'Ontario 143/16, selon le cas, pour les trois années consécutives précédant l'année considérée et que la quantité des émissions de gaz à effet de serre associées à l'activité a été de zéro tonne d'éq. CO<sub>2</sub> pour chacune de ces années.

(3) Le paragraphe (2) cesse de s'appliquer à la personne si, pour n'importe quelle année après son application, la quantité des émissions de gaz à effet de serre associées à l'activité est supérieure à zéro tonne d'éq. CO<sub>2</sub>.

(4) L'obligation prévue au paragraphe (1) de remettre des rapports pour les années subséquentes cesse de s'appliquer à une personne à l'égard de l'importation d'électricité si cette dernière cesse de se livrer à cette activité de façon permanente et que les conditions suivantes sont réunies :

- a) la personne avise le directeur que l'activité a cessé de façon permanente;
- b) la personne remet au directeur un rapport à l'égard de la dernière année où l'activité a été exercée;
- c) la personne fait vérifier le rapport visé à l'alinéa b) par un organisme de vérification accrédité conformément au présent règlement et remet au directeur une déclaration de vérification conformément à l'article 18 et un rapport de vérification conformément à l'article 21.

(5) Le rapport contient tous les renseignements applicables énoncés à l'annexe 5.

(6) Le rapport à l'égard de l'importation d'électricité au cours d'une année doit être remis au directeur au plus tard le 1<sup>er</sup> juin de l'année suivante.

(7) La personne remet au directeur une déclaration de vérification rédigée conformément à l'article 18 et un rapport de vérification rédigé conformément à l'article 21 au plus tard le 1<sup>er</sup> septembre de l'année où le rapport vérifié devait être remis au directeur.

#### **9. Les paragraphes 14 (4) et (5) du Règlement sont abrogés et remplacés par ce qui suit :**

(4) Si la personne est tenue de remettre au directeur un rapport à l'égard de l'importation d'électricité, celui-ci ne doit pas être combiné avec un rapport à l'égard d'une activité émettrice de GES précisée qui est exercée dans une installation.

#### **10. (1) Le paragraphe 15 (2) du Règlement est abrogé et remplacé par ce qui suit :**

(2) Pour l'application du paragraphe (1), la quantité pertinente est la quantité de vérification à l'égard des activités émettrices de GES précisées ou la quantité d'émissions de gaz à effet de serre associées à l'importation d'électricité, selon le cas.

#### **(2) Le paragraphe 15 (10) du Règlement est abrogé.**

**11. (1) Le paragraphe 16 (4) du Règlement est modifié par suppression de «de la distribution de gaz naturel ou de la fourniture de produits pétroliers,» dans le passage qui précède l'alinéa a).**

**(2) Le paragraphe 16 (5) du Règlement est modifié par insertion de «, tels que ces articles existaient immédiatement avant le jour de l'entrée en vigueur de l'article 8 du Règlement de l'Ontario 77/19 pris en vertu de la Loi,» après «l'article 10 ou 13».**

**12. (1) La disposition 3 du paragraphe 17 (2) du Règlement est abrogée et remplacée par ce qui suit :**

3. Si le rapport a été remis au directeur relativement à l'importation d'électricité :

- i. l'organisme de vérification accrédité a fourni à la personne qui fait vérifier le rapport des services de conseil concernant les gaz à effet de serre au cours des trois années précédentes et le risque de partialité de l'organisme qui en résulte ne peut pas être géré efficacement par un plan d'atténuation auquel le directeur a consenti par écrit,
- ii. l'organisme de vérification accrédité a vérifié six rapports consécutifs rédigés par la personne qui fait vérifier le rapport, sauf si trois années ou plus se sont écoulées depuis la dernière vérification.

**(2) Le paragraphe 17 (5) du Règlement est modifié par insertion de «, tels que ces articles existaient immédiatement avant le jour de l'entrée en vigueur de l'article 8 du Règlement de l'Ontario 77/19 pris en vertu de la Loi,» après «l'article 10 ou 13».**

**13. Le paragraphe 18 (3) du Règlement est abrogé.**

**14. (1) Le point 1 du tableau du paragraphe 19 (1) du Règlement est modifié par suppression de «ou, s'il a été remis au directeur avant le jour de l'entrée en vigueur du présent article, il a été rédigé conformément au Règlement de l'Ontario 143/16» dans la colonne 2.**

**(2) Le point 2 du tableau du paragraphe 19 (1) du Règlement est modifié par suppression de «ou, s'il a été remis au directeur avant le jour de l'entrée en vigueur du présent article, il a été rédigé pour l'essentiel conformément au Règlement de l'Ontario 143/16» dans la colonne 2.**

**(3) Le point 3 du tableau du paragraphe 19 (1) du Règlement est modifié par suppression de «ou, s'il a été remis au directeur avant le jour de l'entrée en vigueur du présent article, il n'a pas été rédigé pour l'essentiel conformément au Règlement de l'Ontario 143/16» dans la colonne 2.**

**(4) Les dispositions 2 et 3 du paragraphe 19 (2) du Règlement sont abrogées et remplacées par ce qui suit :**

2. La quantité d'émissions de gaz à effet de serre associées à l'importation d'électricité, si le rapport portait sur cette activité.

**15. (1) Le paragraphe 20 (1) du Règlement est modifié par suppression de «Sous réserve du paragraphe (3),» au début du paragraphe.**

**(2) Le point 1 du tableau du paragraphe 20 (1) du Règlement est modifié par suppression de «ou, s'il a été remis au directeur avant le jour de l'entrée en vigueur du présent article, il a été rédigé conformément au Règlement de l'Ontario 143/16» dans la colonne 2.**

**(3) Le point 2 du tableau du paragraphe 20 (1) du Règlement est modifié par suppression de «ou, s'il a été remis au directeur avant le jour de l'entrée en vigueur du présent article, il a été rédigé pour l'essentiel conformément au Règlement de l'Ontario 143/16» dans la colonne 2.**

**(4) Le point 3 du tableau du paragraphe 20 (1) du Règlement est modifié par suppression de «ou, s'il a été remis au directeur avant le jour de l'entrée en vigueur du présent article, il n'a pas été rédigé pour l'essentiel conformément au Règlement de l'Ontario 143/16» dans la colonne 2.**

**(5) Le paragraphe 20 (3) du Règlement est abrogé.**

**16. (1) La disposition 3 du paragraphe 21 (1) du Règlement est modifiée par remplacement de «à la distribution de gaz naturel ou à la fourniture de produits pétroliers, si le rapport porte sur l'une de ces activités» par «si le rapport porte sur cette activité» à la fin de la disposition.**

**(2) La disposition 13 du paragraphe 21 (1) du Règlement est abrogée.**

**17. L'article 25 du Règlement est modifié par suppression de «ou à l'égard de la distribution de gaz naturel».**

**18. L'annexe 1 du Règlement est abrogée et remplacée par ce qui suit :**

ANNEXE 1  
GAZ À EFFET DE SERRE ET POTENTIEL DE RÉCHAUFFEMENT PLANÉTAIRE

| Point | Colonne 1<br>Nom commun du gaz à<br>effet de serre | Colonne 2<br>Formule<br>chimique              | Colonne 3<br>Dénomination chimique        | Colonne 4<br>Numéro de<br>registre CAS | Colonne 5<br>Potentiel de<br>réchauffement<br>planétaire,<br>année 2018 | Colonne 6<br>Potentiel de<br>réchauffement<br>planétaire,<br>année 2019 et<br>années<br>subséquentes |
|-------|----------------------------------------------------|-----------------------------------------------|-------------------------------------------|----------------------------------------|-------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| 1.    | Dioxyde de carbone                                 | CO <sub>2</sub>                               | Dioxyde de carbone                        | 124-38-9                               | 1                                                                       | 1                                                                                                    |
| 2.    | Méthane                                            | CH <sub>4</sub>                               | Méthane                                   | 74-82-8                                | 21                                                                      | 25                                                                                                   |
| 3.    | Oxyde nitreux                                      | N <sub>2</sub> O                              | Oxyde nitreux                             | 10024-97-2                             | 310                                                                     | 298                                                                                                  |
| 4.    | Hexafluorure de soufre                             | SF <sub>6</sub>                               | Hexafluorure de soufre                    | 2551-62-4                              | 23 900                                                                  | 22 800                                                                                               |
| 5.    | Trifluorure d'azote                                | NF <sub>3</sub>                               | Trifluorure d'azote                       | 7783-54-2                              | 17 200                                                                  | 17 200                                                                                               |
| 6.    | HFC-23                                             | CHF <sub>3</sub>                              | Trifluorométhane                          | 75-46-7                                | 11 700                                                                  | 14 800                                                                                               |
| 7.    | HFC-32                                             | CH <sub>2</sub> F <sub>2</sub>                | Difluorométhane                           | 75-10-5                                | 650                                                                     | 675                                                                                                  |
| 8.    | HFC-41                                             | CH <sub>3</sub> F                             | Fluorométhane                             | 593-53-3                               | 150                                                                     | 92                                                                                                   |
| 9.    | HFC-43-10mee                                       | C <sub>5</sub> H <sub>2</sub> F <sub>10</sub> | 1,1,1,2,3,4,4,5,5,5-<br>décafluoropentane | 138495-42-8                            | 1 300                                                                   | 1 640                                                                                                |
| 10.   | HFC-125                                            | C <sub>2</sub> HF <sub>5</sub>                | Pentafluoroéthane                         | 354-33-6                               | 2 800                                                                   | 3 500                                                                                                |
| 11.   | HFC-134                                            | C <sub>2</sub> H <sub>2</sub> F <sub>4</sub>  | 1,1,2,2-tétrafluoroéthane                 | 359-35-3                               | 1 000                                                                   | 1 100                                                                                                |
| 12.   | HFC-134a                                           | C <sub>2</sub> H <sub>2</sub> F <sub>4</sub>  | 1,1,1,2-tétrafluoroéthane                 | 811-97-2                               | 1 300                                                                   | 1 430                                                                                                |
| 13.   | HFC-143                                            | C <sub>2</sub> H <sub>3</sub> F <sub>3</sub>  | 1,1,2-trifluoroéthane                     | 430-66-0                               | 300                                                                     | 353                                                                                                  |
| 14.   | HFC-143a                                           | C <sub>2</sub> H <sub>3</sub> F <sub>3</sub>  | 1,1,1-trifluoroéthane                     | 420-46-2                               | 3 800                                                                   | 4 470                                                                                                |
| 15.   | HFC-152                                            | C <sub>2</sub> H <sub>4</sub> F <sub>2</sub>  | 1,2-difluoroéthane                        | 624-72-6                               | 43                                                                      | 53                                                                                                   |
| 16.   | HFC-152a                                           | C <sub>2</sub> H <sub>4</sub> F <sub>2</sub>  | 1,1-difluoroéthane                        | 75-37-6                                | 140                                                                     | 124                                                                                                  |
| 17.   | HFC-161                                            | C <sub>2</sub> H <sub>5</sub> F               | Fluoroéthane                              | 353-36-6                               | 12                                                                      | 12                                                                                                   |
| 18.   | HFC-227ea                                          | C <sub>3</sub> HF <sub>7</sub>                | 1,1,1,2,3,3,3-heptafluoropropane          | 431-89-0                               | 2 900                                                                   | 3 220                                                                                                |
| 19.   | HFC-236cb                                          | C <sub>3</sub> H <sub>2</sub> F <sub>6</sub>  | 1,1,1,2,2,3-hexafluoropropane             | 677-565                                | 1 300                                                                   | 1 340                                                                                                |
| 20.   | HFC-236ea                                          | C <sub>3</sub> H <sub>2</sub> F <sub>6</sub>  | 1,1,1,2,3,3-hexafluoropropane             | 431-63-0                               | 1 200                                                                   | 1 370                                                                                                |
| 21.   | HFC-236fa                                          | C <sub>3</sub> H <sub>2</sub> F <sub>6</sub>  | 1,1,1,3,3,3-hexafluoropropane             | 690-39-1                               | 6 300                                                                   | 9 810                                                                                                |
| 22.   | HFC-245ca                                          | C <sub>3</sub> H <sub>3</sub> F <sub>5</sub>  | 1,1,2,2,3-pentafluoropropane              | 679-86-7                               | 560                                                                     | 693                                                                                                  |
| 23.   | HFC-245fa                                          | C <sub>3</sub> H <sub>3</sub> F <sub>5</sub>  | 1,1,1,3,3-pentafluoropropane              | 460-73-1                               | 950                                                                     | 1 030                                                                                                |
| 24.   | HFC-365mfc                                         | C <sub>4</sub> H <sub>5</sub> F <sub>5</sub>  | 1,1,1,3,3-pentafluorobutane               | 406-58-6                               | 890                                                                     | 794                                                                                                  |
| 25.   | Perfluorométhane                                   | CF <sub>4</sub>                               | Tétrafluorométhane                        | 75-73-0                                | 6 500                                                                   | 7 390                                                                                                |
| 26.   | Perfluoroéthane                                    | C <sub>2</sub> F <sub>6</sub>                 | Hexafluoroéthane                          | 76-16-4                                | 9 200                                                                   | 12 200                                                                                               |
| 27.   | Perfluoropropane                                   | C <sub>3</sub> F <sub>8</sub>                 | Octafluoropropane                         | 76-19-7                                | 7 000                                                                   | 8 830                                                                                                |
| 28.   | Perfluorobutane                                    | C <sub>4</sub> F <sub>10</sub>                | Décafluorobutane                          | 355-25-9                               | 7 000                                                                   | 8 860                                                                                                |
| 29.   | Perfluorocyclobutane                               | c-C <sub>4</sub> F <sub>8</sub>               | Octafluorocyclobutane                     | 115-25-3                               | 8 700                                                                   | 10 300                                                                                               |
| 30.   | Perfluoropentane                                   | C <sub>5</sub> F <sub>12</sub>                | Dodécafluoropentane                       | 678-26-2                               | 7 500                                                                   | 9 160                                                                                                |
| 31.   | Perfluorohexane                                    | C <sub>6</sub> F <sub>14</sub>                | Tétradécafluorohexane                     | 355-42-0                               | 7 400                                                                   | 9 300                                                                                                |
| 32.   | Perfluorodécane                                    | C <sub>10</sub> F <sub>18</sub>               | Octadécafluorodécane                      | 306-94-5                               | s. o.                                                                   | 7 500                                                                                                |
| 33.   | Perfluorocyclopropane                              | c-C <sub>3</sub> F <sub>6</sub>               | Hexafluorocyclopropane                    | 931-91-9                               | s. o.                                                                   | 17 340                                                                                               |

19. (1) L'article 10 de l'annexe 5 du Règlement est modifié par suppression de «la distribution de gaz naturel ou la fourniture de produits pétroliers,» dans le passage qui précède la sous-disposition i.

(2) L'article 11 de l'annexe 5 du Règlement est abrogé.

20. L'annexe 6 du Règlement est abrogée.

Entrée en vigueur

21. Le présent règlement entre en vigueur le jour de son dépôt.

**ONTARIO REGULATION 78/19**

made under the

**CHILD, YOUTH AND FAMILY SERVICES ACT, 2017**

Made: April 9, 2019

Filed: April 30, 2019

Published on e-Laws: April 30, 2019

Printed in *The Ontario Gazette*: May 18, 2019

Amending O. Reg. 156/18

(GENERAL MATTERS UNDER THE AUTHORITY OF THE MINISTER)

1. Section 56 of Ontario Regulation 156/18 is amended by striking out “2018/03” and substituting “2019/04”.

**Commencement**

2. This Regulation comes into force on the later of May 1, 2019 and the day it is filed.

Made by:

Pris par :

*La ministre des Services à l'enfance et des Services sociaux et communautaires,*

LISA MACLEOD

*Minister of Children, Community and Social Services*

Date made: April 9, 2019

Pris le : 9 avril 2019

20/19

**RÈGLEMENT DE L'ONTARIO 78/19**

pris en vertu de la

**LOI DE 2017 SUR LES SERVICES À L'ENFANCE, À LA JEUNESSE ET À LA FAMILLE**

pris le 9 avril 2019

déposé le 30 avril 2019

publié sur le site Lois-en-ligne le 30 avril 2019

imprimé dans la *Gazette de l'Ontario* le 18 mai 2019

modifiant le Règl. de l'Ont. 156/18

(QUESTIONS GÉNÉRALES RELEVANT DE LA COMPÉTENCE DU MINISTRE)

1. L'article 56 du Règlement de l'Ontario 156/18 est modifié par remplacement de «2018/03» par «2019/04».

Entrée en vigueur

2. Le présent règlement entre en vigueur le dernier en date du 1<sup>er</sup> mai 2019 et du jour de son dépôt.

Made by:

Pris par :

*La ministre des Services à l'enfance et des Services sociaux et communautaires,*

LISA MACLEOD

*Minister of Children, Community and Social Services*

Date made: April 9, 2019

Pris le : 9 avril 2019

20/19

**ONTARIO REGULATION 79/19**

made under the

**CHILD, YOUTH AND FAMILY SERVICES ACT, 2017**

Made: April 18, 2019

Filed: April 30, 2019

Published on e-Laws: April 30, 2019

Printed in *The Ontario Gazette*: May 18, 2019

Amending O. Reg. 155/18

(GENERAL MATTERS UNDER THE AUTHORITY OF THE LIEUTENANT GOVERNOR IN COUNCIL)

1. Subsection 4 (5) of Ontario Regulation 155/18 is amended by adding “and” at the end of clause (a), by striking out “and” at the end of clause (b) and by revoking clause (c).
2. Clause 23 (2) (d) of the Regulation is revoked.

**Commencement**

3. This Regulation comes into force on the later of May 1, 2019 and the day it is filed.

20/19

**RÈGLEMENT DE L'ONTARIO 79/19**

pris en vertu de la

**LOI DE 2017 SUR LES SERVICES À L'ENFANCE, À LA JEUNESSE ET À LA FAMILLE**

pris le 18 avril 2019

déposé le 30 avril 2019

publié sur le site Lois-en-ligne le 30 avril 2019

imprimé dans la *Gazette de l'Ontario* le 18 mai 2019

modifiant le Règl. de l'Ont. 155/18

(QUESTIONS GÉNÉRALES RELEVANT DE LA COMPÉTENCE DU LIEUTENANT-GOUVERNEUR EN CONSEIL)

1. Le paragraphe 4 (5) du Règlement de l'Ontario 155/18 est modifié par abrogation de l'alinéa c).
2. L'alinéa 23 (2) d) du Règlement est abrogé.

**Entrée en vigueur**

3. Le présent règlement entre en vigueur le dernier en date du 1<sup>er</sup> mai 2019 et du jour de son dépôt.

20/19

**ONTARIO REGULATION 80/19**

made under the

**OMBUDSMAN ACT**

Made: April 18, 2019

Filed: April 30, 2019

Published on e-Laws: April 30, 2019

Printed in *The Ontario Gazette*: May 18, 2019**MATTERS RELATED TO FUNCTIONS UNDER SUBSECTION 14 (1.1)****Provision of information**

1. (1) A children's aid society or a residential licensee shall inform the Ombudsman in writing and without unreasonable delay if the society or licensee learns of the death of or serious bodily harm to a child or a young person who had sought or received a children's aid society service within 12 months before the death or the day on which the harm occurred.

(2) In informing the Ombudsman the children's aid society or residential licensee shall provide a summary of the circumstances surrounding the death or serious bodily harm.

(3) A children's aid society or a residential licensee that is required to inform the Ombudsman about the death of or serious bodily harm to a child under subsection (1) shall also inform any person with lawful custody of or a lawful right of access to the child about the Ombudsman and provide to the person the Ombudsman's contact information.

(4) A children's aid society or a residential licensee that is required to inform the Ombudsman about serious bodily harm to a child or a young person under subsection (1) shall also inform the child or young person about the Ombudsman and provide to the child or young person the Ombudsman's contact information.

**Commencement**

2. This Regulation comes into force on the later of the day section 12 of Schedule 28 to the *Restoring Trust, Transparency and Accountability Act, 2018* comes into force and the day this Regulation is filed.

20/19

**RÈGLEMENT DE L'ONTARIO 80/19**

pris en vertu de la

**LOI SUR L'OMBUDSMAN**

pris le 18 avril 2019

déposé le 30 avril 2019

publié sur le site Lois-en-ligne le 30 avril 2019

imprimé dans la *Gazette de l'Ontario* le 18 mai 2019**QUESTIONS LIÉES AUX FONCTIONS PRÉVUES AU PARAGRAPHE 14 (1.1)****Fourniture de renseignements**

1. (1) La société d'aide à l'enfance ou le titulaire de permis d'un foyer informe l'ombudsman par écrit et sans délai déraisonnable si elle ou il apprend qu'un enfant ou un adolescent est décédé ou a subi des lésions corporelles graves dans le cas où cet enfant ou cet adolescent a sollicité ou reçu un service d'une société d'aide à l'enfance dans les 12 mois qui ont précédé soit son décès, soit le jour où les lésions ont été infligées.

(2) Lorsqu'elle ou il informe l'ombudsman, la société d'aide à l'enfance ou le titulaire de permis d'un foyer lui fournit un résumé des circonstances entourant le décès ou les lésions corporelles graves.

(3) La société d'aide à l'enfance ou le titulaire de permis d'un foyer qui est tenu, en application du paragraphe (1), d'informer l'ombudsman qu'un enfant est décédé ou a subi des lésions corporelles graves informe également toute personne qui a la garde légitime de l'enfant ou un droit de visite légitime à son égard de l'existence de l'ombudsman et lui fournit les coordonnées de ce dernier.

(4) La société d'aide à l'enfance ou le titulaire de permis d'un foyer qui est tenu, en application du paragraphe (1), d'informer l'ombudsman qu'un enfant ou un adolescent a subi des lésions corporelles graves informe également l'enfant ou l'adolescent de l'existence de l'ombudsman et lui fournit les coordonnées de ce dernier.

**Entrée en vigueur**

2. Le présent règlement entre en vigueur le dernier en date du jour de l'entrée en vigueur de l'article 12 de l'annexe 28 de la *Loi de 2018 visant à rétablir la confiance, la transparence et la responsabilité* et du jour de son dépôt.

20/19

**ONTARIO REGULATION 81/19**

made under the

**FUNERAL, BURIAL AND CREMATION SERVICES ACT, 2002**

Made: April 11, 2019

Filed: April 30, 2019

Published on e-Laws: April 30, 2019

Printed in *The Ontario Gazette*: May 18, 2019Amending O. Reg. 30/11  
(GENERAL)

**1. The definition of “consumer information guide” in subsection 112 (1) of Ontario Regulation 30/11 is revoked and the following substituted:**

“consumer information guide” means the guide that the registrar prepares and that sets out a consumer’s rights and obligations under the Act; (“guide de renseignements destinés aux consommateurs”)

**2. The Regulation is amended by adding the following section after the heading “Disclosure to Prospective Purchasers”:**

**Disclosure to public by registrar**

**112.1** Upon preparing the consumer information guide, the registrar shall make it available to the public by posting it in a printable form on the website used by the registrar for purposes of communicating information to the public.

**3. (1) Clause 113 (1) (a) of the Regulation is revoked and the following substituted:**

(a) a copy of the consumer information guide if the registrar has prepared the guide;

**(2) Subsection 113 (2) of the Regulation is revoked and the following substituted:**

(2) If an operator maintains or makes use of a website and enters into electronic contracts for the sale of licensed supplies and services through the website, the operator shall, subject to subsection (2.1), provide the items that subsection (1) requires the operator to ensure the prospective purchaser receives by,

(a) posting the items on the website in a printable form; or

(b) posting a link to the website where the registrar has posted the consumer information guide in accordance with section 112.1, in the case of the copy of the guide.

(2.1) If the prospective purchaser consents to receiving the copy of the consumer information guide in electronic form under clause (1) (a) and provides the operator with an electronic address for that purpose, the operator shall, for the purpose of that clause, send to that address an electronic copy of the guide or a link to the website where the registrar has posted the guide in accordance with section 112.1.

(2.2) If the prospective purchaser consents to receiving the link described in subsection (2.1) but does not provide the operator with an electronic address for that purpose, the operator shall, for the purpose of clause (1) (a), provide the prospective purchaser with a document in non-electronic form containing the link.

(2.3) If an operator posts items on a website in accordance with subsection (2), the prospective purchaser is deemed to have received the items at the time of posting.

(2.4) If an operator, in accordance with subsection (2.1), sends an item that subsection requires the operator to send, the prospective purchaser is deemed to have received the copy of the consumer information guide at the time the operator sends the item.

**Commencement**

**4. This Regulation comes into force on the later of July 1, 2019 and the day it is filed.**

20/19

**RÈGLEMENT DE L'ONTARIO 81/19**

pris en vertu de la

**LOI DE 2002 SUR LES SERVICES FUNÉRAIRES ET LES SERVICES D'ENTERREMENT  
ET DE CRÉMATION**

pris le 11 avril 2019  
déposé le 30 avril 2019  
publié sur le site Lois-en-ligne le 30 avril 2019  
imprimé dans la *Gazette de l'Ontario* le 18 mai 2019

modifiant le Règl. de l'Ont. 30/11  
(DISPOSITIONS GÉNÉRALES)

**1. La définition de «guide de renseignements destinés aux consommateurs» au paragraphe 112 (1) du Règlement de l'Ontario 30/11 est abrogée et remplacée par ce qui suit :**

«guide de renseignements destinés aux consommateurs» Le guide, rédigé par le registrateur, qui énonce les droits et obligations que la Loi confère ou impose aux consommateurs. («consumer information guide»)

**2. Le Règlement est modifié par adjonction de l'article suivant après l'intertitre «Divulgarion aux acquéreurs éventuels» :**

**Divulgarion au public par le registrateur**

**112.1** Après avoir rédigé le guide de renseignements destinés aux consommateurs, le registrateur le met à la disposition du public en l'affichant sous forme imprimable sur le site Internet qu'il utilise pour informer le public.

**3. (1) L'alinéa 113 (1) a) du Règlement est abrogé et remplacé par ce qui suit :**

a) un exemplaire du guide de renseignements destinés aux consommateurs, si le registrateur a rédigé le guide;

**(2) Le paragraphe 113 (2) du Règlement est abrogé et remplacé par ce qui suit :**

(2) L'exploitant qui a un site Internet ou en fait l'usage et qui, par le biais de ce site, conclut des contrats électroniques de vente de services ou de fournitures autorisés fournit, sous réserve du paragraphe (2.1), les éléments qu'il est tenu de veiller à ce que l'acquéreur éventuel reçoive conformément au paragraphe (1) :

a) en les affichant sur le site Internet sous forme imprimable;

b) dans le cas d'un exemplaire du guide de renseignements destinés aux consommateurs, en affichant un lien vers le site Internet sur lequel le registrateur a affiché le guide conformément à l'article 112.1.

(2.1) Si l'acquéreur éventuel consent à recevoir sous forme électronique l'exemplaire du guide de renseignements destinés aux consommateurs visé à l'alinéa (1) a) et qu'il fournit une adresse électronique à l'exploitant à cette fin, ce dernier envoie à cette adresse, pour l'application de cet alinéa, une copie électronique du guide ou un lien vers le site Internet sur lequel le registrateur a affiché le guide conformément à l'article 112.1.

(2.2) Si l'acquéreur éventuel consent à recevoir le lien visé au paragraphe (2.1), mais qu'il ne fournit pas d'adresse électronique à l'exploitant à cette fin, ce dernier fournit à l'acquéreur éventuel, pour l'application de l'alinéa (1) a), un document sous forme non électronique qui contient le lien.

(2.3) Si l'exploitant affiche des éléments sur un site Internet conformément au paragraphe (2), l'acquéreur éventuel est réputé les avoir reçus au moment de l'affichage.

(2.4) Si l'exploitant, conformément au paragraphe (2.1), envoie un élément qu'il est tenu d'envoyer en application de ce paragraphe, l'acquéreur éventuel est réputé avoir reçu l'exemplaire du guide de renseignements destinés aux consommateurs au moment de l'envoi.

**Entrée en vigueur**

**4. Le présent règlement entre en vigueur le dernier en date du 1<sup>er</sup> juillet 2019 et du jour de son dépôt.**

**ONTARIO REGULATION 82/19**  
made under the  
**PUBLIC SERVICE OF ONTARIO ACT, 2006**

Made: April 18, 2019  
Filed: May 1, 2019  
Published on e-Laws: May 1, 2019  
Printed in *The Ontario Gazette*: May 18, 2019

Amending O. Reg. 381/07  
(CONFLICT OF INTEREST RULES FOR PUBLIC SERVANTS (MINISTRY) AND FORMER PUBLIC SERVANTS  
(MINISTRY))

1. (1) Subsection 11 (1) of Ontario Regulation 381/07 is amended by striking out “Conflict of Interest Commissioner” in the portion before paragraph 1 and substituting “Integrity Commissioner”.

(2) Paragraph 1 of subsection 11 (2) of the Regulation is amended by striking out “Regulation” at the end and substituting “section”.

(3) Subsection 11 (5) of the Regulation is amended by striking out “Conflict of Interest Commissioner” and substituting “Integrity Commissioner”.

**Commencement**

2. This Regulation comes into force on later of the day section 2 of Schedule 35 to the *Restoring Trust, Transparency and Accountability Act, 2018* comes into force and the day this Regulation is filed.

20/19

**RÈGLEMENT DE L'ONTARIO 82/19**

pris en vertu de la

**LOI DE 2006 SUR LA FONCTION PUBLIQUE DE L'ONTARIO**

pris le 18 avril 2019  
déposé le 1<sup>er</sup> mai 2019  
publié sur le site Lois-en-ligne le 1<sup>er</sup> mai 2019  
imprimé dans la *Gazette de l'Ontario* le 18 mai 2019

modifiant le Règl. de l'Ont. 381/07  
(RÈGLES RELATIVES AUX CONFLITS D'INTÉRÊTS VISANT LES FONCTIONNAIRES ACTUELS ET ANCIENS  
DES MINISTÈRES)

1. (1) Le paragraphe 11 (1) du Règlement de l'Ontario 381/07 est modifié par remplacement de «commissaire aux conflits d'intérêts» par «commissaire à l'intégrité» dans le passage qui précède la disposition 1.

(2) La disposition 1 du paragraphe 11 (2) du Règlement est modifiée par remplacement de «règlement» par «article» à la fin de la disposition.

(3) Le paragraphe 11 (5) du Règlement est modifié par remplacement de «commissaire aux conflits d'intérêts» par «commissaire à l'intégrité».

**Entrée en vigueur**

2. Le présent règlement entre en vigueur le dernier en date du jour de l'entrée en vigueur de l'article 2 de l'annexe 35 de la *Loi de 2018 visant à rétablir la confiance, la transparence et la responsabilité* et du jour du dépôt du présent règlement.

20/19

**ONTARIO REGULATION 83/19**

made under the

**PUBLIC SERVICE OF ONTARIO ACT, 2006**

Made: April 18, 2019

Filed: May 1, 2019

Published on e-Laws: May 1, 2019

Printed in *The Ontario Gazette*: May 18, 2019

Amending O. Reg. 384/07

(CONFLICT OF INTEREST COMMISSIONER: POWERS, DUTIES AND FUNCTIONS)

**1. The title to Ontario Regulation 384/07 is revoked and the following substituted:****INTEGRITY COMMISSIONER: POWERS, DUTIES AND FUNCTIONS UNDER THE ACT****2. (1) Section 1 of the Regulation is amended by striking out the portion before paragraph 1 and substituting “The Integrity Commissioner has the following additional powers, duties and functions:”.****(2) Section 1 of the Regulation is amended by adding the following paragraph:**

6. To educate and train ethics executives about their responsibilities under the Act.

**3. Subsection 2 (1) of the Regulation is amended by striking out “Conflict of Interest Commissioner” and substituting “Integrity Commissioner”.****4. Subsection 3 (1) of the Regulation is amended by striking out “Conflict of Interest Commissioner” and substituting “Integrity Commissioner”.****Commencement****5. This Regulation comes into force on the later of the day section 2 of Schedule 35 to the *Restoring Trust, Transparency and Accountability Act, 2018* comes into force and the day this Regulation is filed.**

20/19

**RÈGLEMENT DE L'ONTARIO 83/19**

pris en vertu de la

**LOI DE 2006 SUR LA FONCTION PUBLIQUE DE L'ONTARIO**

pris le 18 avril 2019  
déposé le 1<sup>er</sup> mai 2019  
publié sur le site Lois-en-ligne le 1<sup>er</sup> mai 2019  
imprimé dans la *Gazette de l'Ontario* le 18 mai 2019

modifiant le Règl. de l'Ont. 384/07  
(COMMISSAIRE AUX CONFLITS D'INTÉRÊTS : POUVOIRS ET FONCTIONS)

**1. Le titre du Règlement de l'Ontario 384/07 est abrogé et remplacé par ce qui suit :**

**COMMISSAIRE À L'INTÉGRITÉ : POUVOIRS ET FONCTIONS ATTRIBUÉS PAR LA LOI**

**2. (1) L'article 1 du Règlement est modifié par remplacement du passage qui précède la disposition 1 par « Le commissaire à l'intégrité a les pouvoirs et fonctions additionnels suivants :».**

**(2) L'article 1 du Règlement est modifié par adjonction de la disposition suivante :**

6. Éduquer et former les responsables de l'éthique au sujet des responsabilités que leur impose la Loi.

**3. Le paragraphe 2 (1) du Règlement est modifié par remplacement de «commissaire aux conflits d'intérêts» par «commissaire à l'intégrité».**

**4. Le paragraphe 3 (1) du Règlement est modifié par remplacement de «commissaire aux conflits d'intérêts» par «commissaire à l'intégrité».**

Entrée en vigueur

**5. Le présent règlement entre en vigueur le dernier en date du jour de l'entrée en vigueur de l'article 2 de l'annexe 35 de la *Loi de 2018 visant à rétablir la confiance, la transparence et la responsabilité* et du jour du dépôt du présent règlement.**

20/19

**ONTARIO REGULATION 84/19**

made under the

**PUBLIC SERVICE OF ONTARIO ACT, 2006**

Made: April 18, 2019

Filed: May 1, 2019

Published on e-Laws: May 1, 2019

Printed in *The Ontario Gazette*: May 18, 2019

Amending O. Reg. 377/07

(POLITICAL ACTIVITY: SPECIALLY RESTRICTED PUBLIC SERVANTS)

1. Paragraph 22 of Schedule 1 to Ontario Regulation 377/07 is revoked.

**Commencement**

2. This Regulation comes into force on the later of the day section 3 to Schedule 16 of the *Stronger, Fairer Ontario Act (Budget Measures), 2017* comes into force and the day this Regulation is filed.

20/19

**RÈGLEMENT DE L'ONTARIO 84/19**

pris en vertu de la

**LOI DE 2006 SUR LA FONCTION PUBLIQUE DE L'ONTARIO**

pris le 18 avril 2019

déposé le 1<sup>er</sup> mai 2019publié sur le site Lois-en-ligne le 1<sup>er</sup> mai 2019imprimé dans la *Gazette de l'Ontario* le 18 mai 2019

modifiant le Règl. de l'Ont. 377/07

(ACTIVITÉS POLITIQUES : FONCTIONNAIRES FAISANT L'OBJET DE RESTRICTIONS PARTICULIÈRES)

1. La disposition 22 de l'annexe 1 du Règlement de l'Ontario 377/07 est abrogée.

**Entrée en vigueur**

2. Le présent règlement entre en vigueur le dernier en date du jour de l'entrée en vigueur de l'article 3 de l'annexe 16 de la *Loi de 2017 pour un Ontario plus fort et plus juste (mesures budgétaires)* et du jour du dépôt du présent règlement.

20/19

**ONTARIO REGULATION 85/19**

made under the

**PLACES TO GROW ACT, 2005**

Made: May 1, 2019

Filed: May 2, 2019

Published on e-Laws: May 2, 2019

Printed in *The Ontario Gazette*: May 18, 2019

Amending O. Reg. 311/06

(TRANSITIONAL MATTERS - GROWTH PLANS)

**1. (1) The definition of “2006 Growth Plan” in section 2.0.1 of Ontario Regulation 311/06 is amended by striking out “on May 16, 2017” at the end and substituting “effective July 1, 2017”.**

**(2) The definition of “2017 Growth Plan” in section 2.0.1 of the Regulation is amended by adding “and that was revoked under subsection 7 (7) of the Act effective May 16, 2019” at the end.**

**(3) Section 2.0.1 of the Regulation is amended by adding the following definition:**

“2019 Growth Plan” means the Growth Plan for the Greater Golden Horseshoe 2019 that was approved under subsection 7 (6) of the Act on May 1, 2019 and came into effect on May 16, 2019. (“Plan de croissance de 2019”)

**2. Section 2.1 of the Regulation is revoked and the following substituted:**

**Application of ss. 3 and 3.1**

**2.1 (1)** Where section 3 requires a matter to be continued and disposed of in accordance with the Plan, the requirement shall be read as a requirement that the matter be continued and disposed of in accordance with the 2019 Growth Plan, except as otherwise provided.

(2) Where section 3 requires a matter to be continued and disposed of in accordance with the Plan and the matter was commenced before May 16, 2019, the requirement shall be read as a requirement that the matter be continued and disposed of in accordance with the 2017 Growth Plan as it read before its revocation if, on May 16, 2019, the Local Planning Appeal Tribunal or a joint board has completed its hearing of the matter but reserved its final decision.

(3) Where section 3 or 3.1 requires that a matter be continued and disposed of as if the Plan had not come into effect, the requirement shall be read as a requirement that the matter be continued and disposed of as if the 2006 Growth Plan, the 2017 Growth Plan and the 2019 Growth Plan had not come into effect.

**3. (1) Subsections 3 (1) and (1.1) of the Regulation are amended by striking out “On or after July 1, 2018” at the beginning.**

**(2) Subsection 3 (5) of the Regulation is amended by striking out “subsections (6) to (8)” and substituting “subsection (6)”.**

**(3) Subsections 3 (7) and (8) of the Regulation are revoked.**

**Commencement**

**4. This Regulation comes into force on the later of May 16, 2019 and the day it is filed.**

Made by:

Pris par :

*Le ministre des Affaires municipales et du Logement,*

STEVE CLARK  
*Minister of Municipal Affairs and Housing*

Date made: May 1, 2019

Pris le : 1<sup>er</sup> mai 2019

**RÈGLEMENT DE L'ONTARIO 85/19**

pris en vertu de la

**LOI DE 2005 SUR LES ZONES DE CROISSANCE**

pris le 1<sup>er</sup> mai 2019  
déposé le 2 mai 2019  
publié sur le site Lois-en-ligne le 2 mai 2019  
imprimé dans la *Gazette de l'Ontario* le 18 mai 2019

modifiant le Règl. de l'Ont. 311/06  
(QUESTIONS TRANSITOIRES - PLANS DE CROISSANCE)

**1. (1) La définition de «Plan de croissance de 2006» à l'article 2.0.1 du Règlement de l'Ontario 311/06 est modifiée par remplacement de «a été révoqué en vertu du paragraphe 7 (7) de la Loi le 16 mai 2017» par «dont la révocation en vertu du paragraphe 7 (7) de la Loi a pris effet le 1<sup>er</sup> juillet 2017» à la fin de la définition.**

**(2) La définition de «Plan de croissance de 2017» à l'article 2.0.1 du Règlement est modifiée par remplacement de «et qui est entré en vigueur le 1<sup>er</sup> juillet 2017» par «, est entré en vigueur le 1<sup>er</sup> juillet 2017 et dont la révocation en vertu du paragraphe 7 (7) de la Loi a pris effet le 16 mai 2019» à la fin de la définition.**

**(3) L'article 2.0.1 du Règlement est modifié par adjonction de la définition suivante :**

«Plan de croissance de 2019» Le Plan de croissance de la région élargie du Golden Horseshoe, 2019 qui a été approuvé en vertu du paragraphe 7 (6) de la Loi le 1<sup>er</sup> mai 2019 et qui est entré en vigueur le 16 mai 2019. («2019 Growth Plan»)

**2. L'article 2.1 du Règlement est abrogé et remplacé par ce qui suit :**

**Application des art. 3 et 3.1**

**2.1 (1)** Lorsque l'article 3 exige qu'une affaire soit poursuivie et décidée conformément au Plan, cette exigence s'interprète comme l'exigence voulant que l'affaire soit poursuivie et décidée conformément au Plan de croissance de 2019, sauf disposition contraire.

(2) Lorsque l'article 3 exige qu'une affaire soit poursuivie et décidée conformément au Plan et que l'affaire a été introduite avant le 16 mai 2019, cette exigence s'interprète comme l'exigence voulant que l'affaire soit poursuivie et décidée conformément au Plan de croissance de 2017 dans sa version antérieure à son abrogation si, le 16 mai 2019, le Tribunal d'appel de l'aménagement local ou une commission mixte a terminé ses audiences la concernant mais a différé sa décision définitive.

(3) Lorsque l'article 3 ou 3.1 exige qu'une affaire soit poursuivie et décidée comme si le Plan n'était pas entré en vigueur, cette exigence s'interprète comme l'exigence voulant que l'affaire soit poursuivie et décidée comme si le Plan de croissance de 2006, le Plan de croissance de 2017 et le Plan de croissance de 2019 n'étaient pas entrés en vigueur.

**3. (1) Les paragraphes 3 (1) et (1.1) du Règlement sont modifiés par suppression de «À compter du 1<sup>er</sup> juillet 2018» au début des paragraphes.**

**(2) Le paragraphe 3 (5) du Règlement est modifié par remplacement de «des paragraphes (6) à (8)» par «du paragraphe (6)».**

**(3) Les paragraphes 3 (7) et (8) du Règlement sont abrogés.**

**Entrée en vigueur**

**4. Le présent règlement entre en vigueur le dernier en date du 16 mai 2019 et du jour de son dépôt.**

Made by:  
Pris par :

*Le ministre des Affaires municipales et du Logement,*

STEVE CLARK  
*Minister of Municipal Affairs and Housing*

Date made: May 1, 2019  
Pris le : 1<sup>er</sup> mai 2019

20/19

**ONTARIO REGULATION 86/19**

made under the

**PLANNING ACT**

Made: May 1, 2019

Filed: May 2, 2019

Published on e-Laws: May 2, 2019

Printed in *The Ontario Gazette*: May 18, 2019

Amending O. Reg. 525/97

(EXEMPTION FROM APPROVAL (OFFICIAL PLAN AMENDMENTS))

**Preamble**

Under subsection 17 (9) of the Act, the Minister of Municipal Affairs and Housing exempted from ministerial approval under section 17 of the Act all amendments to the official plan of a municipality listed in the Schedule to Ontario Regulation 525/97 that were adopted by the council of the municipality on or after a specified date.

Under subsection 17 (12) of the Act, the Minister may by order, accompanied by a written explanation for it, remove any exemption made under subsection 17 (9) of the Act.

The Growth Plan for the Greater Golden Horseshoe, 2017 provided for the identification and protection of a Natural Heritage System and an Agricultural System, the provincial mapping of which could be refined by upper-tier and single-tier municipalities as part of implementing the Systems through a municipal comprehensive review.

The new Growth Plan for the Greater Golden Horseshoe 2019 now also allows upper-tier and single-tier municipalities the flexibility to refine the provincial mapping of the Natural Heritage System and the Agricultural System as part of implementing the Systems through official plan amendments, before the next municipal comprehensive reviews.

A municipal comprehensive review must be adopted in accordance with section 26 of the Act. An official plan amendment adopted in accordance with section 26 of the Act cannot be exempted from ministerial approval under subsection 17 (9) of the Act.

The Minister considers it desirable that official plan amendments that implement the provincial mapping of the Natural Heritage System and the Agricultural System continue to be approved by the Minister in all circumstances.

Therefore, the Minister orders as follows:

**1. Subsections 1 (1) and (2) of Ontario Regulation 525/97 are revoked and the following substituted:****Exemption from approval**

(1) Subject to section 2, all amendments to the official plan of a municipality listed in the Schedule that were commenced on or after the corresponding date set out in the Schedule are exempt from the approval of the Minister.

(2) For the purpose of subsection (1) and clause 2 (c), an official plan amendment is deemed to be commenced on the day that it is adopted by the council of the municipality.

**2. The Regulation is amended by adding the following section:****Removal of exemption, Greater Golden Horseshoe growth plan area**

2. The exemption under subsection 1 (1) is removed in respect of any official plan amendment referred to in that subsection that,

(a) is adopted by a municipality in the area designated as the Greater Golden Horseshoe growth plan area by section 2 of Ontario Regulation 416/05 (Growth Plan Areas) made under the *Places to Grow Act, 2005*;

(b) does one or both of the following:

(i) identifies a natural heritage system, as defined in the Provincial Policy Statement, 2014 issued under section 3 of the *Planning Act*, or amends or revokes the identification of a natural heritage system,

(ii) designates a prime agricultural area, as defined in the Provincial Policy Statement, 2014 issued under section 3 of the *Planning Act*, or amends or revokes the designation of a prime agricultural area other than for the purposes of including all of the applicable land within an area of settlement; and

(c) is commenced on or after May 16, 2019.

**Commencement**

**3. This Regulation comes into force on the later of May 16, 2019 and the day it is filed.**

Made by:  
Pris par :

*Le ministre des Affaires municipales et du Logement,*

STEVE CLARK  
*Minister of Municipal Affairs and Housing*

Date made: May 1, 2019  
Pris le : 1<sup>er</sup> mai 2019

20/19

**RÈGLEMENT DE L'ONTARIO 86/19**

pris en vertu de la

**LOI SUR L'AMÉNAGEMENT DU TERRITOIRE**pris le 1<sup>er</sup> mai 2019

déposé le 2 mai 2019

publié sur le site Lois-en-ligne le 2 mai 2019

imprimé dans la *Gazette de l'Ontario* le 18 mai 2019

modifiant le Règl. de l'Ont. 525/97

(EXEMPTION DE L'APPROBATION (MODIFICATION D'UN PLAN OFFICIEL))

**Préambule**

En vertu du paragraphe 17 (9) de la Loi, le ministre des Affaires municipales et du Logement a soustrait à l'exigence voulant qu'elles reçoivent son approbation aux termes de l'article 17 de la Loi toutes les modifications du plan officiel d'une municipalité figurant à l'annexe du Règlement de l'Ontario 525/97 qui ont été adoptées par le conseil de la municipalité à une date précisée ou par la suite.

En vertu du paragraphe 17 (12) de la Loi, le ministre peut, par arrêté accompagné d'explications écrites, retirer toute exemption accordée en vertu du paragraphe 17 (9) de la Loi.

Le Plan de croissance de la région élargie du Golden Horseshoe, 2017 prévoyait le recensement et la protection d'un système du patrimoine naturel et d'un système agricole dont les cartes provinciales pouvaient être améliorées par les municipalités de palier supérieur et les municipalités à palier unique dans le cadre de la mise en oeuvre de ces systèmes à l'aide d'un examen municipal complet.

Le nouveau Plan de croissance de la région élargie du Golden Horseshoe, 2019 accorde désormais également aux municipalités de palier supérieur et aux municipalités à palier unique la flexibilité nécessaire pour apporter des améliorations aux cartes provinciales du système du patrimoine naturel et du système agricole dans le cadre de la mise en oeuvre des systèmes par le biais de modifications du plan officiel, avant le prochain examen municipal complet.

Un examen municipal complet doit être adopté conformément à l'article 26 de la Loi. Une modification d'un plan officiel adoptée conformément à l'article 26 de la Loi ne peut être soustraite, en vertu de l'article 17 (9) de la Loi, à l'exigence voulant qu'elle reçoive l'approbation du ministre.

Le ministre estime souhaitable que les modifications du plan officiel mettant en oeuvre les cartes provinciales du système du patrimoine naturel et du système agricole continuent d'être approuvées par lui en toutes circonstances.

Pour ces motifs, le ministre ordonne ce qui suit :

**1. Les paragraphes 1 (1) et (2) du Règlement de l'Ontario 525/97 sont abrogés et remplacés par ce qui suit :****Exemption de l'approbation**

(1) Sous réserve de l'article 2, toutes modifications du plan officiel d'une municipalité figurant à l'annexe qui ont été entreprises à la date correspondante indiquée à l'annexe ou par la suite sont soustraites à l'exigence voulant qu'elles reçoivent l'approbation du ministre.

(2) Pour l'application du paragraphe (1) et de l'alinéa 2 c), une modification du plan officiel est réputée entreprise le jour où elle est adoptée par le conseil de la municipalité.

**2. Le Règlement est modifié par adjonction de l'article suivant :****Retrait de l'exemption : zone de croissance planifiée de la région élargie du Golden Horseshoe**

2. L'exemption prévue au paragraphe 1 (1) est retirée en ce qui concerne toute modification du plan officiel visée à ce paragraphe qui, à la fois :

- a) est adoptée par une municipalité de la zone désignée comme la zone de croissance planifiée de la région élargie du Golden Horseshoe par l'article 2 du Règlement de l'Ontario 416/05 (Growth Plan Areas) pris en vertu de la *Loi de 2005 sur les zones de croissance*;
- b) fait l'un ou l'autre de ce qui suit ou les deux :
  - (i) recense un système du patrimoine naturel, au sens de la Déclaration de principes provinciale de 2014 faite en vertu de l'article 3 de la *Loi sur l'aménagement du territoire*, ou modifie ou révoque le recensement d'un tel système,

- (ii) désigne une zone agricole à fort rendement, au sens de la Déclaration de principes provinciale de 2014 faite en vertu de l'article 3 de la *Loi sur l'aménagement du territoire*, ou modifie ou révoque la désignation d'une telle zone pour une fin autre que l'inclusion de tous les terrains applicables dans une zone de peuplement;
- c) est entreprise le 16 mai 2019 ou par la suite.

**Entrée en vigueur**

**3. Le présent règlement entre en vigueur le dernier en date du 16 mai 2019 et du jour de son dépôt.**

Made by:  
Pris par :

*Le ministre des Affaires municipales et du Logement,*

STEVE CLARK  
*Minister of Municipal Affairs and Housing*

Date made: May 1, 2019  
Pris le : 1<sup>er</sup> mai 2019

20/19

**ONTARIO REGULATION 87/19**

made under the

**BUILDING CODE ACT, 1992**

Made: May 1, 2019

Filed: May 2, 2019

Published on e-Laws: May 2, 2019

Printed in *The Ontario Gazette*: May 18, 2019Amending O. Reg. 332/12  
(BUILDING CODE)

**1. (1) Sentence 1.3.1.2.(1) of Division A of Ontario Regulation 332/12 is amended by striking out “Sentences (2) to (6)” and substituting “Sentences (2) to (7)”.**

**(2) Article 1.3.1.2. of Division A of the Regulation is amended by adding the following Sentence:**

**(7)** Where a *floor area* or portion of a *floor area* within a *farm building* is intended to contain a *hazardous extraction* operation involving cannabis, the *floor area* or portion of the *floor area* shall be designed and constructed to comply with,

- (a) the requirements for locking, latching and other fastening devices for doors set out in Article 2.7.2.2. of Division B of the Fire Code made under the *Fire Protection and Prevention Act, 1997*,
- (b) the ventilation requirements set out in Articles 4.1.7.2. to 4.1.7.6. of Division B of the Fire Code, where the *hazardous extraction* operation is intended to involve the use of *flammable liquids* or *combustible liquids*, and
- (c) the ventilation requirements set out in Clauses 5.1.4.2.(1)(a) to (d) and (g) of Division B of the Fire Code, where the *hazardous extraction* operation is intended to involve the use of flammable gases.

**2. Clause 1.4.1.2.(1)(c) of Division A of the Regulation is amended by adding the following definition:**

*Hazardous extraction* means a process to remove or separate a substance from a solution or mixture that involves the use of *flammable liquids*, *combustible liquids* or flammable gases as solvents in the process.

**Commencement**

**3. This Regulation comes into force on the later of July 1, 2019 and the day it is filed.**

**ONTARIO REGULATION 88/19**

made under the

**BUILDING CODE ACT, 1992**

Made: May 1, 2019

Filed: May 2, 2019

Published on e-Laws: May 2, 2019

Printed in *The Ontario Gazette*: May 18, 2019

Amending O. Reg. 332/12

(BUILDING CODE)

**1. (1) Subclause 1.4.1.2.(1)(b)(ii) of Division A of Ontario Regulation 332/12 is amended by striking out “Sentences 3.13.1.2.(1)” at the beginning and substituting “Sentences 3.13.1.2.(1), 5.10.3.1.(1)”.**

**(2) Clause 1.4.1.2.(1)(c) of Division A of the Regulation is amended by adding the following definition:**

*Apparent sound transmission class* means a single number rating of the airborne sound attenuation of *building* assemblies separating two adjoining spaces, taking into account both the direct and flanking sound transmission paths, and “*ASTC*” has a corresponding meaning.

**(3) The definition of “*Closure*” in Clause 1.4.1.2.(1)(c) of Division A of the Regulation is amended by adding “a damper” after “a shutter”.**

**(4) The definition of “*Dangerous goods*” in Clause 1.4.1.2.(1)(c) of Division A of the Regulation is revoked and the following substituted:**

*Dangerous goods* means those products or substances that are,

- (a) regulated by the *Transportation of Dangerous Goods Regulations* made under the *Transportation of Dangerous Goods Act, 1992* (Canada), or
- (b) classified as controlled products under the *Hazardous Products Regulations* made under the *Hazardous Products Act* (Canada).

**(5) The definition of “*Electric vehicle supply equipment*” in Clause 1.4.1.2.(1)(c) of Division A of the Regulation is revoked.**

**(6) Clause 1.4.1.2.(1)(c) of Division A of the Regulation is amended by adding the following definition:**

*Flight* means a series of steps between landings.

**(7) Clause (c) of the definition of “*Food premises*” in Clause 1.4.1.2.(1)(c) of Division A of the Regulation is revoked and the following substituted:**

- (c) a *building* to which Ontario Regulation 502/17 (Camps in Unorganized Territory) or Ontario Regulation 503/17 (Recreational Camps) made under the *Health Protection and Promotion Act* applies,

**(8) Clause (a) of the definition of “*Private sewer*” in Clause 1.4.1.2.(1)(c) of Division A of the Regulation is amended by striking out “Ministry of the Environment and Climate Change” and substituting “Ministry of the Environment, Conservation and Parks”.**

**(9) Clause 1.4.1.2.(1)(c) of Division A of the Regulation is amended by adding the following definition:**

*Run* means the horizontal distance between two adjacent tread nosings on a stair.

**(10) Clause 1.4.1.2.(1)(c) of Division A of the Regulation is amended by adding the following definitions:**

*Solid masonry* means a single-wythe or multi-wythe construction made of *solid masonry units* or semi-solid, cored or hollow masonry units, the cells of which may or may not be filled with mortar or grout. In multi-wythe masonry construction, the space between the wythes consists of a mortar-filled collar joint or grout-filled space and the wythes may or may not be constructed of the same masonry materials.

*Solid masonry unit* means a concrete block or brick unit, a clay brick unit or a calcium silicate brick unit, the net solid area of which is at least 75% of its gross area.

*Sound transmission class* means a single number rating of the airborne sound attenuation of a *building* assembly separating two adjoining spaces, taking into account only the direct sound transmission path, and “*STC*” has a corresponding meaning.

**(11) Clause 1.4.1.2.(1)(c) of Division A of the Regulation is amended by adding the following definition:**

*Tapered tread* means a tread with non-parallel edges that increases or decreases its *run* uniformly over its width.

**2. Subclause 1.4.1.3.(1)(a)(v) of Division A of the Regulation is revoked.**

**3. Sentence 1.3.1.1.(1) of Division B of the Regulation is amended by striking out “2012” at the end and substituting “2017”.**

**4. Table 1.3.1.2. of Division B of the Regulation is revoked and the following substituted:**

**Table 1.3.1.2.  
Documents Referenced in the Building Code**

Forming Part of Sentence 1.3.1.2.(1)

| Item | Column 1<br>Issuing Agency | Column 2<br>Document Number        | Column 3<br>Title of Document <sup>(1)</sup>                                                    | Column 4<br>Code Reference                    |
|------|----------------------------|------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------|
| 1.   | ACGIH                      | 2013, 28th Edition                 | Industrial Ventilation Manual                                                                   | 6.2.1.1.(1)                                   |
| 2.   | AISI                       | S201-12                            | North American Standard for Cold-Formed Steel Framing - Product Data                            | 9.24.1.2.(1)                                  |
| 3.   | ANSI                       | A208.1-2009                        | Particleboard                                                                                   | 9.23.14.2.(3)<br>9.29.9.1.(1)<br>9.30.2.2.(1) |
| 4.   | ANSI/ASHRAE                | 62.1-2010                          | Ventilation for Acceptable Indoor Air Quality                                                   | 6.2.2.1.(2)<br>6.2.3.8.(15)<br>6.2.3.21A.(1)  |
| 5.   | ANSI/ASHRAE/IESNA          | 90.1-2013                          | Energy Standard for Buildings Except Low-Rise Residential Buildings                             | 6.2.1.1.(1)                                   |
| 6.   | ANSI/CSA                   | ANSI Z21.22-2015 /<br>CSA 4.4-2015 | Relief Valves for Hot Water Supply Systems                                                      | 7.2.10.11.(1)                                 |
| 7.   | APHA/AWWA/WEF              | 2012, 22nd Edition                 | Standard Methods for the Examination of Water and Wastewater                                    | 8.9.2.4.(1)                                   |
| 8.   | ASCE                       | ASCE/SEI 49-12                     | Wind Tunnel Testing for Buildings and Other Structures                                          | 4.1.7.12.(1)                                  |
| 9.   | ASHRAE                     | 2017                               | Fundamentals                                                                                    | 5.2.1.3.(1)<br>6.2.1.1.(1)                    |
| 10.  | ASHRAE                     | 2015                               | HVAC Applications                                                                               | 6.2.1.1.(1)                                   |
| 11.  | ASHRAE                     | 2016                               | HVAC Systems and Equipment                                                                      | 6.2.1.1.(1)                                   |
| 12.  | ASHRAE                     | 2018                               | Refrigeration                                                                                   | 6.2.1.1.(1)                                   |
| 13.  | ASHRAE                     | Guideline 12-2000                  | Minimizing the Risk of Legionellosis Associated with Building Water Systems                     | 6.2.3.14.(3)<br>6.2.3.14A.(3)                 |
| 14.  | ASME                       | A112.19.8-2007                     | Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs                    | 3.12.4.1.(9)                                  |
| 15.  | ASME                       | B16.3-2016                         | Malleable Iron Threaded Fittings: Classes 150 and 300                                           | 7.2.6.6.(1)                                   |
| 16.  | ASME                       | B16.4-2011                         | Gray Iron Threaded Fittings: Classes 125 and 250                                                | 7.2.6.5.(1)<br>Table 7.2.11.2.                |
| 17.  | ASME                       | B16.5-2017                         | Pipe Flanges and Flanged Fittings: NPS ½ through NPS 24 Metric/Inch Standard                    | 7.2.6.12.(1)                                  |
| 18.  | ASME                       | B16.9-2012                         | Factory-Made Wrought Buttwelding Fittings                                                       | 7.2.6.11.(1)<br>7.2.6.14.(1)                  |
| 19.  | ASME                       | B16.12-2009                        | Cast Iron Threaded Drainage Fittings                                                            | 7.2.6.3.(1)                                   |
| 20.  | ASME                       | B16.15-2013                        | Cast Copper Alloy Threaded Fittings: Classes 125 and 250                                        | 7.2.7.3.(1)                                   |
| 21.  | ASME                       | B16.18-2012                        | Cast Copper Alloy Solder Joint Pressure Fittings                                                | 7.2.7.6.(1)<br>7.2.7.6.(2)<br>Table 7.2.11.2. |
| 22.  | ASME                       | B16.22-2013                        | Wrought Copper and Copper Alloy Solder Joint Pressure Fittings                                  | 7.2.7.6.(1)<br>Table 7.2.11.2.                |
| 23.  | ASME                       | B16.23-2016                        | Cast Copper Alloy Solder Joint Drainage Fittings: DWV                                           | 7.2.7.5.(1)                                   |
| 24.  | ASME                       | B16.24-2016                        | Cast Copper Alloy Pipe Flanges and Flanged Fittings: Classes 150, 300, 600, 900, 1500, and 2500 | 7.2.7.2.(1)                                   |
| 25.  | ASME                       | B16.26-2013                        | Cast Copper Alloy Fittings for Flared Copper Tubes                                              | 7.2.7.7.(1)<br>7.2.7.7.(2)<br>Table 7.2.11.2. |

| Item | Column 1<br>Issuing Agency | Column 2<br>Document Number         | Column 3<br>Title of Document <sup>(1)</sup>                                                                                                                      | Column 4<br>Code Reference                                       |
|------|----------------------------|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| 26.  | ASME                       | B16.29-2012                         | Wrought Copper and Wrought Copper Alloy Solder-Joint Drainage Fittings – DWV                                                                                      | 7.2.7.5.(1)                                                      |
| 27.  | ASME                       | ANSI/ASME B18.6.1-1981              | Wood Screws (Inch Series)                                                                                                                                         | Table 5.10.1.1.<br>9.23.3.1.(3)                                  |
| 28.  | ASME                       | B31.9-2014                          | Building Services Piping                                                                                                                                          | 7.3.2.8.(1)                                                      |
| 29.  | ASME                       | B36.19M-2004                        | Stainless Steel Pipe                                                                                                                                              | 7.2.6.10.(1)                                                     |
| 30.  | ASME / CSA                 | ASME A17.1-2010 / CSA B44-10        | Safety Code for Elevators and Escalators                                                                                                                          | 3.5.2.2.(1)<br>Table 4.1.5.11.<br>Table 4.1.8.18.<br>7.4.3.6.(1) |
| 31.  | ASME / CSA                 | ASME A112.3.4-2013 / CSA B45.9-13   | Plumbing Fixtures with Pumped Waste and Macerating Toilet Systems                                                                                                 | 7.2.2.2.(8)                                                      |
| 32.  | ASME / CSA                 | ASME A112.18.1-2012 / CSA B125.1-12 | Plumbing Supply Fittings                                                                                                                                          | 7.2.10.6.(1)<br>7.6.5.2.(1)                                      |
| 33.  | ASME / CSA                 | ASME A112.18.2-2015 / CSA B125.2-15 | Plumbing Waste Fittings                                                                                                                                           | 7.2.3.3.(1)<br>7.2.10.6.(2)                                      |
| 34.  | ASME / CSA                 | ASME A112.19.1-2013 / CSA B45.2-13  | Enamelled Cast Iron and Enamelled Steel Plumbing Fixtures                                                                                                         | 7.2.2.2.(3)<br>7.2.2.2.(4)                                       |
| 35.  | ASME / CSA                 | ASME A112.19.2-2013 / CSA B45.1-13  | Ceramic Plumbing Fixtures                                                                                                                                         | 7.2.2.2.(2)                                                      |
| 36.  | ASME / CSA                 | ASME A112.19.3-2017 / CSA B45.4-17  | Stainless Steel Plumbing Fixtures                                                                                                                                 | 7.2.2.2.(5)                                                      |
| 37.  | ASME / CSA                 | ASME A112.19.7-2012 / CSA B45.10-12 | Hydromassage Bathtub Systems                                                                                                                                      | 7.2.2.2.(7)                                                      |
| 38.  | ASPE                       | 2005                                | Data Books                                                                                                                                                        | 7.6.3.1.(2)<br>7.7.4.1.(1)                                       |
| 39.  | ASSE                       | ANSI/ASSE 1010-2004                 | Water Hammer Arresters                                                                                                                                            | 7.2.10.15.(1)                                                    |
| 40.  | ASSE                       | 1051-2009                           | Individual and Branch Type Air Admittance Valves for Sanitary Drainage Systems                                                                                    | 7.2.10.16.(1)                                                    |
| 41.  | ASTM                       | A53 / A53M-12                       | Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless                                                                                                | 7.2.6.7.(4)                                                      |
| 42.  | ASTM                       | A123 / A123M-13                     | Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products                                                                                                     | Table 5.10.1.1.<br>Table 9.20.16.1.                              |
| 43.  | ASTM                       | A153 / A153M-09                     | Zinc Coating (Hot-Dip) on Iron and Steel Hardware                                                                                                                 | Table 5.10.1.1.<br>Table 9.20.16.1.                              |
| 44.  | ASTM                       | A182 / A182M-16a                    | Forged or Rolled Alloy and Stainless Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service                                       | 7.2.6.12.(1)<br>7.2.6.13.(1)                                     |
| 45.  | ASTM                       | A252-10                             | Welded and Seamless Steel Pipe Piles                                                                                                                              | 4.2.3.8.(1)                                                      |
| 46.  | ASTM                       | A269-15a                            | Seamless and Welded Austenitic Stainless Steel Tubing for General Service                                                                                         | 7.2.6.14.(1)                                                     |
| 47.  | ASTM                       | A283 / A283M-13                     | Low and Intermediate Tensile Strength Carbon Steel Plates                                                                                                         | 4.2.3.8.(1)                                                      |
| 48.  | ASTM                       | A312 / A312M-17                     | Seamless, Welded, and Heavily Cold Worked Stainless Steel Pipes                                                                                                   | 7.2.6.10.(1)                                                     |
| 49.  | ASTM                       | A351 / A351M-16                     | Castings, Austenitic, for Pressure-Containing Parts                                                                                                               | 7.2.6.13.(1)                                                     |
| 50.  | ASTM                       | A403 / A403M-16                     | Wrought Austenitic Stainless Steel Piping Fittings                                                                                                                | 7.2.6.11.(1)                                                     |
| 51.  | ASTM                       | A518 / A518M-99                     | Corrosion-Resistant High-Silicon Iron Castings                                                                                                                    | 7.2.8.1.(1)                                                      |
| 52.  | ASTM                       | A653 / A653M-13                     | Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process                                                             | Table 5.10.1.1.<br>9.3.3.2.(1)                                   |
| 53.  | ASTM                       | A792 / A792M-10                     | Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process                                                                                                | 9.3.3.2.(1)                                                      |
| 54.  | ASTM                       | A1008 / A1008M-13                   | Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable | 4.2.3.8.(1)                                                      |
| 55.  | ASTM                       | A1011 / A1011M-14                   | Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength       | 4.2.3.8.(1)                                                      |
| 56.  | ASTM                       | B32-08                              | Solder Metal                                                                                                                                                      | 7.2.9.2.(1)                                                      |
| 57.  | ASTM                       | B42-15a                             | Seamless Copper Pipe, Standard Sizes                                                                                                                              | 7.2.7.1.(1)                                                      |
| 58.  | ASTM                       | B43-15                              | Seamless Red Brass Pipe, Standard Sizes                                                                                                                           | 7.2.7.1.(2)                                                      |

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| 59.  | ASTM                       | B68 / B68M-11               | Seamless Copper Tube, Bright Annealed                                                                                                                              | 7.2.7.4.(3)                                                            |
| 60.  | ASTM                       | B88-16                      | Seamless Copper Water Tube                                                                                                                                         | 7.2.7.4.(1)<br>7.2.7.4.(3)<br>Table 7.2.11.2.                          |
| 61.  | ASTM                       | B306-13                     | Copper Drainage Tube (DWV)                                                                                                                                         | 7.2.7.4.(1)                                                            |
| 62.  | ASTM                       | B813-16                     | Liquid and Paste Fluxes for Soldering of Copper and Copper Alloy Tube                                                                                              | 7.2.9.2.(3)                                                            |
| 63.  | ASTM                       | B828-16                     | Making Capillary Joints by Soldering of Copper and Copper Alloy Tube and Fittings                                                                                  | 7.3.2.4.(1)                                                            |
| 64.  | ASTM                       | C4-04                       | Clay Drain Tile and Perforated Clay Drain Tile                                                                                                                     | Table 5.10.1.1.<br>9.14.3.1.(1)                                        |
| 65.  | ASTM                       | C27-98                      | Fireclay and High-Alumina Refractory Brick                                                                                                                         | 9.21.3.4.(1)                                                           |
| 66.  | ASTM                       | C73-10                      | Calcium Silicate Brick (Sand-Lime Brick)                                                                                                                           | Table 5.10.1.1.<br>9.20.2.1.(1)                                        |
| 67.  | ASTM                       | C126-13                     | Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units                                                                                  | Table 5.10.1.1.<br>9.20.2.1.(1)                                        |
| 68.  | ASTM                       | C212-14                     | Structural Clay Facing Tile                                                                                                                                        | Table 5.10.1.1.<br>9.20.2.1.(1)                                        |
| 69.  | ASTM                       | C260 / C260M-10a            | Air-Entraining Admixtures for Concrete                                                                                                                             | 9.3.1.8.(1)                                                            |
| 70.  | ASTM                       | C411-11                     | Hot-Surface Performance of High-Temperature Thermal Insulation                                                                                                     | 6.2.3.4.(3)<br>6.2.9.2.(2)                                             |
| 71.  | ASTM                       | C412M-11                    | Concrete Drain Tile (Metric)                                                                                                                                       | Table 5.10.1.1.<br>9.14.3.1.(1)                                        |
| 72.  | ASTM                       | C444M-03                    | Perforated Concrete Pipe (Metric)                                                                                                                                  | Table 5.10.1.1.<br>9.14.3.1.(1)                                        |
| 73.  | ASTM                       | C494 / C494M-13             | Chemical Admixtures for Concrete                                                                                                                                   | 9.3.1.8.(1)                                                            |
| 74.  | ASTM                       | C553-13                     | Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications                                                                                | Table 5.10.1.1.                                                        |
| 75.  | ASTM                       | C612-14                     | Mineral Fiber Block and Board Thermal Insulation                                                                                                                   | Table 5.10.1.1.                                                        |
| 76.  | ASTM                       | C700-13                     | Vitrified Clay Pipe, Extra Strength, Standard Strength and Perforated                                                                                              | Table 5.10.1.1.<br>9.14.3.1.(1)                                        |
| 77.  | ASTM                       | C726-12                     | Mineral Wool Roof Insulation Board                                                                                                                                 | Table 5.10.1.1.<br>9.25.2.2.(1)                                        |
| 78.  | ASTM                       | C834-10                     | Latex Sealants                                                                                                                                                     | Table 5.10.1.1.<br>9.27.4.2.(2)                                        |
| 79.  | ASTM                       | C840-13                     | Application and Finishing of Gypsum Board                                                                                                                          | Table 5.10.1.1.                                                        |
| 80.  | ASTM                       | C920-14                     | Elastomeric Joint Sealants                                                                                                                                         | Table 5.10.1.1.<br>9.27.4.2.(2)                                        |
| 81.  | ASTM                       | C954-11                     | Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness | 9.24.1.4.(1)                                                           |
| 82.  | ASTM                       | C991-08e1                   | Flexible Fibrous Glass Insulation for Metal Buildings                                                                                                              | Table 5.10.1.1.                                                        |
| 83.  | ASTM                       | C1002-07                    | Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs                                | Table 5.10.1.1.<br>9.24.1.4.(1)<br>9.29.5.7.(1)                        |
| 84.  | ASTM                       | C1053-00                    | Borosilicate Glass Pipe and Fittings for Drain, Waste, and Vent (DWV) Applications                                                                                 | 7.2.8.1.(1)                                                            |
| 85.  | ASTM                       | C1177 / C1177M-13           | Glass Mat Gypsum Substrate for Use as Sheathing                                                                                                                    | 3.1.5.12.(6)<br>3.1.5.12A.(4)<br>Table 5.10.1.1.<br>Table 9.23.16.2.A. |
| 86.  | ASTM                       | C1178 / C1178M-13           | Coated Glass Mat Water-Resistant Gypsum Backing Panel                                                                                                              | 3.1.5.12.(6)<br>3.1.5.12A.(4)<br>Table 5.10.1.1.<br>9.29.5.2.(1)       |
| 87.  | ASTM                       | C1184-13                    | Structural Silicone Sealants                                                                                                                                       | Table 5.10.1.1.<br>9.27.4.2.(2)                                        |
| 88.  | ASTM                       | C1311-10                    | Solvent Release Sealants                                                                                                                                           | Table 5.10.1.1.<br>9.27.4.2.(2)                                        |

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| 89.  | ASTM                       | C1330-02                    | Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants                                                                       | Table 5.10.1.1.<br>9.27.4.2.(3)                                                                           |
| 90.  | ASTM                       | C1396 / C1396M-14           | Gypsum Board                                                                                                                                | 3.1.5.12.(6)<br>3.1.5.12A.(4)<br>Table 5.10.1.1.<br>Table 9.23.16.2.A.<br>9.29.5.2.(1)<br>Table 9.29.5.3. |
| 91.  | ASTM                       | C1658 / C1658M-13           | Glass Mat Gypsum Panels                                                                                                                     | 3.1.5.12.(6)<br>Table 5.10.1.1.                                                                           |
| 92.  | ASTM                       | D323-08                     | Vapor Pressure of Petroleum Products (Reid Method)                                                                                          | 1.4.1.2.(1) of<br>Division A                                                                              |
| 93.  | ASTM                       | D374-99                     | Thickness of Solid Electrical Insulation                                                                                                    | 3.15.4.1.(1)                                                                                              |
| 94.  | ASTM                       | D568-77                     | Rate of Burning and/or Extent and Time of Burning of Flexible Plastics in a Vertical Position                                               | 3.15.4.1.(1)                                                                                              |
| 95.  | ASTM                       | D635-06                     | Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position                                                      | 3.15.4.1.(1)                                                                                              |
| 96.  | ASTM                       | D1227-95                    | Emulsified Asphalt Used as a Protective Coating for Roofing                                                                                 | Table 5.10.1.1.<br>9.13.2.2.(2)<br>9.13.3.2.(2)                                                           |
| 97.  | ASTM                       | D2178 / D2178M-13a          | Asphalt Glass Felt Used in Roofing and Waterproofing                                                                                        | Table 5.10.1.1.                                                                                           |
| 98.  | ASTM                       | D2898-10                    | Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing                                                                      | 3.1.5.5.(3)<br>3.1.5.25.(1)<br>3.2.3.7.(5)<br>3.2.3.7.(7)                                                 |
| 99.  | ASTM                       | D3019-08                    | Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos-Fibered, and Non-Asbestos-Fibered                                          | Table 5.10.1.1.<br>9.13.3.2.(2)<br>Table 9.26.2.1.B.                                                      |
| 100. | ASTM                       | D3261-16                    | Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing                                           | 7.2.5.5.(3)                                                                                               |
| 101. | ASTM                       | D4479 / D4479M-07e1         | Asphalt Roof Coatings - Asbestos-Free                                                                                                       | Table 5.10.1.1.<br>9.13.2.2.(2)<br>9.13.3.2.(2)<br>Table 9.26.2.1.B.                                      |
| 102. | ASTM                       | D4637 / D4637M-12           | EPDM Sheet Used In Single-Ply Roof Membrane                                                                                                 | Table 5.10.1.1.<br>9.13.3.2.(2)<br>Table 9.26.2.1.B.                                                      |
| 103. | ASTM                       | D4811 / D4811M-06           | Nonvulcanized (Uncured) Rubber Sheet Used as Roof Flashing                                                                                  | Table 5.10.1.1.<br>9.13.3.2.(2)<br>Table 9.26.2.1.B.                                                      |
| 104. | ASTM                       | D5456-10a                   | Evaluation of Structural Composite Lumber Products                                                                                          | 3.1.11.7.(4)                                                                                              |
| 105. | ASTM                       | D6878 / D6878M-11a          | Thermoplastic Polyolefin Based Sheet Roofing                                                                                                | Table 5.10.1.1.<br>9.13.3.2.(2)<br>Table 9.26.2.1.B.                                                      |
| 106. | ASTM                       | E84-18a                     | Surface Burning Characteristics of Building Materials                                                                                       | Table 5.10.1.1.                                                                                           |
| 107. | ASTM                       | E90-09                      | Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements                                              | 5.8.1.2.(1)<br>5.8.1.4.(2)<br>9.11.1.2.(1)                                                                |
| 108. | ASTM                       | E96 / E96M-13               | Water Vapor Transmission of Materials                                                                                                       | 5.5.1.2.(3)<br>9.13.2.2.(2)<br>9.25.4.2.(1)<br>9.25.5.1.(1)                                               |
| 109. | ASTM                       | E283-04                     | Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen | 5.10.4.4.(2)                                                                                              |
| 110. | ASTM                       | E331-00                     | Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference                        | 5.10.4.5.(2)                                                                                              |
| 111. | ASTM                       | E336-11                     | Measurement of Airborne Sound Attenuation Between Rooms in Buildings                                                                        | 5.8.1.2.(2)<br>5.8.1.4.(8)<br>9.11.1.2.(2)                                                                |

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| 112. | ASTM                       | E413-10                                                                                                             | Classification for Rating Sound Insulation                                                                          | 5.8.1.2.(1)<br>5.8.1.2.(2)<br>5.8.1.4.(8)<br>5.8.1.5.(4)<br>9.11.1.2.(1)<br>9.11.1.2.(2) |
| 113. | ASTM                       | E547-00                                                                                                             | Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference | 5.10.4.5.(2)                                                                             |
| 114. | ASTM                       | E1300-12ae1                                                                                                         | Determining Load Resistance of Glass in Buildings                                                                   | 4.3.6.1.(1)                                                                              |
| 115. | ASTM                       | E2178-13                                                                                                            | Air Permeance of Building Materials                                                                                 | 5.4.1.2.(1)                                                                              |
| 116. | ASTM                       | E2190-10                                                                                                            | Insulating Glass Unit Performance and Evaluation                                                                    | Table 5.10.1.1.<br>9.6.1.2.(1)                                                           |
| 117. | ASTM                       | F476-14                                                                                                             | Security of Swinging Door Assemblies                                                                                | 9.7.5.2.(2)                                                                              |
| 118. | ASTM                       | F628-12e2                                                                                                           | Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe With a Cellular Core          | 7.2.5.10.(1)<br>7.2.5.12.(1)<br>7.2.5.12.(2)                                             |
| 119. | ASTM                       | F714-13                                                                                                             | Polyethylene (PE) Plastic Pipe (DR-PR) Based on Outside Diameter                                                    | 7.2.5.6.(1)                                                                              |
| 120. | ASTM                       | F1667-13                                                                                                            | Driven Fasteners: Nails, Spikes, and Staples                                                                        | 9.23.3.1.(1)<br>9.26.2.3.(1)<br>9.29.5.6.(1)                                             |
| 121. | AWS                        | ANSI/AWS A5.8M/<br>A5.8:2011                                                                                        | Filler Metals for Brazing and Braze Welding                                                                         | 7.2.9.2.(4)                                                                              |
| 122. | AWWA                       | ANSI/AWWA C104 /<br>A21.4-2013                                                                                      | Cement-Mortar Lining for Ductile-Iron Pipe and Fittings                                                             | 7.2.6.4.(2)<br>Table 7.2.11.2.                                                           |
| 123. | AWWA                       | ANSI/AWWA C110 /<br>A21.10-2012                                                                                     | Ductile-Iron and Gray-Iron Fittings                                                                                 | 7.2.6.4.(3)<br>Table 7.2.11.2.                                                           |
| 124. | AWWA                       | ANSI/AWWA C111 /<br>A21.11-2012                                                                                     | Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings                                                    | 7.2.6.4.(4)<br>Table 7.2.11.2.                                                           |
| 125. | AWWA                       | ANSI/AWWA C151 /<br>A21.51-2009                                                                                     | Ductile-Iron Pipe, Centrifugally Cast                                                                               | 7.2.6.4.(1)<br>Table 7.2.11.2.                                                           |
| 126. | AWWA                       | ANSI/AWWA C228-08                                                                                                   | Stainless-Steel Pipe Flanges For Water Service - Sizes 2 in. through 72 in. (50 mm through 1,800 mm)                | 7.2.6.12.(1)                                                                             |
| 127. | BCMOH                      | Version 2, 21st Sept,<br>2007                                                                                       | Sewerage System Standard Practice Manual                                                                            | 8.7.8.3.(2)<br>8.7.8.3.(3)                                                               |
| 128. | BNQ                        | BNQ 3624-115-2016                                                                                                   | Polyethylene (PE) Pipe and Fittings - Flexible Pipes for Drainage - Characteristics and Test Methods                | Table 5.10.1.1.<br>9.14.3.1.(1)                                                          |
| 129. | BNQ                        | CAN/BNQ 3680-600-<br>2009                                                                                           | Onsite Residential Wastewater Treatment Technologies                                                                | 8.6.2.2.(5)<br>Table 8.6.2.2.                                                            |
| 130. | CCBFC                      | NRCC 38726 1995                                                                                                     | National Building Code of Canada                                                                                    | 1.3.1.2.(3) of<br>Division A                                                             |
| 131. | CCBFC                      | NRCC 38732 1995                                                                                                     | National Farm Building Code of Canada                                                                               | 1.3.1.2.(1) to (5) of<br>Division A                                                      |
| 132. | CCBFC                      | NRCC 56190 2015,<br>including all<br>amendments, revisions<br>and supplements<br>effective to September<br>28, 2018 | National Building Code of Canada                                                                                    | 2.4.2.1.(2) of<br>Division C                                                             |
| 133. | CCBFC                      | NRCC 56191 2015                                                                                                     | National Energy Code of Canada for Buildings                                                                        | 6.2.1.1.(1)                                                                              |
| 134. | CCBFC                      | NRCC 56192 2015,<br>including all<br>amendments, revisions<br>and supplements<br>effective to September<br>28, 2018 | National Fire Code of Canada                                                                                        | 3.3.1.2.(1)<br>3.3.5.2.(1)<br>6.2.2.5.(1)                                                |

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| 135. | CCBFC                      | NRCC 56193 2015,<br>including all<br>amendments, revisions<br>and supplements<br>effective to September<br>28, 2018 | National Plumbing Code of Canada                                                  | 2.4.2.1.(2) of<br>Division C                                                                                 |
| 136. | CGSB                       | CAN/CGSB-1.501-<br>M89                                                                                              | Method of Permeance of Coated Wallboard                                           | 5.5.1.2.(2)<br>9.25.4.2.(5)                                                                                  |
| 137. | CGSB                       | CAN/CGSB-7.2-94                                                                                                     | Adjustable Steel Columns                                                          | 9.17.3.4.(1)                                                                                                 |
| 138. | CGSB                       | CAN/CGSB-10.3-92                                                                                                    | Air Setting Refractory Mortar                                                     | 9.21.3.4.(2)<br>9.21.3.9.(1)<br>9.22.2.2.(2)                                                                 |
| 139. | CGSB                       | CAN/CGSB-11.3-M87                                                                                                   | Hardboard                                                                         | Table 5.10.1.1.<br>9.27.9.1.(2)<br>9.29.7.1.(1)<br>9.30.2.2.(1)                                              |
| 140. | CGSB                       | CAN/CGSB-11.5-M87                                                                                                   | Hardboard, Precoated, Factory Finished, for Exterior<br>Cladding                  | Table 5.10.1.1.<br>9.27.9.1.(1)                                                                              |
| 141. | CGSB                       | CAN/CGSB-12.1-M90                                                                                                   | Tempered or Laminated Safety Glass                                                | 3.3.1.18.(2)<br>3.4.6.15.(1)<br>3.4.6.15.(3)<br>Table 5.10.1.1.<br>9.6.1.2.(1)<br>9.6.1.4.(1)<br>9.8.8.7.(1) |
| 142. | CGSB                       | CAN/CGSB-12.2-M91                                                                                                   | Flat, Clear Sheet Glass                                                           | Table 5.10.1.1.<br>9.6.1.2.(1)                                                                               |
| 143. | CGSB                       | CAN/CGSB-12.3-M91                                                                                                   | Flat, Clear Float Glass                                                           | Table 5.10.1.1.<br>9.6.1.2.(1)                                                                               |
| 144. | CGSB                       | CAN/CGSB-12.4-M91                                                                                                   | Heat Absorbing Glass                                                              | Table 5.10.1.1.<br>9.6.1.2.(1)                                                                               |
| 145. | CGSB                       | CAN/CGSB-12.5-M86                                                                                                   | Mirrors, Silvered                                                                 | 9.6.1.2.(3)                                                                                                  |
| 146. | CGSB                       | CAN/CGSB-12.8-97                                                                                                    | Insulating Glass Units                                                            | Table 5.10.1.1.<br>9.6.1.2.(1)                                                                               |
| 147. | CGSB                       | CAN/CGSB-12.10-<br>M76                                                                                              | Glass, Light and Heat Reflecting                                                  | Table 5.10.1.1.<br>9.6.1.2.(1)                                                                               |
| 148. | CGSB                       | CAN/CGSB-12.11-<br>M90                                                                                              | Wired Safety Glass                                                                | 3.3.1.18.(2)<br>3.4.6.15.(1)<br>3.4.6.15.(3)<br>Table 5.10.1.1.<br>9.6.1.2.(1)<br>9.6.1.4.(1)<br>9.8.8.7.(1) |
| 149. | CGSB                       | CAN/CGSB-12.20-<br>M89                                                                                              | Structural Design of Glass for Buildings                                          | 4.3.6.1.(1)                                                                                                  |
| 150. | CGSB                       | CAN/CGSB-19.22-<br>M89                                                                                              | Mildew-Resistant Sealing Compound for Tubs and Tile                               | 9.29.10.5.(1)                                                                                                |
| 151. | CGSB                       | 37-GP-9Ma-1983                                                                                                      | Primer, Asphalt, Unfilled, for Asphalt Roofing,<br>Dampproofing and Waterproofing | Table 5.10.1.1.<br>9.13.3.2.(2)<br>Table 9.26.2.1.A.                                                         |
| 152. | CGSB                       | CAN/CGSB-37.50-<br>M89                                                                                              | Hot-Applied, Rubberized Asphalt for Roofing and<br>Waterproofing                  | Table 5.10.1.1.<br>9.13.3.2.(2)<br>Table 9.26.2.1.B.                                                         |
| 153. | CGSB                       | CAN/CGSB-37.51-<br>M90                                                                                              | Application for Hot-Applied Rubberized Asphalt for<br>Roofing and Waterproofing   | 9.26.15.1.(1)                                                                                                |
| 154. | CGSB                       | CAN/CGSB-37.54-95                                                                                                   | Polyvinyl Chloride Roofing and Waterproofing<br>Membrane                          | Table 5.10.1.1.<br>9.13.3.2.(2)<br>Table 9.26.2.1.B.                                                         |
| 155. | CGSB                       | 37-GP-55M-1979                                                                                                      | Application of Sheet Applied Flexible Polyvinyl<br>Chloride Roofing Membrane      | 9.26.16.1.(1)                                                                                                |
| 156. | CGSB                       | 37-GP-56M-1985                                                                                                      | Membrane, Modified, Bituminous, Prefabricated, and<br>Reinforced for Roofing      | Table 5.10.1.1.<br>9.13.3.2.(2)<br>Table 9.26.2.1.B.                                                         |

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| 157. | CGSB                       | CAN/CGSB-37.58-M86          | Membrane, Elastomeric, Cold-Applied Liquid, for Non-Exposed Use in Roofing and Waterproofing                                                          | Table 5.10.1.1.<br>9.13.3.2.(2)<br>Table 9.26.2.1.B.                                                                      |
| 158. | CGSB                       | CAN/CGSB-41.24-95           | Rigid Vinyl Siding, Soffits and Fascia                                                                                                                | Table 5.10.1.1.<br>9.27.12.1.(1)                                                                                          |
| 159. | CGSB                       | CAN/CGSB-51.25-M87          | Thermal Insulation, Phenolic, Faced                                                                                                                   | Table 9.23.16.2.A.<br>9.25.2.2.(1)                                                                                        |
| 160. | CGSB                       | 51-GP-27M-1979              | Thermal Insulation, Polystyrene, Loose Fill                                                                                                           | 9.25.2.2.(1)                                                                                                              |
| 161. | CGSB                       | CAN/CGSB-51.32-M77          | Sheathing, Membrane, Breather Type                                                                                                                    | Table 5.10.1.1.<br>9.20.13.9.(1)<br>9.26.2.1.(1)<br>9.27.3.2.(1)<br>Table 9.26.2.1.A.                                     |
| 162. | CGSB                       | CAN/CGSB-51.33-M89          | Vapour Barrier, Sheet, Excluding Polyethylene, for Use in Building Construction                                                                       | Table 5.10.1.1.<br>9.25.4.2.(4)                                                                                           |
| 163. | CGSB                       | CAN/CGSB-51.34-M86          | Vapour Barrier, Polyethylene Sheet for Use in Building Construction                                                                                   | Table 5.10.1.1.<br>9.13.2.2.(1)<br>9.13.4.3.(1)<br>9.18.6.2.(1)<br>9.25.3.2.(2)<br>9.25.4.2.(3)                           |
| 164. | CGSB                       | CAN/CGSB-82.6-M86           | Doors, Mirrored Glass, Sliding or Folding, Wardrobe                                                                                                   | 9.6.1.2.(2)                                                                                                               |
| 165. | CGSB                       | CAN/CGSB-93.1-M85           | Sheet, Aluminum Alloy, Prefinished, Residential                                                                                                       | Table 5.10.1.1.<br>9.27.11.1.(4)                                                                                          |
| 166. | CGSB                       | CAN/CGSB-93.2-M91           | Prefinished Aluminum Siding, Soffits, and Fascia, for Residential Use                                                                                 | 3.2.3.6.(4)<br>Table 5.10.1.1.<br>9.27.11.1.(3)                                                                           |
| 167. | CGSB                       | CAN/CGSB-93.3-M91           | Prefinished Galvanized and Aluminum-Zinc Alloy Steel Sheet for Residential Use                                                                        | Table 5.10.1.1.<br>9.27.11.1.(2)                                                                                          |
| 168. | CGSB                       | CAN/CGSB-93.4-92            | Galvanized Steel and Aluminum-Zinc Alloy Coated Steel Siding, Soffits and Fascia, Prefinished, Residential                                            | Table 5.10.1.1.<br>9.27.11.1.(1)                                                                                          |
| 169. | CSA                        | CAN/CSA-6.19-01             | Residential Carbon Monoxide Alarming Devices                                                                                                          | 6.2.12.3.(1)<br>9.33.4.3.(1)                                                                                              |
| 170. | CSA                        | A23.1-14                    | Concrete Materials and Methods of Concrete Construction                                                                                               | 4.2.3.6.(1)<br>4.2.3.9.(1)<br>Table 5.10.1.1.<br>9.3.1.1.(1)<br>9.3.1.1.(4)<br>9.3.1.3.(1)<br>9.3.1.4.(1)<br>9.39.1.4.(1) |
| 171. | CSA                        | A23.3-14                    | Design of Concrete Structures                                                                                                                         | Table 4.1.8.9.<br>4.3.3.1.(1)                                                                                             |
| 172. | CSA                        | A60.1-M1976                 | Vitrified Clay Pipe                                                                                                                                   | 7.2.5.4.(1)                                                                                                               |
| 173. | CSA                        | A60.3-M1976                 | Vitrified Clay Pipe Joints                                                                                                                            | 7.2.5.4.(2)                                                                                                               |
| 174. | CSA                        | CAN/CSA-A82-14              | Fire Masonry Brick Made from Clay or Shale                                                                                                            | Table 5.10.1.1.<br>9.20.2.1.(1)                                                                                           |
| 175. | CSA                        | CAN/CSA-A82.27-M91          | Gypsum Board                                                                                                                                          | 3.1.5.12.(6)<br>3.1.5.12A.(4)<br>9.29.5.2.(1)                                                                             |
| 176. | CSA                        | A82.30-M1980                | Interior Furring, Lathing and Gypsum Plastering                                                                                                       | 9.29.4.1.(1)                                                                                                              |
| 177. | CSA                        | A82.31-M1980                | Gypsum Board Application                                                                                                                              | 3.2.3.6.(4)<br>3.2.3.16.(1)<br>9.10.12.4.(3)<br>9.29.5.1.(2)                                                              |
| 178. | CSA                        | CAN3-A93-M82                | Natural Airflow Ventilators for Buildings                                                                                                             | Table 5.10.1.1.<br>9.19.1.2.(5)                                                                                           |
| 179. | CSA                        | A123.1-05 / A123.5-05       | Asphalt Shingles Made from Organic Felt and Surfaced with Mineral Granules / Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules | Table 5.10.1.1.<br>Table 9.26.2.1.B.                                                                                      |

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| 180. | CSA                        | CAN/CSA-A123.2-03               | Asphalt-Coated Roofing Sheets                                                                                       | Table 5.10.1.1.<br>9.13.3.2.(2)<br>Table 9.26.2.1.B.                                                      |
| 181. | CSA                        | A123.3-05                       | Asphalt Saturated Organic Roofing Felt                                                                              | Table 5.10.1.1.<br>Table 9.26.2.1.B.                                                                      |
| 182. | CSA                        | CAN/CSA-A123.4-04               | Asphalt for Constructing Built-Up Roof Coverings and Waterproofing Systems                                          | Table 5.10.1.1.<br>9.13.2.2.(2)<br>9.13.3.2.(2)<br>Table 9.26.2.1.B.                                      |
| 183. | CSA                        | A123.17-05                      | Asphalt Glass Felt Used in Roofing and Waterproofing                                                                | Table 5.10.1.1.<br>9.13.3.2.(2)<br>Table 9.26.2.1.B.                                                      |
| 184. | CSA                        | A123.21-10                      | Dynamic Wind Uplift Resistance of Membrane-Roofing Systems                                                          | 5.2.2.2.(4)                                                                                               |
| 185. | CSA                        | A123.22-08                      | Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection | Table 9.26.2.1.B.                                                                                         |
| 186. | CSA                        | CAN3-A123.51-M85                | Asphalt Shingle Application on Roof Slopes 1:3 and Steeper                                                          | Table 5.10.1.1.<br>9.26.1.2.(1)                                                                           |
| 187. | CSA                        | CAN3-A123.52-M85                | Asphalt Shingle Application on Roof Slopes 1:6 to Less than 1:3                                                     | Table 5.10.1.1.<br>9.26.1.2.(1)                                                                           |
| 188. | CSA                        | A165.1-14                       | Concrete Block Masonry Units                                                                                        | Table 5.10.1.1.<br>9.15.2.2.(1)<br>9.17.5.1.(1)<br>9.20.2.1.(1)<br>9.20.2.6.(1)                           |
| 189. | CSA                        | A165.2-14                       | Concrete Brick Masonry Units                                                                                        | Table 5.10.1.1.<br>9.20.2.1.(1)                                                                           |
| 190. | CSA                        | A165.3-14                       | Prefaced Concrete Masonry Units                                                                                     | Table 5.10.1.1.<br>9.20.2.1.(1)                                                                           |
| 191. | CSA                        | A179-14                         | Mortar and Grout for Unit Masonry                                                                                   | Table 5.10.1.1.<br>9.15.2.2.(3)<br>9.20.3.1.(1)                                                           |
| 192. | CSA                        | CAN/CSA-A220 Series-06          | Concrete Roof Tiles                                                                                                 | Table 5.10.1.1.<br>Table 9.26.2.1.B.                                                                      |
| 193. | CSA                        | CAN/CSA-A220.1-06               | Installation of Concrete Roof Tiles                                                                                 | 9.26.17.1.(1)                                                                                             |
| 194. | CSA                        | CAN/CSA-A257 Series-14          | Standards for Concrete Pipe and Manhole Sections                                                                    | 7.2.5.3.(1)                                                                                               |
| 195. | CSA                        | A257.4-14                       | Precast Reinforced Circular Concrete Manhole Sections, Catch Basins, and Fittings                                   | 7.2.5.3.(5)                                                                                               |
| 196. | CSA                        | A277-08                         | Procedure for Factory Certification of Buildings                                                                    | 9.1.1.9.(1)<br>3.1.1.1.(2) of Division C<br>3.2.4.1.(3) of Division C                                     |
| 197. | CSA                        | CAN/CSA-A324-M88                | Clay Flue Liners                                                                                                    | 9.21.3.3.(1)                                                                                              |
| 198. | CSA                        | A371-14                         | Masonry Construction for Buildings                                                                                  | Table 5.10.1.1.<br>9.15.2.2.(3)<br>9.20.3.2.(7)<br>9.20.15.2.(1)                                          |
| 199. | CSA                        | CAN/CSA-A405-M87                | Design and Construction of Masonry Chimneys and Fireplaces                                                          | 9.21.3.5.(1)<br>9.22.1.4.(7)<br>9.22.5.2.(2)                                                              |
| 200. | CSA                        | AAMA/WDMA/CSA 101/I.S.2/A440-11 | NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights                         | 5.10.2.2.(1)<br>Table 9.7.3.3.<br>9.7.4.1.(1)<br>9.7.4.2.(1)<br>9.7.4.3.(2)<br>9.7.5.1.(1)<br>9.7.5.3.(1) |

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| 201. | CSA                        | A440S1-17                   | Canadian Supplement to AAMA/WDMA/CSA 101/I.S.2/A440-11, NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights | 5.10.2.2.(1)<br>5.10.4.5.(3)<br>9.7.4.2.(1)<br>9.7.4.3.(1)               |
| 202. | CSA                        | A440.2-14                   | Fenestration Energy Performance                                                                                                                     | 12.3.1.2.(1)                                                             |
| 203. | CSA                        | A440.2-14 / A440.3-14       | Fenestration Energy Performance / User Guide to CSA A440.2-14, Fenestration Energy Performance                                                      | Table 9.7.3.3.                                                           |
| 204. | CSA                        | CAN/CSA-A440.4-07           | Window, Door, and Skylight Installation                                                                                                             | 9.7.6.1.(1)                                                              |
| 205. | CSA                        | A660-10                     | Certification of Manufacturers of Steel Building Systems                                                                                            | 4.3.4.3.(1)                                                              |
| 206. | CSA                        | A3001-13                    | Cementitious Materials for Use in Concrete                                                                                                          | Table 5.10.1.1.<br>9.3.1.2.(1)<br>9.28.2.1.(1)                           |
| 207. | CSA                        | CAN/CSA-B45.0-02            | General Requirements for Plumbing Fixtures                                                                                                          | 7.6.4.2.(1)                                                              |
| 208. | CSA                        | B52-13                      | Mechanical Refrigeration Code                                                                                                                       | 6.2.2.4.(4)                                                              |
| 209. | CSA                        | B64.0-11                    | Definitions, General Requirements, and Test Methods for Vacuum Breakers and Backflow Preventers                                                     | 7.2.10.10.(1)                                                            |
| 210. | CSA                        | B64.1.1-11                  | Atmospheric Vacuum Breakers (AVB)                                                                                                                   | 7.2.10.10.(1)                                                            |
| 211. | CSA                        | B64.1.2-11                  | Pressure Vacuum Breakers (PVB)                                                                                                                      | 7.2.10.10.(1)                                                            |
| 212. | CSA                        | B64.1.3-11                  | Spill-Resistant Pressure Vacuum Breakers (SRPVB)                                                                                                    | 7.2.10.10.(1)                                                            |
| 213. | CSA                        | B64.1.4-11                  | Vacuum Breaker, Air Space Type (ASVB)                                                                                                               | 7.2.10.10.(1)                                                            |
| 214. | CSA                        | B64.2-11                    | Hose Connection Vacuum Breakers (HCVB)                                                                                                              | 7.2.10.10.(1)                                                            |
| 215. | CSA                        | B64.2.1-11                  | Hose Connection Vacuum Breakers (HCVB) with Manual Draining Feature                                                                                 | 7.2.10.10.(1)                                                            |
| 216. | CSA                        | B64.2.1.1-11                | Hose Connection Dual Check Vacuum Breakers (HCDVB)                                                                                                  | 7.2.10.10.(1)                                                            |
| 217. | CSA                        | B64.2.2-11                  | Hose Connection Vacuum Breakers (HCVB) with Automatic Draining Feature                                                                              | 7.2.10.10.(1)                                                            |
| 218. | CSA                        | B64.3-11                    | Dual Check Valve Backflow Preventers with Atmospheric Port (DCAP)                                                                                   | 7.2.10.10.(1)<br>7.6.2.5.(4)                                             |
| 219. | CSA                        | B64.3.1-11                  | Dual Check Valve Backflow Preventers with Atmospheric Port for Carbonators (DCAPC)                                                                  | 7.2.10.10.(1)                                                            |
| 220. | CSA                        | B64.4-11                    | Reduced Pressure Principle (RP) Backflow Preventers                                                                                                 | 7.2.10.10.(1)                                                            |
| 221. | CSA                        | B64.4.1-11                  | Reduced Pressure Principle Backflow Preventers for Fire Protection Systems (RPF)                                                                    | 7.6.2.4.(2)<br>Table 7.6.2.4.<br>7.6.2.4.(4)                             |
| 222. | CSA                        | B64.5-11                    | Double Check Valve (DCVA) Backflow Preventers                                                                                                       | 7.2.10.10.(1)                                                            |
| 223. | CSA                        | B64.5.1-11                  | Double Check Valve Backflow Preventers for Fire Protection Systems (DCVAF)                                                                          | 7.6.2.4.(2)<br>Table 7.6.2.4.                                            |
| 224. | CSA                        | B64.6-11                    | Dual Check Valve (DuC) Backflow Preventers                                                                                                          | 7.2.10.10.(1)<br>7.6.2.6.(3)<br>7.7.1.1.(3)                              |
| 225. | CSA                        | B64.6.1-11                  | Dual Check Valve Backflow Preventers for Fire Protection Systems (DuCF)                                                                             | 7.6.4.2.(2)<br>Table 7.6.2.4.                                            |
| 226. | CSA                        | B64.7-11                    | Laboratory Faucet Vacuum Breakers (LFVB)                                                                                                            | 7.2.10.10.(1)                                                            |
| 227. | CSA                        | B64.8-11                    | Dual Check Valve Backflow Preventers with Intermediate Vent (DuCV)                                                                                  | 7.2.10.10.(1)                                                            |
| 228. | CSA                        | B64.9-11                    | Single Check Valve Backflow Preventers for Fire Protection Systems (SCVAF)                                                                          | 7.6.2.4.(2)<br>Table 7.6.2.4.                                            |
| 229. | CSA                        | B64.10-17                   | Selection and Installation of Backflow Preventers                                                                                                   | 7.2.10.10.(1)<br>7.6.2.3.(1)<br>Table 7.6.2.4.<br>7.6.2.6.(1)            |
| 230. | CSA                        | B66-10                      | Design, Material, and Manufacturing Requirements for Prefabricated Septic Tanks and Sewage Holding Tanks                                            | 8.2.2.2.(1)<br>8.2.2.2.(2)<br>8.2.2.2.(3)<br>8.2.2.3.(7)<br>8.2.2.3.(11) |
| 231. | CSA                        | CAN/CSA-B70-12              | Cast Iron Soil Pipe, Fittings, and Means of Joining                                                                                                 | 7.2.6.1.(1)<br>7.4.6.4.(2)                                               |
| 232. | CSA                        | CAN/CSA-B70.1-03            | Frames and Covers for Maintenance Holes and Catchbasins                                                                                             | 7.2.6.1.(3)                                                              |

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| 233. | CSA                        | B111-1974                   | Wire Nails, Spikes and Staples                                                                                 | 9.23.3.1.(1)<br>9.26.2.3.(1)<br>9.29.5.6.(1)                                                |
| 234. | CSA                        | B125.3-12                   | Plumbing Fittings                                                                                              | 7.2.10.6.(1)<br>7.2.10.10.(2)<br>7.6.5.2.(2)                                                |
| 235. | CSA                        | CAN/CSA-B128.1-06           | Design and Installation of Non-Potable Water Systems                                                           | 7.7.2.1.(2)<br>7.7.4.1.(1)                                                                  |
| 236. | CSA                        | B137.1-17                   | Polyethylene (PE) Pipe, Tubing, and Fittings for Cold-Water Pressure Services                                  | 7.2.5.5.(1)<br>Table 7.2.11.2.                                                              |
| 237. | CSA                        | B137.2-17                   | Polyvinylchloride (PVC) Injection-Moulded Gasketed Fittings for Pressure Applications                          | 7.2.5.8.(1)<br>7.2.5.10.(1)<br>Table 7.2.11.2.                                              |
| 238. | CSA                        | B137.3-17                   | Rigid Polyvinylchloride (PVC) Pipe and Fittings for Pressure Applications                                      | 7.2.5.8.(1)<br>7.2.5.10.(1)<br>Table 7.2.11.2.                                              |
| 239. | CSA                        | B137.5-17                   | Crosslinked Polyethylene (PEX) Tubing Systems for Pressure Applications                                        | 7.2.5.7.(1)<br>Table 7.2.11.2.                                                              |
| 240. | CSA                        | B137.6-17                   | Chlorinated Polyvinylchloride (CPVC) Pipe, Tubing, and Fittings for Hot- and Cold-Water Distribution Systems   | 7.2.5.9.(1)<br>Table 7.2.11.2.                                                              |
| 241. | CSA                        | B137.9-17                   | Polyethylene/Aluminum/Polyethylene (PE-AL-PE) Composite Pressure-Pipe Systems                                  | 7.2.5.13.(1)<br>Table 7.2.11.2.                                                             |
| 242. | CSA                        | B137.10-17                  | Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene (PEX-AL-PEX) Composite Pressure-Pipe Systems        | 7.2.5.13.(4)<br>7.2.5.14.(1)<br>Table 7.2.11.2.                                             |
| 243. | CSA                        | B137.11-17                  | Polypropylene (PP-R) Pipe and Fittings for Pressure Applications                                               | 7.2.5.15.(1)                                                                                |
| 244. | CSA                        | B158.1-1976                 | Cast Brass Solder Joint Drainage, Waste and Vent Fittings                                                      | 7.2.10.1.(1)                                                                                |
| 245. | CSA                        | CAN/CSA-B181.1-15           | Acrylonitrile-Butadiene-Styrene (ABS) Drain, Waste, and Vent Pipe and Pipe Fittings                            | 7.2.5.10.(1)<br>7.2.5.11.(1)<br>7.2.5.12.(1)<br>7.2.5.12.(2)<br>7.2.10.1.(2)<br>7.4.6.4.(2) |
| 246. | CSA                        | CAN/CSA-B181.2-15           | Polyvinylchloride (PVC) and Chlorinated Polyvinylchloride (CPVC) Drain, Waste, and Vent Pipe and Pipe Fittings | 7.2.5.10.(1)<br>7.2.5.11.(1)<br>7.2.5.12.(1)<br>7.2.5.12.(2)<br>7.2.10.1.(3)<br>7.4.6.4.(2) |
| 247. | CSA                        | CAN/CSA-B181.3-15           | Polyolefin and Polyvinylidene Fluoride (PVDF) Laboratory Drainage Systems                                      | 7.2.8.1.(1)                                                                                 |
| 248. | CSA                        | CAN/CSA-B182.1-15           | Plastic Drain and Sewer Pipe and Pipe Fittings                                                                 | Table 5.10.1.1.<br>7.2.5.10.(1)<br>7.2.5.12.(2)<br>7.4.6.4.(2)<br>9.14.3.1.(1)              |
| 249. | CSA                        | CAN/CSA-B182.2-15           | PSM Type Polyvinylchloride (PVC) Sewer Pipe and Fittings                                                       | 7.2.5.10.(1)<br>7.2.5.12.(2)                                                                |
| 250. | CSA                        | CAN/CSA-B182.4-15           | Profile Polyvinylchloride (PVC) Sewer Pipe and Fittings                                                        | 7.2.5.10.(1)                                                                                |
| 251. | CSA                        | CAN/CSA-B182.6-15           | Profile Polyethylene (PE) Sewer Pipe and Fittings for Leak-Proof Sewer Applications                            | 7.2.5.10.(1)                                                                                |
| 252. | CSA                        | CAN/CSA-B182.8-15           | Profile Polyethylene (PE) Storm Sewer and Drainage Pipe and Fittings                                           | 7.2.5.10.(1)                                                                                |
| 253. | CSA                        | B214-16                     | Installation Code for Hydronic Heating Systems                                                                 | 6.2.1.4.(6)                                                                                 |
| 254. | CSA                        | B242-05                     | Groove- and Shoulder-Type Mechanical Pipe Couplings                                                            | 7.2.10.4.(1)                                                                                |
| 255. | CSA                        | B272-93                     | Prefabricated Self-Sealing Roof Vent Flashings                                                                 | 7.2.10.14.(2)                                                                               |
| 256. | CSA                        | B355-09                     | Lifts for Persons with Physical Disabilities                                                                   | 3.8.3.5.(1)                                                                                 |

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| 257. | CSA                        | CAN/CSA-B356-10             | Water Pressure Reducing Valves for Domestic Water Supply Systems                              | 7.2.10.12.(1)                                                                                                             |
| 258. | CSA                        | B365-17                     | Installation Code for Solid-Fuel-Burning Appliances and Equipment                             | 6.2.1.4.(1)<br>6.2.1.4.(5)<br>9.21.1.3.(1)<br>9.22.10.2.(1)<br>9.33.1.2.(1)                                               |
| 259. | CSA                        | B366.1-11                   | Solid-Fuel-Fired Central Heating Appliances                                                   | 6.2.1.4.(2)                                                                                                               |
| 260. | CSA                        | B415.1-10                   | Performance Testing of Solid-Fuel-Burning Heating Appliances                                  | 6.2.1.4.(7)<br>9.33.1.2.(2)                                                                                               |
| 261. | CSA                        | B481.0-12                   | Material, Design, and Construction Requirements for Grease Interceptors                       | 7.2.3.2.(4)                                                                                                               |
| 262. | CSA                        | B481.1-12                   | Testing and Rating of Grease Interceptors Using Lard                                          | 7.2.3.2.(3)<br>8.1.3.1.(8)                                                                                                |
| 263. | CSA                        | B481.2-12                   | Testing and Rating of Grease Interceptors Using Oil                                           | 7.2.3.2.(3)<br>8.1.3.1.(8)                                                                                                |
| 264. | CSA                        | B481.3-12                   | Sizing, Selection, Location, and Installation of Grease Interceptors                          | 7.2.3.2.(4)                                                                                                               |
| 265. | CSA                        | B481.4-12                   | Maintenance of Grease Interceptors                                                            | 8.9.3.3.(1)                                                                                                               |
| 266. | CSA                        | CAN/CSA-B483.1-07           | Drinking Water Treatment Systems                                                              | 7.2.10.17.(1)                                                                                                             |
| 267. | CSA                        | B602-16                     | Mechanical Couplings for Drain, Waste, and Vent Pipe and Sewer Pipe                           | 7.2.5.3.(2)<br>7.2.10.4.(2)                                                                                               |
| 268. | CSA                        | C22.2 No. 0.3-09            | Test Methods for Electrical Wires and Cables                                                  | 3.1.4.3.(1)<br>3.1.4.3.(2)<br>3.1.5.18.(1)<br>3.1.5.18.(2)<br>3.1.5.21.(1)<br>3.1.5.21.(2)<br>3.6.4.3.(1)<br>9.34.1.5.(1) |
| 269. | CSA                        | C22.2 No. 113-10            | Fans and Ventilators                                                                          | 9.32.3.9.(6)                                                                                                              |
| 270. | CSA                        | C22.2 No. 141-10            | Emergency Lighting Equipment                                                                  | 3.2.7.4.(2)<br>3.4.5.1.(3)<br>9.9.11.3.(3)<br>9.9.12.3.(7)                                                                |
| 271. | CSA                        | C22.2 No. 211.0-03          | General Requirements and Methods of Testing for Nonmetallic Conduit                           | 3.1.5.20.(1)                                                                                                              |
| 272. | CSA                        | CAN/CSA-C22.2 No. 262-04    | Optical Fiber Cable and Communication Cable Raceway Systems                                   | 3.1.5.20.(1)                                                                                                              |
| 273. | CSA                        | CAN/CSA-C22.3 No. 1-10      | Overhead Systems                                                                              | 3.1.19.1.(2)                                                                                                              |
| 274. | CSA                        | CAN/CSA-C88-M90             | Power Transformers and Reactors                                                               | 3.6.2.7.(10)                                                                                                              |
| 275. | CSA                        | CAN/CSA-C260-M90            | Rating for the Performance of Residential Mechanical Ventilating Equipment                    | 9.32.3.9.(1)<br>9.32.3.9.(2)<br>Table 9.32.3.9.                                                                           |
| 276. | CSA                        | C282-15                     | Emergency Electrical Power Supply for Buildings                                               | 3.2.7.5.(1)                                                                                                               |
| 277. | CSA                        | CAN/CSA-C439-09             | Rating the Performance of Heat/Energy-Recovery Ventilators                                    | 9.32.3.11.(2)                                                                                                             |
| 278. | CSA                        | CAN/CSA-C448.1-13           | Design and Installation of Earth Energy Systems for Commercial and Institutional Buildings    | 6.2.1.4.(4)                                                                                                               |
| 279. | CSA                        | CAN/CSA-C448.2-13           | Design and Installation of Earth Energy Systems for Residential and Other Small Buildings     | 6.2.1.4.(3)                                                                                                               |
| 280. | CSA                        | F280-12                     | Determining the Required Capacity of Residential Space Heating and Cooling Appliances         | 6.2.1.1.(1)<br>9.33.2.2.(3)                                                                                               |
| 281. | CSA                        | CAN/CSA-F326-M91            | Residential Mechanical Ventilation Systems                                                    | 6.2.1.1.(1)                                                                                                               |
| 282. | CSA                        | CAN/CSA-F379.1-09           | Packaged Solar Domestic Hot Water Systems (Liquid-to-Liquid Heat Transfer) for All-Season Use | 7.2.10.13.(1)<br>7.6.2.5.(3)<br>7.6.2.5.(4)                                                                               |
| 283. | CSA                        | CAN/CSA-F383-08             | Installation of Packaged Solar Domestic Hot Water Systems                                     | 7.6.1.13.(2)                                                                                                              |
| 284. | CSA                        | G30.18-09                   | Carbon Steel Bars for Concrete Reinforcement                                                  | 9.3.1.1.(4)<br>9.39.1.3.(1)                                                                                               |

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| 285. | CSA                        | G40.21-13                   | Structural Quality Steel                                                                                          | 4.2.3.8.(1)<br>Table 5.10.1.1.<br>9.23.4.3.(2)                                                                                                    |
| 286. | CSA                        | CAN/CSA-G164-M92            | Hot Dip Galvanizing of Irregularly Shaped Articles                                                                | 4.4.4.1.(4)                                                                                                                                       |
| 287. | CSA                        | CAN/CSA-G401-14             | Corrugated Steel Pipe Products                                                                                    | Table 5.10.1.1.<br>7.2.6.8.(1)<br>9.14.3.1.(1)                                                                                                    |
| 288. | CSA                        | CAN/CSA-O80 Series-08       | Wood Preservation                                                                                                 | 3.1.4.5.(1)<br>4.2.3.2.(1)<br>4.2.3.2.(2)<br>Table 5.10.1.1.                                                                                      |
| 289. | CSA                        | CAN/CSA-O80.1-08            | Specification of Treated Wood                                                                                     | 9.3.2.9.(6)                                                                                                                                       |
| 290. | CSA                        | CAN/CSA-O80.2-08            | Processing and Treatment                                                                                          | 4.2.3.2.(1)                                                                                                                                       |
| 291. | CSA                        | CAN/CSA-O80.3-08            | Preservative Formulations                                                                                         | 4.2.3.2.(1)                                                                                                                                       |
| 292. | CSA                        | O80.15-97                   | Preservative Treatment of Wood for Building Foundation Systems, Basements, and Crawl Spaces by Pressure Processes | 4.2.3.2.(1)                                                                                                                                       |
| 293. | CSA                        | O86-14                      | Engineering Design in Wood                                                                                        | Table 4.1.8.9.<br>4.3.1.1.(1)                                                                                                                     |
| 294. | CSA                        | O118.1-08                   | Western Red Cedar Shakes and Shingles                                                                             | Table 5.10.1.1.<br>9.27.7.1.(1)<br>Table 9.26.2.1.B.                                                                                              |
| 295. | CSA                        | O118.2-08                   | Eastern White Cedar Shingles                                                                                      | Table 5.10.1.1.<br>9.27.7.1.(1)<br>Table 9.26.2.1.B.                                                                                              |
| 296. | CSA                        | O121-08                     | Douglas Fir Plywood                                                                                               | Table 5.10.1.1.<br>9.23.14.2.(1)<br>9.23.15.2.(1)<br>Table 9.23.16.2.A.<br>9.27.8.1.(1)<br>9.30.2.2.(1)<br>Table A-13<br>Table A-14<br>Table A-15 |
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| 298. | CSA                        | CAN/CSA-O132.2 Series-90    | Wood Flush Doors                                                                                                  | 9.7.4.3.(4)                                                                                                                                       |
| 299. | CSA                        | O141-05                     | Softwood Lumber                                                                                                   | Table 5.10.1.1.<br>9.3.2.6.(1)                                                                                                                    |
| 300. | CSA                        | O151-09                     | Canadian Softwood Plywood                                                                                         | Table 5.10.1.1.<br>9.23.14.2.(1)<br>9.23.15.2.(1)<br>Table 9.23.16.2.A.<br>9.27.8.1.(1)<br>9.30.2.2.(1)<br>Table A-13<br>Table A-14<br>Table A-15 |
| 301. | CSA                        | O153-13                     | Poplar Plywood                                                                                                    | Table 5.10.1.1.<br>9.23.14.2.(1)<br>9.23.15.2.(1)<br>Table 9.23.16.2.A.<br>9.27.8.1.(1)<br>9.30.2.2.(1)                                           |
| 302. | CSA                        | O177-06                     | Qualification Code for Manufacturers of Structural Glued-Laminated Timber                                         | 4.3.1.2.(1)<br>Table A-11<br>Table A-16                                                                                                           |

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| 303. | CSA                        | O325-07                     | Construction Sheathing                                                                                                                     | Table 5.10.1.1.<br>9.23.14.2.(1)<br>9.23.14.4.(2)<br>Table 9.23.14.5.B.<br>9.23.15.2.(1)<br>9.23.15.3.(2)<br>Table 9.23.15.7.B.<br>Table 9.23.16.2.B.<br>9.29.9.1.(2)<br>9.29.9.2.(5)<br>Table A-13<br>Table A-14<br>Table A-15 |
| 304. | CSA                        | O437.0-93                   | OSB and Waferboard                                                                                                                         | Table 5.10.1.1.<br>9.23.14.2.(1)<br>9.23.14.4.(2)<br>9.23.15.2.(1)<br>9.23.15.3.(2)<br>Table 9.23.16.2.A.<br>9.27.10.1.(1)<br>9.29.9.1.(2)<br>9.30.2.2.(1)<br>Table A-13<br>Table A-14<br>Table A-15                            |
| 305. | CSA                        | S16-14                      | Design of Steel Structures                                                                                                                 | Table 4.1.8.9.<br>4.3.4.1.(1)                                                                                                                                                                                                   |
| 306. | CSA                        | S37-13                      | Antennas, Towers, and Antenna-Supporting Structures                                                                                        | 4.1.6.15.(1)<br>4.1.7.11.(1)                                                                                                                                                                                                    |
| 307. | CSA                        | S136-16                     | North American Specification for the Design of Cold-Formed Steel Structural Members (using the Appendix B provisions applicable to Canada) | 4.1.8.1.(5)<br>Table 4.1.8.9.<br>4.3.4.2.(1)                                                                                                                                                                                    |
| 308. | CSA                        | CAN/CSA-S157-05 / S157.1-05 | Strength Design in Aluminum / Commentary on CSA S157-05, Strength Design in Aluminum                                                       | 4.3.5.1.(1)                                                                                                                                                                                                                     |
| 309. | CSA                        | S304-14                     | Design of Masonry Structures                                                                                                               | Table 4.1.8.9.<br>4.3.2.1.(1)                                                                                                                                                                                                   |
| 310. | CSA                        | S307-M                      | Load Test Procedure for Wood Trusses for Houses and Small Buildings                                                                        | 9.23.13.11.(5)                                                                                                                                                                                                                  |
| 311. | CSA                        | S367-12                     | Air-, Cable-, and Frame-Supported Membrane Structures                                                                                      | 4.4.1.1.(1)                                                                                                                                                                                                                     |
| 312. | CSA                        | S406-16                     | Permanent Wood Foundations for Housing and Small Buildings                                                                                 | 9.13.2.7.(1)<br>9.15.2.4.(1)<br>9.16.5.1.(1)                                                                                                                                                                                    |
| 313. | CSA                        | S413-14                     | Parking Structures                                                                                                                         | 4.4.2.1.(1)                                                                                                                                                                                                                     |
| 314. | CSA                        | S478-95                     | Guideline on Durability in Buildings                                                                                                       | 5.1.4.2.(3)                                                                                                                                                                                                                     |
| 315. | CSA                        | Z32-09                      | Electrical Safety and Essential Electrical Systems in Health Care Facilities                                                               | 3.2.7.3.(4)<br>3.2.7.6.(1)<br>3.7.5.1.(1)                                                                                                                                                                                       |
| 316. | CSA                        | CAN/CSA-Z91-02              | Health and Safety Code for Suspended Equipment Operations                                                                                  | 4.4.4.1.(1)                                                                                                                                                                                                                     |
| 317. | CSA                        | Z240 MH Series-09           | Manufactured Homes                                                                                                                         | 3.1.1.1.(2) of Division C<br>3.2.4.1.(3) of Division C                                                                                                                                                                          |
| 318. | CSA                        | Z240.2.1-09                 | Structural Requirements for Manufactured Homes                                                                                             | 9.1.1.9.(1)<br>9.12.2.2.(6)<br>9.15.1.3.(1)                                                                                                                                                                                     |
| 319. | CSA                        | Z240.10.1-16                | Site Preparation, Foundation, and Installation of Buildings                                                                                | 9.15.1.3.(1)<br>9.23.6.3.(1)                                                                                                                                                                                                    |

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| 320. | CSA                        | CAN/CSA-Z241<br>Series-03                | Park Model Trailers                                                                                                                             | 9.38.1.1.(1)<br>9.38.2.1.(1)<br>3.1.1.1.(2) of<br>Division C<br>3.2.4.1.(3) of<br>Division C            |
| 321. | CSA                        | CAN/CSA-Z317.2-10                        | Special Requirements for Heating, Ventilation, and Air Conditioning (HVAC) Systems in Health Care Facilities                                    | 6.2.1.1.(1)<br>6.2.3.14.(1)                                                                             |
| 322. | CSA                        | CAN/CSA-Z662-15                          | Oil and Gas Pipeline Systems                                                                                                                    | 3.2.3.21.(1)                                                                                            |
| 323. | CSA                        | Z7396.1-12                               | Medical Gas Piping Systems - Part 1: Pipelines for Medical Gases, Medical Vacuum, Medical Support Gases, and Anaesthetic Gas Scavenging Systems | 3.7.5.2.(1)                                                                                             |
| 324. | CSA / IAPMO                | CSA B45.5-11 /<br>IAPMO Z124-2011        | Plastic Plumbing Fixtures                                                                                                                       | 7.2.2.2.(6)                                                                                             |
| 325. | CWC                        | 2014                                     | Engineering Guide for Wood Frame Construction                                                                                                   | 9.4.1.1.(1)                                                                                             |
| 326. | DBR                        | Technical Paper No.<br>194, May 1965     | Fire Endurance of Protected Steel Columns and Beams                                                                                             | Table 11.5.1.1.A.<br>Table 11.5.1.1.B.<br>Table 11.5.1.1.C.<br>Table 11.5.1.1.D/E.<br>Table 11.5.1.1.F. |
| 327. | DBR                        | Technical Paper No.<br>207, October 1965 | Fire Endurance of Unit Masonry Walls                                                                                                            | Table 11.5.1.1.A.<br>Table 11.5.1.1.B.<br>Table 11.5.1.1.C.<br>Table 11.5.1.1.D/E.<br>Table 11.5.1.1.F. |
| 328. | DBR                        | Technical Paper No.<br>222, June 1966    | Fire Endurance of Light-Framed and Miscellaneous Assemblies                                                                                     | Table 11.5.1.1.A.<br>Table 11.5.1.1.B.<br>Table 11.5.1.1.C.<br>Table 11.5.1.1.D/E.<br>Table 11.5.1.1.F. |
| 329. | EPA                        | 625/R-92/016 (1994)                      | Radon Prevention in the Design and Construction of Schools and Other Large Buildings                                                            | 6.2.1.1.(1)                                                                                             |
| 330. | FINA                       | 2009                                     | Rules and Regulations - FINA Facilities Rules 2009-2013 - FR5 Diving Facilities                                                                 | 3.11.4.1.(17)                                                                                           |
| 331. | HI                         | 2005                                     | Hydronics Institute Manuals                                                                                                                     | 6.2.1.1.(1)                                                                                             |
| 332. | HPVA                       | ANSI/HPVA HP-1-<br>2009                  | Hardwood and Decorative Plywood                                                                                                                 | Table 5.10.1.1.<br>9.27.8.1.(1)<br>9.30.2.2.(1)                                                         |
| 333. | HRAI                       | 2005                                     | Digest                                                                                                                                          | 6.2.1.1.(1)<br>6.2.3.5.(1)<br>6.2.4.3.(13)                                                              |
| 334. | HUD                        | Rehabilitation<br>Guidelines 2000        | Guideline on Fire Ratings of Archaic Materials and Assemblies                                                                                   | Table 11.5.1.1.A.<br>Table 11.5.1.1.B.<br>Table 11.5.1.1.C.<br>Table 11.5.1.1.D/E.<br>Table 11.5.1.1.F. |
| 335. | HVI                        | HVI 915-2013                             | Loudness Testing and Rating Procedure                                                                                                           | 9.32.3.9.(2)<br>Table 9.32.3.9.                                                                         |
| 336. | HVI                        | HVI 916-2013                             | Airflow Test Procedure                                                                                                                          | 9.32.3.9.(1)                                                                                            |
| 337. | IAPMO                      | PS 63-2014                               | Plastic Leaching Chambers                                                                                                                       | 8.7.2.3.(3)                                                                                             |
| 338. | ISO                        | 3864-1: 2011                             | Graphical Symbols - Safety Colours and Safety Signs - Part 1: Design Principles for Safety Signs and Safety Markings                            | 3.4.5.1.(2)<br>9.9.11.3.(2)                                                                             |
| 339. | ISO                        | 7010: 2011                               | Graphical Symbols - Safety Colours and Safety Signs - Registered Safety Signs                                                                   | 3.4.5.1.(2)<br>9.9.11.3.(2)                                                                             |
| 340. | ISO                        | 8201: 1987(E)                            | Acoustics - Audible Emergency Evacuation Signal                                                                                                 | 3.2.4.20.(2)                                                                                            |
| 341. | ISO                        | 10848:2006                               | Acoustics - Laboratory Measurement of the Flanking Transmission of Airborne and Impact Sound Between Adjoining Rooms                            | 5.8.1.4.(3)<br>5.8.1.4.(4)<br>5.8.1.5.(3)<br>5.8.1.5.(4)                                                |

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| 342. | ISO                        | 15712-1:2005                                  | Building Acoustics - Estimation of Acoustic Performance of Buildings From the Performance of Elements - Part 1: Airborne Sound Insulation Between Rooms | 5.8.1.4.(2)<br>5.8.1.4.(3)<br>5.8.1.4.(5)<br>5.8.1.4.(6)<br>5.8.1.4.(7)<br>5.8.1.5.(2)<br>5.8.1.5.(3)<br>5.8.1.4.(6)<br>5.8.1.4.(7)                                                                                                                            |
| 343. | ISO                        | 23599: 2012                                   | Assistive Products for Blind and Vision-Impaired Persons - Tactile Walking Surface Indicators                                                           | 3.8.3.18.(1)                                                                                                                                                                                                                                                   |
| 344. | MMAH                       | Supplementary Standard SA-1, January 15, 2019 | Objectives and Functional Statements Attributed to the Acceptable Solutions                                                                             | 1.2.1.1.(1) of Division A<br>1.2.1.1.(2) of Division A                                                                                                                                                                                                         |
| 345. | MMAH                       | Supplementary Standard SB-1, January 15, 2019 | Climatic and Seismic Data                                                                                                                               | 1.1.2.1.(1)<br>1.1.2.1.(2)<br>3.2.6.2.(2)<br>3.3.1.7.(1)<br>5.2.1.1.(1)<br>5.2.1.1.(2)<br>6.2.1.1.(1)<br>6.2.1.7.(1)<br>7.4.10.4.(1)<br>9.4.1.1.(3)<br>9.4.2.2.(1)<br>Tables 9.6.1.3.A. to 9.6.1.3.G.<br>Table 9.25.5.2.<br>Table 9.32.3.10.A.<br>9.33.3.2.(1) |
| 346. | MMAH                       | Supplementary Standard SB-2, January 15, 2019 | Fire Performance Ratings                                                                                                                                | 3.1.5.23.(1)<br>3.1.7.1.(2)<br>3.1.8.14.(2)<br>3.1.9.5.(1)<br>3.1.12.1.(3)<br>3.2.3.12.(1)<br>3.2.3.13.(4)<br>3.13.2.1.(8)<br>3.13.3.5.(1)<br>3.13.3.6.(2)<br>3.13.4.2.(7)<br>9.10.3.1.(1)<br>9.10.3.2.(1)<br>9.10.5.1.(4)<br>9.10.9.9.(1)                     |
| 347. | MMAH                       | Supplementary Standard SB-3, January 15, 2019 | Fire and Sound Resistance of Building Assemblies                                                                                                        | 5.8.1.3.(1)<br>5.8.1.3.(2)<br>9.10.3.1.(1)<br>9.10.5.1.(4)<br>9.11.1.3.(1)<br>9.11.1.3.(2)<br>Table 9.11.1.4.<br>9.29.5.9.(5)                                                                                                                                  |

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| 348. | MMAH                       | Supplementary Standard SB-4, January 15, 2019    | Measures for Fire Safety in High Buildings                                                | 3.2.6.2.(1)<br>3.2.6.2.(6)<br>3.2.6.5.(3)<br>3.2.6.9.(1)<br>Table 11.5.1.1.C.<br>Table 11.5.1.1.D/E.<br>Table 11.5.1.1.F.                                                                                                                  |
| 349. | MMAH                       | Supplementary Standard SB-6, September 14, 2012  | Percolation Time and Soil Descriptions                                                    | 8.2.1.2.(2)                                                                                                                                                                                                                                |
| 350. | MMAH                       | Supplementary Standard SB-7, September 14, 2012  | Guards for Housing and Small Buildings                                                    | 9.8.8.2.(5)                                                                                                                                                                                                                                |
| 351. | MMAH                       | Supplementary Standard SB-8, September 14, 2012  | Design, Construction and Installation of Anchorage Systems for Fixed Access Ladders       | 3.6.1.5.(1)                                                                                                                                                                                                                                |
| 352. | MMAH                       | Supplementary Standard SB-9, September 14, 2012  | Requirements for Soil Gas Control                                                         | 9.13.4.1.(1)<br>9.13.4.2.(3)<br>9.13.4.2.(4)                                                                                                                                                                                               |
| 353. | MMA                        | Supplementary Standard SB-10, December 22, 2016  | Energy Efficiency Requirements                                                            | Table 9.7.3.3.<br>12.2.1.1.(2)<br>12.2.1.2.(2)<br>12.2.2.1.(1)<br>12.2.3.1.(1)                                                                                                                                                             |
| 354. | MMAH                       | Supplementary Standard SB-11, September 14, 2012 | Construction of Farm Buildings                                                            | 1.3.1.2.(4) of Division A                                                                                                                                                                                                                  |
| 355. | MMA                        | Supplementary Standard SB-12, July 7, 2016       | Energy Efficiency for Housing                                                             | Table 9.7.3.3.<br>Table 11.5.1.1.C.<br>12.2.1.1.(3)<br>12.2.1.2.(3)                                                                                                                                                                        |
| 356. | MMAH                       | Supplementary Standard SB-13, September 14, 2012 | Glass in Guards                                                                           | 3.1.20.1.(1)                                                                                                                                                                                                                               |
| 357. | MMAH                       | Supplementary Standard SC-1, September 14, 2012  | Code of Conduct for Registered Code Agencies                                              | 3.7.4.1.(2) of Division C                                                                                                                                                                                                                  |
| 358. | MOE                        | PIBS 6879 2008                                   | Design Guidelines for Sewage Works                                                        | 7.1.5.5.(2)                                                                                                                                                                                                                                |
| 359. | MOE                        | PIBS 6881e 2008                                  | Design Guidelines for Drinking-Water Systems                                              | 7.1.5.5.(1)                                                                                                                                                                                                                                |
| 360. | NFPA                       | 2017 Publication                                 | National Fire Codes                                                                       | 6.2.1.1.(1)                                                                                                                                                                                                                                |
| 361. | NFPA                       | 13-2013                                          | Installation of Sprinkler Systems                                                         | 3.1.9.1.(4)<br>3.2.4.9.(2)<br>3.2.4.17.(1)<br>3.2.5.13.(1)<br>3.2.8.4.(7)<br>3.3.2.12.(3)<br>3.16.1.1.(3)<br>3.16.1.1.(4)<br>3.16.1.6.(2)<br>3.16.1.6.(8)<br>3.16.1.7.(2)<br>3.16.2.1.(1)<br>3.16.2.2.(1)<br>3.16.3.1.(1)<br>9.10.9.6.(11) |
| 362. | NFPA                       | 13D-2016                                         | Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes | 3.2.5.13.(3)                                                                                                                                                                                                                               |
| 363. | NFPA                       | 13R-2013                                         | Installation of Sprinkler Systems in Low-Rise Residential Occupancies                     | 3.2.5.13.(2)                                                                                                                                                                                                                               |
| 364. | NFPA                       | 14-2013                                          | Installation of Standpipe and Hose Systems                                                | 3.2.9.2.(1)                                                                                                                                                                                                                                |
| 365. | NFPA                       | 20-2016                                          | Installation of Stationary Pumps for Fire Protection                                      | 3.2.4.10.(4)<br>3.2.5.19.(1)                                                                                                                                                                                                               |

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| 366. | NFPA                       | 24-2013                                                                                     | Installation of Private Fire Service Mains and Their Appurtenances                                         | 7.2.11.1.(1)                                                                                                 |
| 367. | NFPA                       | 68-2013                                                                                     | Explosion Protection by Deflagration Venting                                                               | 3.3.6.3.(1)<br>3.3.6.4.(2)<br>3.3.6.4.(4)                                                                    |
| 368. | NFPA                       | 72-2016                                                                                     | National Fire Alarm and Signaling Code                                                                     | 3.2.4.22.(13)<br>9.10.19.1.(2)<br>9.10.19.3.(4)                                                              |
| 369. | NFPA                       | 80-2013                                                                                     | Fire Doors and Other Opening Protectives                                                                   | 3.1.8.5.(2)<br>3.1.8.10.(2)<br>3.1.8.14.(1)<br>3.1.9.1.(5)<br>3.13.3.1.(2)<br>9.10.9.6.(13)<br>9.10.13.1.(1) |
| 370. | NFPA                       | 82-2014                                                                                     | Incinerators and Waste and Linen Handling Systems and Equipment                                            | 6.2.6.1.(1)<br>9.10.10.5.(2)                                                                                 |
| 371. | NFPA                       | 91-2010                                                                                     | Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Noncombustible Particulate Solids           | 6.2.13.4.(1)                                                                                                 |
| 372. | NFPA                       | 96-2014                                                                                     | Ventilation Control and Fire Protection of Commercial Cooking Operations                                   | 3.2.4.9.(2)<br>3.6.3.5.(1)<br>6.2.2.6.(1)                                                                    |
| 373. | NFPA                       | 105-2013                                                                                    | Smoke Door Assemblies and other Opening Protectives                                                        | 3.1.8.5.(3)<br>3.1.8.5.(6)                                                                                   |
| 374. | NFPA                       | 130-2010                                                                                    | Fixed Guideway Transit and Passenger Rail Systems                                                          | 3.13.7.1.(1)                                                                                                 |
| 375. | NFPA                       | 211-2016                                                                                    | Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances                                             | 6.3.1.2.(2)<br>6.3.1.3.(1)                                                                                   |
| 376. | NFPA                       | 214-2011                                                                                    | Water-Cooling Towers                                                                                       | 6.2.3.14.(5)<br>6.2.3.14A.(4)                                                                                |
| 377. | NFPA                       | 701-2010                                                                                    | Fire Tests for Flame Propagation of Textiles and Films                                                     | 3.14.1.6.(1)<br>3.14.2.5.(1)                                                                                 |
| 378. | NFRC                       | 100-2014                                                                                    | Determining Fenestration Product U-Factors                                                                 | 12.3.1.2.(1)                                                                                                 |
| 379. | NFRC                       | 200-2014                                                                                    | Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence | 12.3.1.2.(1)                                                                                                 |
| 380. | NLGA                       | 2014                                                                                        | Standard Grading Rules for Canadian Lumber                                                                 | 1.4.1.2.(1) of Division A<br>9.3.2.1.(1)<br>Table 9.3.2.1.<br>Tables A-1 to A-10                             |
| 381. | NRCan                      | January 2005, including all amendments, revisions and supplements effective to May 31, 2006 | EnerGuide for New Houses: Administrative and Technical Procedures                                          | 12.2.1.1.(3)                                                                                                 |
| 382. | NSF                        | NSF/ANSI 46-2010                                                                            | Evaluation of Components and Devices Used in Wastewater Treatment Systems                                  | 8.6.2.1.(2)                                                                                                  |
| 383. | NSF                        | NSF/ANSI 61-2013                                                                            | Drinking Water System Components - Health Effects                                                          | 7.2.10.7.(1)                                                                                                 |
| 384. | SMACNA                     | ANSI/SMACNA 006-2006                                                                        | HVAC Duct Construction Standards - Metal and Flexible                                                      | 6.2.4.2.(3)<br>6.2.4.3.(11)<br>6.2.4.3.(12)                                                                  |
| 385. | SPRI                       | ANSI/GRHC/SPRI VR-1-2011                                                                    | Procedure for Investigating Resistance to Root Penetration on Vegetative Roofs                             | 5.6.1.2.(4)                                                                                                  |
| 386. | TPIC                       | 2014                                                                                        | Truss Design Procedures and Specifications for Light Metal Plate Connected Wood Trusses                    | 9.23.13.11.(6)                                                                                               |
| 387. | UL                         | ANSI/UL 300-2005                                                                            | Fire Extinguishing Systems for Protection of Commercial Cooking Equipment                                  | 6.2.2.6.(2)                                                                                                  |
| 388. | UL                         | ANSI/UL-1784-04                                                                             | Air Leakage Tests of Door Assemblies and Other Opening Protectives                                         | 3.1.8.4.(4)                                                                                                  |
| 389. | UL                         | UL 2034-2008                                                                                | Single and Multiple Station Carbon Monoxide Alarms                                                         | 6.2.12.3.(1)<br>9.33.4.3.(1)                                                                                 |

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| 390. | ULC                        | CAN/ULC-S101-14             | Fire Endurance Tests of Building Construction and Materials                                                       | 3.1.5.5A.(2)<br>3.1.5.12.(5)<br>3.1.5.12.(6)<br>3.1.5.12A.(3)<br>3.1.5.12A.(4)<br>3.1.7.1.(1)<br>3.1.11.7.(1)<br>3.2.3.8.(1)<br>3.2.6.5.(6)<br>9.10.16.3.(1) |
| 391. | ULC                        | CAN/ULC-S102-10             | Test for Surface Burning Characteristics of Building Materials and Assemblies                                     | 3.1.5.25.(1)<br>3.1.12.1.(1)<br>Table 5.10.1.1.<br>Table 9.23.16.2.A.                                                                                        |
| 392. | ULC                        | CAN/ULC-S102.2-10           | Test for Surface Burning Characteristics of Flooring, Floor Coverings, and Miscellaneous Materials and Assemblies | 3.1.12.1.(2)<br>3.1.13.4.(1)                                                                                                                                 |
| 393. | ULC                        | CAN/ULC-S102.3-07           | Fire Test of Light Diffusers and Lenses                                                                           | 3.1.13.4.(1)                                                                                                                                                 |
| 394. | ULC                        | CAN/ULC-S102.4-10           | Test for Fire and Smoke Characteristics of Electrical Wiring, Cables and Non-Metallic Raceways                    | 3.6.4.3.(1)                                                                                                                                                  |
| 395. | ULC                        | CAN/ULC-S104-15             | Fire Tests of Door Assemblies                                                                                     | 3.1.8.4.(1)<br>3.2.6.5.(3)                                                                                                                                   |
| 396. | ULC                        | CAN/ULC-S105-16             | Fire Door Frames Meeting the Performance Required by CAN/ULC-S104                                                 | 9.10.13.6.(1)                                                                                                                                                |
| 397. | ULC                        | CAN/ULC-S106-15             | Fire Tests of Window and Glass Block Assemblies                                                                   | 3.1.8.4.(1)                                                                                                                                                  |
| 398. | ULC                        | CAN/ULC-S107-10             | Fire Tests of Roof Coverings                                                                                      | 3.1.15.1.(1)                                                                                                                                                 |
| 399. | ULC                        | CAN/ULC-S109-14             | Flame Tests of Flame-Resistant Fabrics and Films                                                                  | 3.1.16.1.(1)<br>3.14.1.6.(1)<br>3.14.2.5.(1)<br>6.2.3.16.(1)<br>6.2.3.17.(1)<br>6.2.4.9.(1)                                                                  |
| 400. | ULC                        | CAN/ULC-S110-13             | Test for Air Ducts                                                                                                | 6.2.3.2.(2)<br>6.2.3.2.(4)                                                                                                                                   |
| 401. | ULC                        | CAN/ULC-S111-13             | Fire Tests for Air Filter Units                                                                                   | 6.2.3.13.(1)<br>6.2.4.14.(1)                                                                                                                                 |
| 402. | ULC                        | CAN/ULC-S112-10             | Fire Test of Fire Damper Assemblies                                                                               | 3.1.8.4.(1)                                                                                                                                                  |
| 403. | ULC                        | CAN/ULC-S112.1-10           | Leakage Rated Dampers for Use in Smoke Control Systems                                                            | 3.1.8.4.(3)<br>6.2.3.9.(3)                                                                                                                                   |
| 404. | ULC                        | CAN/ULC-S112.2-07           | Fire Test of Ceiling Firestop Flap Assemblies                                                                     | 3.1.9.5.(2)<br>3.6.4.3.(2)<br>9.10.13.14.(1)                                                                                                                 |
| 405. | ULC                        | CAN/ULC-S113-16             | Wood Core Doors Meeting the Performance Required by CAN/ULC-S104 for Twenty Minute Fire Rated Closure Assemblies  | 9.10.13.2.(1)                                                                                                                                                |
| 406. | ULC                        | CAN/ULC-S114-05             | Test for Determination of Non-Combustibility in Building Materials                                                | 1.4.1.2.(1) of Division A                                                                                                                                    |
| 407. | ULC                        | CAN/ULC-S115-11             | Fire Tests of Firestop Systems                                                                                    | 3.1.5.16.(3)<br>3.1.9.1.(1)<br>3.1.9.1.(2)<br>3.1.9.1.(3)<br>3.1.9.3A.(1)<br>3.1.9.4.(3)<br>3.1.9.4.(7)<br>9.10.9.6.(2)<br>9.10.9.7.(3)                      |
| 408. | ULC                        | CAN/ULC-S124-06             | Test for the Evaluation of Protective Coverings for Foamed Plastic                                                | 3.1.5.12A.(2)                                                                                                                                                |
| 409. | ULC                        | CAN/ULC-S126-14             | Test for Fire Spread Under Roof-Deck Assemblies                                                                   | 3.1.14.1.(1)<br>3.1.14.2.(1)                                                                                                                                 |
| 410. | ULC                        | CAN/ULC-S134-13             | Fire Test of Exterior Wall Assemblies                                                                             | 3.1.5.5.(1)<br>3.2.3.7.(3)<br>3.2.3.7.(6)                                                                                                                    |

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| 411. | ULC                        | S135-04                     | Test Method for the Determination of Combustibility Parameters of Building Materials Using an Oxygen Consumption Calorimeter (Cone Calorimeter) | 3.1.5.1.(2)                                                                                                    |
| 412. | ULC                        | CAN/ULC-S138-06             | Test for Fire Growth of Insulated Building Panels in a Full-Scale Room Configuration                                                            | 3.1.5.5A.(1)<br>3.1.5.5A.(3)                                                                                   |
| 413. | ULC                        | CAN/ULC-S139-12             | Fire Test for Evaluation of Integrity of Electrical Power, Data and Optical Fibre Cables                                                        | 3.2.7.10.(2)<br>3.2.7.10.(3)                                                                                   |
| 414. | ULC                        | CAN/ULC-S143-14             | Fire Tests for Non-Metallic Electrical and Optical Fibre Cable Raceway Systems                                                                  | 3.1.5.20.(1)                                                                                                   |
| 415. | ULC                        | CAN/ULC-S144-12             | Fire Resistance Test - Grease Duct Assemblies                                                                                                   | 3.6.3.5.(2)                                                                                                    |
| 416. | ULC                        | S505-1974                   | Fusible Links for Fire Protection Service                                                                                                       | 3.1.8.9.(1)                                                                                                    |
| 417. | ULC                        | S513-1978                   | Threaded Couplings for 38 mm and 65 mm Fire Hose                                                                                                | 3.2.9.2.(7)                                                                                                    |
| 418. | ULC                        | CAN/ULC-S524-14             | Installation of Fire Alarm Systems                                                                                                              | 3.1.8.9A.(3)<br>3.1.8.12.(3)<br>3.2.4.5.(1)<br>3.2.4.22.(6)<br>3.2.4.22.(11)<br>9.10.19.4.(3)<br>9.10.19.6.(2) |
| 419. | ULC                        | CAN/ULC-S531-14             | Smoke Alarms                                                                                                                                    | 3.2.4.22.(1)<br>9.10.19.1.(1)                                                                                  |
| 420. | ULC                        | CAN/ULC-S537-13             | Verification of Fire Alarm Systems                                                                                                              | 3.2.4.5.(2)<br>3.2.4.22.(6)                                                                                    |
| 421. | ULC                        | CAN/ULC-S540-13             | Residential Fire and Life Safety Warning Systems: Installation, Inspection, Testing and Maintenance                                             | 3.2.4.22A.(1)<br>9.10.19.8.(1)                                                                                 |
| 422. | ULC                        | CAN/ULC-S543-09             | Internal Lug Quick Connect Couplings for Fire Hose                                                                                              | 3.2.9.2.(7)                                                                                                    |
| 423. | ULC                        | CAN/ULC-S553-14             | Installation of Smoke Alarms                                                                                                                    | 3.2.4.22.(9)<br>9.10.19.3.(3)                                                                                  |
| 424. | ULC                        | CAN/ULC-S561-13             | Installation and Services for Fire Signal Receiving Centres and Systems                                                                         | 3.2.4.8.(4)<br>3.13.5.4.(1)                                                                                    |
| 425. | ULC                        | CAN/ULC-S572-17             | Photoluminescent and Self-Luminous Exit Signs and Path Marking Systems                                                                          | 3.4.5.1.(5)<br>9.9.11.3.(3)                                                                                    |
| 426. | ULC                        | CAN/ULC-S610-M87            | Factory-Built Fireplaces                                                                                                                        | 9.22.8.1.(1)                                                                                                   |
| 427. | ULC                        | S628-93                     | Fireplace Inserts                                                                                                                               | 9.22.10.1.(1)                                                                                                  |
| 428. | ULC                        | CAN/ULC-S629-16             | 650°C Factory-Built Chimneys                                                                                                                    | 9.21.1.2.(1)                                                                                                   |
| 429. | ULC                        | CAN/ULC-S639-M87            | Steel Liner Assemblies for Solid-Fuel Burning Masonry Fireplaces                                                                                | 9.22.2.3.(1)                                                                                                   |
| 430. | ULC                        | CAN/ULC-S701.1-17           | Thermal Insulation, Polystyrene Boards                                                                                                          | Table 5.10.1.1.<br>9.15.4.1.(1)<br>Table 9.23.16.2.A.<br>9.25.2.2.(1)<br>9.25.2.2.(4)                          |
| 431. | ULC                        | CAN/ULC-S702-14             | Mineral Fibre Thermal Insulation for Buildings                                                                                                  | Table 5.10.1.1.<br>Table 9.23.16.2.A.<br>9.25.2.2.(1)                                                          |
| 432. | ULC                        | CAN/ULC-S703-09             | Cellulose Fibre Insulation for Buildings                                                                                                        | Table 5.10.1.1.<br>9.25.2.2.(1)                                                                                |
| 433. | ULC                        | CAN/ULC-S704-11             | Thermal Insulation, Polyurethane and Polyisocyanurate, Boards, Faced                                                                            | Table 5.10.1.1.<br>Table 9.23.16.2.A.<br>9.25.2.2.(1)                                                          |
| 434. | ULC                        | CAN/ULC-S705.1-15           | Thermal Insulation - Spray Applied Rigid Polyurethane Foam, Medium Density - Material - Specification                                           | Table 5.10.1.1.<br>9.25.2.2.(1)                                                                                |
| 435. | ULC                        | CAN/ULC-S705.2-05           | Thermal Insulation - Spray Applied Rigid Polyurethane Foam, Medium Density - Application                                                        | Table 5.10.1.1.<br>9.25.2.5.(1)                                                                                |
| 436. | ULC                        | CAN/ULC-S706.1-16           | Wood Fibre Insulating Boards for Buildings                                                                                                      | Table 5.10.1.1.<br>9.23.15.7.(3)<br>Table 9.23.16.2.A.<br>9.25.2.2.(1)<br>9.29.8.1.(1)                         |
| 437. | ULC                        | CAN/ULC-S710.1-11           | Thermal Insulation - Bead-Applied One Component Polyurethane Air Sealant Foam, Part 1: Material Specification                                   | Table 5.10.1.1.                                                                                                |

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| 438. | ULC                        | CAN/ULC-S711.1-11           | Thermal Insulation - Bead-Applied Two Component Polyurethane Air Sealant Foam, Part 1: Material Specification | Table 5.10.1.1.                                |
| 439. | ULC                        | CAN/ULC-S716.1-12           | Exterior Insulation and Finish Systems (EIFS) - Materials and Systems                                         | 5.10.3.1.(1)<br>9.27.13.1.(1)<br>9.27.13.2.(1) |
| 440. | ULC                        | CAN/ULC-S716.2-12           | Exterior Insulation and Finish Systems (EIFS) - Installation of EIFS Components and Water Resistive Barrier   | 9.27.13.3.(2)                                  |
| 441. | ULC                        | CAN/ULC-S716.3-12           | Exterior Insulation and Finish Systems (EIFS) - Design Application                                            | 9.27.13.3.(1)                                  |
| 442. | ULC                        | CAN/ULC-S741-08             | Air Barrier Materials - Specification                                                                         | 5.4.1.2.(1)                                    |
| 443. | ULC                        | CAN/ULC-S1001-11            | Integrated Systems Testing of Fire Protection and Life Safety Systems                                         | 3.2.10.1.(1)<br>9.10.18.10.(1)                 |
| 444. | ULC                        | ULC/ORD-C199P-2002          | Combustible Piping for Sprinkler Systems                                                                      | 3.2.5.14.(2)<br>3.2.5.14.(5)                   |
| 445. | ULC                        | ULC/ORD-C263.1-99           | Sprinkler-Protected Window Systems                                                                            | 3.1.8.18.(1)                                   |
| 446. | ULC                        | ULC/ORD-C1254.6-1995        | Fire Testing of Restaurant Cooking Area Fire Extinguishing System Units                                       | 6.2.2.6.(2)                                    |
| 447. | USDA                       | October 1993                | Soil Survey Manual                                                                                            | 8.2.1.2.(2)                                    |
| 448. | WT                         | October 20, 2016            | Port Lands Flood Protection and Enabling Infrastructure Due Diligence Report                                  | 1.3.3.6.(4) of Division C                      |

Notes to Table 1.3.1.2.:

<sup>(1)</sup> Some titles have been abridged to omit superfluous wording.

**5. (1) Sentence 3.1.4.2.(1) of Division B of the Regulation is revoked and the following substituted:**

(1) Except as permitted in Sentence (3), foamed plastics that form part of a wall or ceiling assembly in *combustible construction* shall be protected from adjacent spaces in the *building*, other than adjacent concealed spaces within *attic or roof spaces*, crawl spaces, and wall and ceiling assemblies, by any of the following:

- (a) one of the interior finishes described in Subsections 9.29.4. to 9.29.9.,
- (b) provided the *building* does not contain a Group A, Group B or Group C *major occupancy*, sheet metal that,
  - (i) is mechanically fastened to the supporting assembly independent of the insulation,
  - (ii) is not less than 0.38 mm thick, and
  - (iii) has a melting point not less than 650°C, or
- (c) any thermal barrier that meets the requirements of Sentence 3.1.5.15.(2).

**(2) Article 3.1.4.2. of Division B of the Regulation is amended by adding the following Sentences:**

(3) A walk-in cooler or freezer consisting of factory-assembled wall, floor or ceiling panels containing foamed plastics is permitted to be used in a *building* permitted to be of *combustible construction*, provided the panels,

- (a) are protected on both sides by sheet metal not less than 0.38 mm thick having a melting point not less than 650°C,
- (b) do not contain an air space, and
- (c) when a sample panel with an assembled joint typical of field installation is subjected to the applicable test described in Subsection 3.1.12., have a *flame-spread rating* not more than that permitted for the space in which they are located, the space that they bound, or the walls of the *building* to which the cooler or freezer is attached, as applicable.

(4) The *flame-spread rating* of doors containing foamed plastics shall comply with Sentences 3.1.13.2.(1) to (3).

**6. Clause 3.1.4.5.(1)(a) of Division B of the Regulation is amended by striking out “CAN/CSA-O80 Series-M” and substituting “CAN/CSA-O80 Series”.**

**7. Sentence 3.1.4.7.(6) of Division B of the Regulation is amended by striking out “tongued and grooved phenolic-bonded plywood” in the portion before Clause (a) and substituting “tongued and grooved phenolic-bonded plywood, strandboard or waferboard”.**

**8. Sentence 3.1.5.1.(2) of Division B of the Regulation is amended by striking out “CAN/ULC-S135” in the portion before Clause (a) and substituting “ULC S135”.**

**9. Clause 3.1.5.2.(1)(b) of Division B of the Regulation is amended by striking out “mastics” at the beginning and substituting “self-adhesive tapes, mastics”.**

**10. Clause 3.1.5.4.(5)(a) of Division B of the Regulation is revoked and the following substituted:**

- (a) each window in an exterior wall face is an individual unit separated by a wall of *noncombustible construction* from every other opening in the exterior wall,

**11. Article 3.1.5.5. of Division B of the Regulation is revoked and the following substituted:**

**3.1.5.5. Combustible Components for Exterior Walls**

(1) Except as provided in Sentences (2) and (4), *combustible* components are permitted to be used for an exterior non-loadbearing wall assembly in a *building* required to be of *noncombustible construction*, provided that,

- (a) the *building* is,
  - (i) not more than 3 *storeys* in *building height*, or
  - (ii) not more than 6 *storeys* in *building height* if *sprinklered*,
- (b) when tested in accordance with CAN/ULC-S134, "Fire Test of Exterior Wall Assemblies", the wall assembly satisfies the following criteria for testing and conditions of acceptance:
  - (i) flaming on or in the wall assembly does not spread more than 5 m above the opening, and
  - (ii) the heat flux during the flame exposure on the wall assembly is not more than 35 kW/m<sup>2</sup> measured at 3.5 m above the opening, and
- (c) the interior surfaces of the wall assembly are protected by a thermal barrier conforming to Sentence 3.1.5.12.(5).

(2) Except as permitted by Articles 3.2.3.10. and 3.2.3.11., where the *limiting distance* in Tables 3.2.3.1.B. to 3.2.3.1.E. permits an area of *unprotected openings* of not more than 10% of the *exposing building face*, the construction requirements of Table 3.2.3.7. shall be met.

(3) A wall assembly permitted by Sentence (1) that includes *combustible* cladding of *fire-retardant treated wood* shall be tested for fire exposure after the cladding has been subjected to an accelerated weathering test as specified in ASTM D2898, "Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing".

(4) The requirements of this Article do not apply where foamed plastic insulation is used in an exterior wall assembly of a *building* and the insulation is protected in conformance with Sentences 3.2.3.8.(1) and (2).

**3.1.5.5A. Factory-Assembled Panels**

(1) Except as permitted in Sentence (2), factory-assembled wall and ceiling panels containing foamed plastic insulation with a *flame-spread rating* not more than 500 are permitted to be used in a *building* required to be of *noncombustible construction*, provided that,

- (a) the *building*,
  - (i) is *sprinklered*,
  - (ii) is not more than 18 m high, measured from *grade* to the underside of the roof, and
  - (iii) does not contain a Group A, Group B or Group C *major occupancy*, and
- (b) the panels,
  - (i) do not contain an air space,
  - (ii) when tested in accordance with CAN/ULC-S138, "Test for Fire Growth of Insulated Building Panels in a Full-Scale Room Configuration", meet the criteria set out in that document, and
  - (iii) when a sample panel with an assembled joint typical of field installation is subjected to the applicable test described in Subsection 3.1.12., have a *flame-spread rating* not more than that permitted for the room or space that they bound.

(2) Factory-assembled exterior wall panels containing thermosetting foamed plastic insulation are permitted to be used in a *building* required to be of *noncombustible construction*, provided that,

- (a) the *building*,
  - (i) is not more than 18 m high, measured from *grade* to the underside of the roof, and
  - (ii) does not contain a Group B or Group C *major occupancy*, and
- (b) the wall panels,
  - (i) do not contain an air space,
  - (ii) are protected on both sides by sheet steel not less than 0.38 mm thick,

- (iii) remain in place for not less than 10 min when tested in accordance with CAN/ULC-S101, "Fire Endurance Tests of Building Construction and Materials", where the exposed surface includes typical vertical and horizontal joints, and
- (iv) when a sample panel with an assembled joint typical of field installation is subjected to the applicable test described in Subsection 3.1.12., have a *flame-spread rating* not more than that permitted for the room or space that they bound.

(3) A walk-in cooler or freezer consisting of factory-assembled wall, floor or ceiling panels containing foamed plastic insulation with a *flame-spread rating* not more than 500 is permitted to be used in a *building* required to be of *noncombustible construction*, provided that,

- (a) the *building* is *sprinklered*,
- (b) the panels,
  - (i) are protected on both sides by sheet metal not less than 0.38 mm thick with a melting point not less than 650°C,
  - (ii) do not contain an air space,
- (iii) when tested in accordance with CAN/ULC-S138, "Test for Fire Growth of Insulated Building Panels in a Full-Scale Room Configuration", meet the criteria set out in that document, and
- (iv) when a sample panel with an assembled joint typical of field installation is subjected to the applicable test described in Subsection 3.1.12., have a *flame-spread rating* not more than that permitted for the space in which they are located, the space that they bound, or the walls of the *building* to which the cooler or freezer is attached, as applicable.

**12. Article 3.1.5.10. of Division B of the Regulation is revoked and the following substituted:**

**3.1.5.10. Combustible Interior Finish**

(1) Except as provided in Sentences (2) and (3), *combustible* interior wall and ceiling finishes described in Clause 3.1.13.1.(1)(b) that are not more than 1 mm thick are permitted in a *building* required to be of *noncombustible construction*.

(2) *Combustible* interior wall finishes, other than foamed plastics, that are not more than 25 mm thick are permitted in a *building* required to be of *noncombustible construction*, provided they have a *flame-spread rating* not more than 150 on any exposed surface or any surface that would be exposed by cutting through the material in any direction.

(3) Except as provided in Sentence (4), *combustible* interior ceiling finishes, other than foamed plastics, that are not more than 25 mm thick are permitted in a *building* required to be of *noncombustible construction*, provided that,

- (a) they have a *flame-spread rating* not more than 25 on any exposed surface or on any surface that would be exposed by cutting through the material in any direction, and
- (b) not more than 10% of the ceiling area within each *fire compartment* where such finishes are installed has a *flame-spread rating* not more than 150.

(4) *Combustible* interior ceiling finishes made of *fire-retardant treated wood* are permitted in a *building* required to be of *noncombustible construction*, provided they are not more than 25 mm thick or are exposed *fire-retardant treated wood* battens.

**13. Article 3.1.5.12. of Division B of the Regulation is revoked and the following substituted:**

**3.1.5.12. Combustible Insulation**

(1) Foamed plastic insulation shall conform to Article 3.1.5.12A.

(2) *Combustible* insulation with a *flame-spread rating* not more than 25 on any exposed surface, or any surface that would be exposed by cutting through the material in any direction, is permitted in a *building* required to be of *noncombustible construction*.

(3) *Combustible* insulation is permitted to be installed above roof decks, outside of *foundation* walls below ground level and beneath concrete slabs-on-ground of *buildings* required to be of *noncombustible construction*.

(4) Except as provided in Sentences (5) and (6), *combustible* insulation with a *flame-spread rating* more than 25 but not more than 500 on any exposed surface, or any surface that would be exposed by cutting through the material in any direction, is permitted in a *building* required to be of *noncombustible construction*, provided the insulation is protected from adjacent space in the *building*, other than adjacent concealed spaces within wall assemblies, by a thermal barrier consisting of,

- (a) not less than 12.7 mm thick gypsum board mechanically fastened to a supporting assembly independent of the insulation,
- (b) lath and plaster, mechanically fastened to a supporting assembly independent of the insulation,

- (c) masonry, or
- (d) concrete.

(5) *Combustible* insulation with a *flame-spread rating* more than 25 but not more than 500 on any exposed surface, or any surface that would be exposed by cutting through the material in any direction, is permitted in the exterior walls of a *building* required to be of *noncombustible construction*, that is not *sprinklered* and is more than 18 m high, measured from *grade* to the underside of the roof, provided the insulation is protected from adjacent space in the *building*, other than adjacent concealed spaces within wall assemblies, by a thermal barrier that,

- (a) consists of gypsum board not less than 12.7 mm thick, mechanically fastened to a supporting assembly independent of the insulation and with all joints either backed or taped and filled,
- (b) consists of lath and plaster, mechanically fastened to a supporting assembly independent of the insulation,
- (c) consists of masonry or concrete not less than 25 mm thick, or
- (d) when tested in conformance with CAN/ULC-S101, "Fire Endurance Tests of Building Construction and Materials", does not develop an average temperature rise more than 140°C or a maximum temperature rise more than 180°C at any point on its unexposed face within 10 min.

(6) *Combustible* insulation with a *flame-spread rating* more than 25 but not more than 500 on any exposed surface, or any surface that would be exposed by cutting through the material in any direction, is permitted in the interior walls, within ceilings and within roof assemblies of a *building* required to be of *noncombustible construction*, that is not *sprinklered* and is more than 18 m high, measured from *grade* to the underside of the roof, provided the insulation is protected from adjacent space in the *building*, other than adjacent concealed spaces within wall assemblies, by a thermal barrier that,

- (a) consists of Type X gypsum board not less than 15.9 mm thick, mechanically fastened to a supporting assembly independent of the insulation and with all joints either backed or taped and filled, conforming to,
  - (i) ASTM C1177 / C1177M, "Glass Mat Gypsum Substrate for Use as Sheathing",
  - (ii) ASTM C1178 / C1178M, "Coated Glass Mat Water-Resistant Gypsum Backing Panel",
  - (iii) ASTM C1396 / C1396M, "Gypsum Board",
  - (iv) ASTM C1658 / C1658M, "Glass Mat Gypsum Panels", or
  - (iiv) CAN/CSA-A82.27-M, "Gypsum Board",
- (b) consists of non-loadbearing masonry or concrete not less than 50 mm thick,
- (c) consists of loadbearing masonry or concrete not less than 75 mm thick, or
- (d) when tested in conformance with CAN/ULC-S101, "Fire Endurance Tests of Building Construction and Materials",
  - (i) does not develop an average temperature rise more than 140°C or a maximum temperature rise more than 180°C at any point on its unexposed face within 20 min, and
  - (ii) remains in place for not less than 40 min.

### 3.1.5.12A. Foamed Plastic Insulation

(1) Foamed plastic insulation is permitted to be installed above roof decks, outside of *foundation* walls below ground level and beneath concrete slabs-on-ground of a *building* required to be of *noncombustible construction*.

(2) Except as provided in Sentences (3) and (4), foamed plastic insulation with a *flame-spread rating* not more than 500 on any exposed surface, or any surface that would be exposed by cutting through the material in any direction, is permitted in a *building* required to be of *noncombustible construction*, provided the insulation is protected from adjacent space in the *building*, other than adjacent concealed spaces within wall assemblies, by a thermal barrier that,

- (a) consists of not less than 12.7 mm thick gypsum board mechanically fastened to a supporting assembly independent of the insulation,
- (b) consists of lath and plaster, mechanically fastened to a supporting assembly independent of the insulation,
- (c) consists of masonry,
- (d) consists of concrete, or
- (e) meets the requirements of classification B when tested in conformance with CAN/ULC-S124, "Test for the Evaluation of Protective Coverings for Foamed Plastic".

(3) Foamed plastic insulation with a *flame-spread rating* more than 25 but not more than 500 on any exposed surface, or any surface that would be exposed by cutting through the material in any direction, is permitted in the exterior walls of a *building* required to be of *noncombustible construction*, that is not *sprinklered* and is more than 18 m high, measured from

*grade* to the underside of the roof, provided the insulation is protected from adjacent space in the *building*, other than adjacent concealed spaces within wall assemblies, by a thermal barrier that,

- (a) consists of gypsum board not less than 12.7 mm thick, mechanically fastened to a supporting assembly independent of the insulation and with all joints either backed or taped and filled,
- (b) consists of lath and plaster, mechanically fastened to a supporting assembly independent of the insulation,
- (c) consists of masonry or concrete not less than 25 mm thick, or
- (d) when tested in conformance with CAN/ULC-S101, “Fire Endurance Tests of Building Construction and Materials”, does not develop an average temperature rise more than 140°C or a maximum temperature rise more than 180°C at any point on its unexposed face within 10 min.

(4) Foamed plastic insulation with a *flame-spread rating* more than 25 but not more than 500 on any exposed surface, or any surface that would be exposed by cutting through the material in any direction, is permitted in the interior walls, within ceilings and within roof assemblies of a *building* required to be of *noncombustible construction*, that is not *sprinklered* and is more than 18 m high, measured from *grade* to the underside of the roof, provided the insulation is protected from adjacent space in the *building*, other than adjacent concealed spaces within wall assemblies, by a thermal barrier that,

- (a) consists of Type X gypsum board not less than 15.9 mm thick, mechanically fastened to a supporting assembly independent of the insulation and with all joints either backed or taped and filled, conforming to,
  - (i) ASTM C1177 / C1177M, “Glass Mat Gypsum Substrate for Use as Sheathing”,
  - (ii) ASTM C1178 / C1178M, “Coated Glass Mat Water-Resistant Gypsum Backing Panel”,
  - (iii) ASTM C1396 / C1396M, “Gypsum Board”, or
  - (iv) CAN/CSA-A82.27-M, “Gypsum Board”,
- (b) consists of non-loadbearing masonry or concrete not less than 50 mm thick,
- (c) consists of loadbearing masonry or concrete not less than 75 mm thick, or
- (d) when tested in conformance with CAN/ULC-S101, “Fire Endurance Tests of Building Construction and Materials”,
  - (i) does not develop an average temperature rise more than 140°C or a maximum temperature rise more than 180°C at any point on its unexposed face within 20 min, and
  - (ii) remains in place for not less than 40 min.

**14. Sentence 3.1.7.1.(1) of Division B of the Regulation is amended by striking out “Article 3.1.7.2.” and substituting “Articles 3.1.7.2. and 3.6.3.5.”.**

**15. Article 3.1.8.4. of Division B of the Regulation is revoked and the following substituted:**

#### **3.1.8.4. Determination of Ratings**

(1) Except as permitted by Sentences (2) and 3.1.8.14.(1), the *fire-protection rating* for a *closure* shall be determined in accordance with,

- (a) CAN/ULC-S104, “Fire Tests of Door Assemblies”,
- (b) CAN/ULC-S106, “Fire Tests of Window and Glass Block Assemblies”, or
- (c) CAN/ULC-S112, “Fire Test of Fire Damper Assemblies”.

(2) Except as permitted by Sentence 3.1.8.10.(1), the *fire-protection rating* of a *closure* shall conform to Table 3.1.8.4. for the required *fire-resistance rating* of the *fire separation*.

(3) The leakage rate of smoke dampers and combination smoke and *fire dampers* shall,

- (a) be determined in accordance with the applicable provisions in CAN/ULC-S112.1, “Leakage Rated Dampers for Use in Smoke Control Systems”, and
- (b) conform to Class I, II or III of that standard.

(4) The leakage rate of a door assembly shall be determined in accordance with ANSI/UL-1784, “Air Leakage Tests of Door Assemblies and Other Opening Protectives”.

**Table 3.1.8.4.  
Fire-Protection Rating of Closure**

Forming Part of Sentence 3.1.8.4.(2) and Clause 3.1.9.1.(1)(a)

| Item | Column 1<br><i>Fire-Resistance Rating of Fire Separation</i> | Column 2<br><i>Required Fire-Protection Rating of Closure</i> |
|------|--------------------------------------------------------------|---------------------------------------------------------------|
| 1.   | 30 min                                                       | 20 min                                                        |
| 2.   | 45 min                                                       | 45 min                                                        |
| 3.   | 1 h                                                          | 45 min                                                        |
| 4.   | 1.5 h                                                        | 1 h                                                           |
| 5.   | 2 h                                                          | 1.5 h                                                         |
| 6.   | 3 h                                                          | 2 h                                                           |
| 7.   | 4 h                                                          | 3 h                                                           |

**16. (1) Sentence 3.1.8.5.(2) of Division B of the Regulation is amended by striking out “door, window assembly” in the portion before Clause (a) and substituting “door, *fire damper*, window assembly”.**

**(2) Sentence 3.1.8.5.(3) of Division B of the Regulation is revoked and the following substituted:**

**(3)** Except as otherwise specified in this Part, every smoke damper used as a *closure* in a required *fire separation* shall be installed in conformance with NFPA 105, “Smoke Door Assemblies and Other Opening Protectives”.

**(4)** If a door is installed so that it could damage the integrity of a *fire separation* if its swing is unrestricted, door stops shall be installed to prevent the damage.

**(5)** A leakage-rated door assembly rated in accordance with Sentence 3.1.8.4.(4) shall,

- (a) be installed in *fire separations* in protected *floor areas* described in Clause 3.3.1.7.(1)(b),
- (b) be installed in *fire separations* in *care* or *care and treatment occupancies* referred to in Sentence 3.3.3.5.(4) and installed in *fire separations* in *retirement homes* referred to in Sentence 3.3.4.11.(4),
- (c) except as provided in Sentence (7), be installed in *fire separations* of *public corridors* serving *dwelling units* in *storeys* that are not *sprinklered*, and
- (d) be installed in *firewalls* that are a *horizontal exit* referred to in Sentence 3.3.3.5.(3).

**(6)** Leakage-rated door assemblies required by Sentence (5) shall conform to NFPA 105, “Smoke Door Assemblies and Other Opening Protectives”.

**(7)** A leakage-rated door assembly need not be installed where a *dwelling unit* served by a *public corridor* has,

- (a) a second and separate *means of egress*, or
- (b) an open-air balcony that is sized to accommodate the number of occupants for which the *dwelling unit* is intended.

**17. Articles 3.1.8.7. and 3.1.8.8. of Division B of the Regulation are revoked and the following substituted:**

#### **3.1.8.7. Location of Fire Dampers and Smoke Dampers**

**(1)** Except as provided in Article 3.1.8.8., a *fire damper* having a *fire-protection rating* conforming to Sentence 3.1.8.4.(2) shall be installed in conformance with Article 3.1.8.9. in ducts or air-transfer openings that penetrate an assembly required to be a *fire separation*.

**(2)** Except as provided in Article 3.1.8.8A., a smoke damper or a combination smoke and *fire damper* shall be installed in conformance with Article 3.1.8.9A. in ducts or air-transfer openings that penetrate an assembly required to be a *fire separation*, where the *fire separation*,

- (a) separates a *public corridor*,
- (b) contains an egress door referred to in Sentence 3.4.2.4.(2),
- (c) serves an *assembly*, *care*, *care and treatment*, *detention* or *residential occupancy*, or
- (d) is installed to meet the requirements of Clause 3.3.1.7.(1)(b) or Sentence 3.3.3.5.(4) or 3.3.4.11.(4).

#### **3.1.8.8. Fire Dampers Waived**

**(1)** Except as permitted in Sentences (2) to (4), the requirement for *fire dampers* described in Sentence 3.1.8.7.(1) is permitted to be waived for,

- (a) ducts that serve commercial cooking equipment,

- (b) continuous *noncombustible* ducts having a melting point above 760°C that penetrate a vertical *fire separation* required by Sentence 3.3.1.1.(1) between *suites* of *assembly, mercantile, low hazard industrial, medium hazard industrial* or *high hazard industrial occupancy*,
  - (c) ducts or air-transfer openings that penetrate a vertical *fire separation* not required to have a *fire-resistance rating*, and
  - (d) *noncombustible* ducts or air-transfer openings that penetrate a horizontal *fire separation* not required to have a *fire-resistance rating*.
- (2) The requirement for *fire dampers* described in Sentence 3.1.8.7.(1) is permitted to be waived for *noncombustible* branch ducts having a melting point above 760°C that penetrate a *fire separation*,
- (a) provided the ducts,
    - (i) have a cross-sectional area not more than 130 cm<sup>2</sup> 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
    - (ii) 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
  - (b) 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*.
- (3) In elementary and secondary schools, a continuous *noncombustible* duct having a melting point above 760°C that pierces a *fire separation* having a *fire-resistance rating* of 30 min need not be equipped with a *fire damper* at the *fire separation*.
- (4) In a Group B, Division 3 *occupancy* which contains sleeping accommodation for not more than 10 persons, which has not more than six occupants who require assistance in evacuation in case of an emergency and which is equipped with a fire alarm system, a duct need not be equipped with a *fire damper* at a *fire separation*, provided duct-type *smoke detectors* have been installed to control smoke circulation as described in Article 3.2.4.13.

#### 3.1.8.8A. Smoke Dampers Waived

- (1) Except as permitted in Sentence (2), the requirement for smoke dampers or combination smoke and *fire dampers* described in Sentence 3.1.8.7.(2) is permitted to be waived for ducts,
- (a) that serve commercial cooking equipment,
  - (b) in which all inlet and outlet openings serve not more than one *fire compartment*, or
  - (c) that penetrate a vertical *fire separation* referred to in Clause 3.3.1.7.(1)(b) or in Sentence 3.3.3.5.(4), provided,
    - (i) the movement of air is continuous, and
    - (ii) the configuration of the air-handling system prevents the recirculation of exhaust or return air under fire emergency conditions.
- (2) The requirement for smoke dampers or combination smoke and *fire dampers* described in Sentence 3.1.8.7.(2) is permitted to be waived for *noncombustible* branch ducts having a melting point above 760°C that penetrate a *fire separation*,
- (a) provided the ducts,
    - (i) have a cross-sectional area not more than 130 cm<sup>2</sup> and serve only *air-conditioning* units or combined *air-conditioning* and heating units discharging air not more than 1.2 m above the floor,
    - (ii) 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
    - (iii) are required to function as part of a smoke control system, or
  - (b) 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*.

#### 18. Sentence 3.1.8.9.(4) of Division B of the Regulation is revoked and the following substituted:

- (4) A *fire damper* shall be installed in the vertical or horizontal position in which it was tested.

#### 19. Subsection 3.1.8. of Division B of the Regulation is amended by adding the following Article:

##### 3.1.8.9A. Installation of Smoke Dampers

- (1) Where smoke dampers are used as a *closure* in an air-transfer opening, they shall be installed in the plane of the *fire separation*.
- (2) Where combination smoke and *fire dampers* are used as a *closure* in a duct, they shall be installed within 610 mm of the plane of the *fire separation*, provided there is no inlet or outlet opening between the *fire separation* and the damper.

(3) Except as required by a smoke control system, smoke dampers and combination smoke and *fire dampers* shall be configured so as to close automatically upon a signal from an adjacent *smoke detector* located as described in CAN/ULC-S524, "Installation of Fire Alarm Systems", within 1.5 m horizontally of the duct or air-transfer opening in the *fire separation*,

- (a) on both sides of the air-transfer opening, or
- (b) in the duct downstream of the smoke damper or combination smoke and *fire damper*.

(4) Smoke dampers or combination smoke and *fire dampers* shall be installed in the vertical or horizontal position in which they were tested.

(5) A tightly fitted access door shall be installed for each smoke damper and combination smoke and *fire damper* to provide access for their inspection and the resetting of the release device.

**20. Article 3.1.8.12. of Division B of the Regulation is revoked and the following substituted:**

**3.1.8.12. Hold-Open Devices**

(1) Except as provided in Sentences 3.1.8.9.(1) and 3.1.8.9A.(3), a hold-open device is permitted to be used on a *closure* in a required *fire separation*, other than on an *exit* stair door in a *building* more than 3 *storeys* in *building height* and on a door for a vestibule required by Article 3.3.5.7., provided the device is designed to release the *closure* in conformance with this Article.

(2) Except as provided in Sentences (5) and (6), where the *building* is provided with a fire alarm system, a hold-open device permitted by Sentence (1) shall release,

- (a) in a single-stage system, upon any signal from the fire alarm system, and
- (b) in a two-stage system,
  - (i) upon any *alert signal* from the fire alarm system, or
  - (ii) upon actuation of any adjacent *smoke detectors*.

(3) Where the *building* is provided with a fire alarm system, a hold-open device permitted by Sentence (1) shall release upon a signal from a *smoke detector* connected to the fire alarm system and located as described in CAN/ULC-S524, "Installation of Fire Alarm Systems", where the hold-open device is used on,

- (a) an *exit* door,
- (b) a door opening into a *public corridor*,
- (c) an egress door referred to in Sentence 3.4.2.4.(2),
- (d) a door serving an *assembly, care, care and treatment, detention, or residential occupancy*,
- (e) a door in a *fire separation* referred to in Clause 3.3.1.7.(1)(b) or in Sentence 3.3.3.5.(4) or 3.3.4.11.(4), or
- (f) a door required to function as part of a smoke control system.

(4) Where the *building* is not provided with a fire alarm system, a hold-open device permitted by Sentence (1) shall release upon a signal from a *smoke alarm* located on either side of the *fire separation* at ceiling level within 1.5 m horizontally of the *closure* opening in the *fire separation*, where the hold-open device is used on *closures* described in Clauses (3)(a) to (e).

(5) Where a hold-open device is used on *closures* other than those described in Sentences (3) and (4), it is permitted to be released upon actuation of a heat-actuated device.

(6) A hold-open device used on a door located between a corridor used by the public and an adjacent sleeping room in a *care and treatment occupancy* need not release automatically as described in Sentence (2).

**21. Clause 3.1.8.18.(2)(a) of Division B of the Regulation is amended by striking out "*fire resistance rating*" and substituting "*fire-resistance rating*".**

**22. Sentence 3.1.9.1.(1) of Division B of the Regulation is amended by striking out "Except as required by Sentences (2) and (3) and permitted by Sentences (4) and (5)" at the beginning and substituting "Except as provided in Sentences (2) to (5) and Article 3.1.9.3A."**

**23. Subsection 3.1.9. of Division B of the Regulation is amended by adding the following Article:**

**3.1.9.3A. Penetration by Outlet Boxes**

(1) Except as provided in Sentences (2) and (3), outlet boxes are permitted to penetrate the membrane of an assembly required to have a *fire-resistance rating*, provided they are sealed at the penetration by a *fire stop* that has an FT rating not less than the *fire-resistance rating* of the *fire separation* when subjected to the fire test method in CAN/ULC-S115, "Fire Tests of Firestop Systems".

(2) Except as provided in Sentences 3.1.9.1.(2) and (3), *noncombustible* outlet boxes that penetrate a vertical *fire separation* or a membrane forming part of an assembly required to have a *fire-resistance rating* need not conform to Sentence (1), provided,

- (a) they do not exceed,
  - (i) 160 cm<sup>2</sup> in area, and
  - (ii) an aggregate area of 650 cm<sup>2</sup> in any 9.3 m<sup>2</sup> of surface area, and
- (b) the annular space between the membrane and *noncombustible* electrical outlet boxes does not exceed 3 mm.

(3) In addition to the requirements of Sentence (2), outlet boxes on opposite sides of a vertical *fire separation* having a *fire-resistance rating* shall be separated by,

- (a) a horizontal distance of not less than 600 mm, or
- (b) a *fire block* conforming to Article 3.1.11.7.

**24. (1) Sentence 3.1.11.7.(1) of Division B of the Regulation is amended by striking out “materials used to separate concealed spaces into compartments” and substituting “fire blocks”.**

**(2) Sentence 3.1.11.7.(4) of Division B of the Regulation is revoked and the following substituted:**

(4) In a *building* permitted to be of *combustible construction*, in a *combustible* roof system permitted by Sentence 3.1.5.3.(2), and in a raised platform permitted by Sentence 3.1.5.8.(2), *fire blocks* are permitted to be,

- (a) solid lumber or a structural composite lumber product conforming to ASTM D5456, “Evaluation of Structural Composite Lumber Products”, not less than 38 mm thick,
- (b) phenolic bonded plywood, OSB or waferboard not less than 12.5 mm thick with joints supported, or
- (c) two thicknesses of lumber or a structural composite lumber product conforming to ASTM D5456, “Evaluation of Structural Composite Lumber Products”, each not less than 19 mm thick with joints staggered, where the width or height of the concealed space requires more than one piece of lumber or structural composite lumber product not less than 38 mm thick to block off the space.

**(3) Sentence 3.1.11.7.(5) of Division B of the Regulation is amended by striking out “materials referred to in Sentences (1) to (4)” and substituting “fire blocks”.**

**(4) Sentence 3.1.11.7.(6) of Division B of the Regulation is amended by striking out “materials referred to in Sentences (1) to (4)” and substituting “fire blocks”.**

**25. Subclause 3.1.14.2.(2)(a)(ii) of Division B of the Regulation is revoked and the following substituted:**

- (ii) by a thermal barrier conforming to Clause 3.1.5.12.(4)(c) or (d) that is located on the underside of the *combustible* material or beneath the roof deck,

**26. Sentence 3.1.15.2.(2) of Division B of the Regulation is amended by striking out “or” at the end of Clause (b), by adding “or” at the end of Clause (c) and by adding the following Clause:**

- (d) a steel *building* system described in Article 4.3.4.3., provided the roof covering consists of metal sheets, metal shingles or other *noncombustible* roofing materials.

**27. Subsection 3.1.21. of Division B of the Regulation is revoked.**

**28. Sentence 3.2.1.2.(1) of Division B of the Regulation is amended by striking out “Subsection 3.2.2.” in the portion before Clause (a) and substituting “Subsection 3.2.2. and Sentences 3.2.5.13.(2) and (3)”.**

**29. (1) Sentence 3.2.3.6.(2) of Division B of the Regulation is amended by adding “Except as provided in Sentence (3.1)” at the beginning.**

**(2) Sentence 3.2.3.6.(3) of Division B of the Regulation is amended by adding “Except as provided in Sentence (3.1)” at the beginning.**

**(3) Article 3.2.3.6. of Division B of the Regulation is amended by adding the following Sentence:**

**(3.1)** Subject to Sentence (4), the face of a roof soffit is permitted to project to the property line, where it faces a *street*, lane or public thoroughfare.

**30. (1) Sentence 3.2.3.7.(3) of Division B of the Regulation is amended by striking out “Sentences 3.1.5.5.(1), (3) and (4)” and substituting “Sentence 3.1.5.5.(1)”.**

**(2) Sentence 3.2.3.7.(6) of Division B of the Regulation is amended by striking out “Sentences 3.1.5.5.(3) and (4)” and substituting “Subclauses 3.1.5.5.(1)(b)(i) and (ii)”.**

**31. Sentence 3.2.3.21.(1) of Division B of the Regulation is revoked and the following substituted:**

(1) A *building* shall not be constructed over an existing buried flammable gas main unless the gas main is encased in a gas-tight conduit in conformance with CAN/CSA-Z662, “Oil and Gas Pipeline Systems”.

**32. Clause 3.2.4.1.(2)(h) of Division B of the Regulation is revoked and the following substituted:**

(h) a *low hazard industrial occupancy* with an *occupant load* more than 75 above or below the *first storey*,

(h.1) a *medium hazard industrial occupancy* with an *occupant load* more than 75 above or below the *first storey*,

**33. Article 3.2.4.6. of Division B of the Regulation is revoked and the following substituted:**

#### **3.2.4.6. Reserved**

**34. (1) Sentence 3.2.4.7.(2) of Division B of the Regulation is amended by striking out “3.2.4.23.(3) and (4)” and substituting “3.2.4.23.(2) and (3)”.**

**(2) Sentence 3.2.4.7.(3) of Division B of the Regulation is amended by striking out “Clause 3.2.4.23.(4)(a)” and substituting “Clause 3.2.4.23.(3)(a)”.**

**35. Clause 3.2.4.13.(1)(d) of Division B of the Regulation is amended by striking out “Sentence 3.1.8.8.(8)” at the end and substituting “Sentence 3.1.8.8.(4)”.**

**36. Clause 3.2.4.20.(13)(d) of Division B of the Regulation is revoked and the following substituted:**

(d) the voice communication system referred to in Article 3.2.4.23. or 3.2.4.24. has a provision to override the automatic signal silence to allow the transmission of voice messages through silenced audible signal device circuits that serve the *dwelling units*.

**37. Article 3.2.4.22. of Division B of the Regulation is amended by adding the following Sentence:**

**(0.1)** Except as provided in Article 3.2.4.22A., *smoke alarms* shall be installed in accordance with this Article.

**38. Subsection 3.2.4. of Division B of the Regulation is amended by adding the following Article:**

#### **3.2.4.22A. Residential Fire Warning Systems**

(1) Except where a fire alarm system is installed or required in a *building*, *smoke detectors* forming part of a residential fire warning system installed in conformance with CAN/ULC-S540, “Residential Fire and Life Safety Warning Systems: Installation, Inspection, Testing and Maintenance”, are permitted to be installed in lieu of all *smoke alarms* required by Article 3.2.4.22., provided that the system is,

- (a) capable of sounding audible signals in accordance with Sentences 3.2.4.22.(8) and (12),
- (b) provided with a visual signalling component in accordance with Sentences 3.2.4.22.(13) to (15),
- (c) powered in accordance with Sentences 3.2.4.22.(5), and
- (d) provided with a silencing device in accordance with Sentences 3.2.4.22.(10) and (11).

**39. Article 3.2.4.23. of Division B of the Regulation is revoked and the following substituted:**

#### **3.2.4.23. Two-Way Voice Communication Systems**

(1) A voice communication system required by Subsection 3.2.6., Clause 3.3.2.4.(14)(f) or Sentence 3.3.4.11.(12) shall,

- (a) consist of a two-way means of communication with the central alarm and control facility and with the mechanical control centre from each *floor area*, and
- (b) be capable of broadcasting pre-recorded, synthesized or live messages from the central alarm and control facility that are audible and intelligible in all parts of the *building*, except in elevator cars.

(2) The voice communication system referred to in Sentence (1) shall include a means to silence the *alarm signal* in a single-stage fire alarm system while voice messages are being transmitted, but only after the *alarm signal* has initially sounded for not less than 30 s.

(3) The voice communication system referred to in Sentence (1) shall include a means to silence the *alert signal* and the *alarm signal* in a two-stage fire alarm system while voice messages are being transmitted, but only after the *alert signal* has initially sounded for not less than,

- (a) 10 s in hospitals that have supervisory personnel on duty for twenty-four hours each day, or
- (b) 30 s for all other *occupancies*.

(4) The voice communication system referred to in Sentence (1) shall be designed so that the *alarm signal* in a two-stage fire alarm system can be selectively transmitted to any zone or zones while maintaining an *alert signal* or selectively transmitting voice instructions to any other zone or zones in the *building*.

(5) The voice communication system referred to in Sentence (1) shall be designed so that visual signal devices are not interrupted while voice instructions are being transmitted.

(6) The voice communication system referred to in Sentence (1) shall be installed so that emergency communication devices are located in each *floor area* near *exit* stair shafts.

(7) A voice communication system referred to in Sentence (1) that is installed in a *building* that is not intended to be staffed, at times when the *building* will be occupied, with persons trained to provide instructions over the system shall include a pre-recorded message.

#### **3.2.4.24. One-Way Voice Communication Systems**

(1) Except for Group B, Division 1 and Group F, Division 1 *major occupancies*, a one-way voice communication system shall be installed in a *building* where,

- (a) a fire alarm system is required under Subsection 3.2.4.,
- (b) a two-stage fire alarm system is installed, and
- (c) the *occupant load* of the *building* exceeds 1 000.

(2) The voice communication system required by Sentence (1) shall consist of loudspeakers that are,

- (a) operated from the central alarm and control facility or, in the absence of a central alarm and control facility, from a designated area, and
- (b) designed and located so that transmitted messages are audible and intelligible in all parts of the *building*, except in elevator cars.

(3) A voice communication system required by Sentence (1) that is installed in a *building* that is not intended to be staffed, at times when the *building* will be occupied, with persons trained to provide instructions over loudspeakers described in Sentence (2) shall include a pre-recorded message.

(4) The voice communication system required by Sentence (1) shall meet the silencing and transmission requirements of Sentences 3.2.4.23.(2) to (5).

**40. Sentence 3.2.5.13.(2) of Division B of the Regulation is amended by striking out “Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height” in the portion before Clause (a) and substituting “Installation of Sprinkler Systems in Low-Rise Residential Occupancies”.**

**41. Sentence 3.2.5.14.(1) of Division B of the Regulation is amended by striking out “wet” and substituting “sprinkler”.**

**42. (1) Sentence 3.2.6.2.(1) of Division B of the Regulation is amended by striking out “(5)” and substituting “(5.1)”.**

**(2) Article 3.2.6.2. of Division B of the Regulation is amended by adding the following Sentence:**

**(5.1)** Except as provided in Article 3.2.4.13. or as otherwise provided in this Part, air handling systems used to provide make-up air to *public corridors* serving *suites* in a Group C *major occupancy* shall not shut down automatically upon actuation of the fire alarm so as to maintain corridor pressurization.

**43. (1) Clause 3.2.6.7.(2)(h) of Division B of the Regulation is amended by striking out “Sentences 3.2.4.23.(3) and (4)” at the end and substituting “Sentences 3.2.4.23.(2) and (3)”.**

**(2) Subclause 3.2.6.7.(2)(i) of Division B of the Regulation is revoked and the following substituted:**

- (i) actuate auxiliary equipment identified in Articles 3.2.6.2., 3.2.6.3. and 3.2.6.6., or

**44. Sentence 3.2.7.3.(1) of Division B of the Regulation is amended by striking out “and” at the end of Clause (k), by adding “and” at the end of Clause (l) and by adding the following Clause:**

- (m) washrooms with *fixtures* for *public use*.

**45. Clause 3.2.7.9.(1)(c) of Division B of the Regulation is amended by striking out “Article 3.2.6.2.” and substituting “Articles 3.2.6.2. and 3.3.3.6., other than air handling systems described in Sentence 3.2.6.2.(6)”.**

**46. (1) Sentence 3.2.7.10.(1) of Division B of the Regulation is amended by striking out “Sentences (2) to (9)” in the portion before Clause (a) and substituting “Sentences (2) to (9) and (11)”.**

**(2) Clause 3.2.7.10.(2)(a) of Division B of the Regulation is amended by striking out “ULC-S139, “Fire Test for Evaluation of Integrity of Electrical Cables”” and substituting “CAN/ULC-S139, “Fire Test for Evaluation of Integrity of Electrical Power, Data and Optical Fibre Cables””.**

**(3) Clause 3.2.7.10.(3)(a) of Division B of the Regulation is amended by striking out “ULC-S139, “Fire Test for Evaluation of Integrity of Electrical Cables”” and substituting “CAN/ULC-S139, “Fire Test for Evaluation of Integrity of Electrical Power, Data and Optical Fibre Cables””.**

**(4) Article 3.2.7.10. of Division B of the Regulation is amended by adding the following Sentences:**

**(10)** Distribution panels serving emergency lighting units located on other *storeys* shall be installed in a *service room* separated from the *floor area* by a *fire separation* having a *fire-resistance rating* of at least 1 h.

**(11)** Conductors leading from a distribution panel referred to in Sentence (10) to emergency lighting units located on other *storeys* shall be protected in accordance with Sentence (2) between the distribution panel and the *floor area* where the emergency lighting units are located.

**47. Section 3.2. of Division B of the Regulation is amended by adding the following Subsection:**

### **3.2.10. Testing of Integrated Fire Protection and Life Safety Systems**

#### **3.2.10.1. Testing**

**(1)** Where fire protection and life safety systems, and systems with fire protection and life safety functions, are integrated with each other, the systems shall be tested as a whole in accordance with CAN/ULC-S1001, “Integrated Systems Testing of Fire Protection and Life Safety Systems”, to verify that the systems have been properly integrated.

**48. (1) Clause 3.3.1.2.(1)(b) of Division B of the Regulation is amended by striking out “NRCC 53303” and substituting “NRCC 56192”.**

**(2) Sentence 3.3.1.2.(2) of Division B of the Regulation is revoked and the following substituted:**

**(2)** Systems for the ventilation of cooking equipment that is not within a *dwelling unit* and is used in processes producing grease-laden vapours shall be designed and installed in conformance with Articles 3.6.3.5 and 6.2.2.6.

**49. (1) Clause 3.3.1.7.(1)(b) of Division B of the Regulation is amended by striking out “Sentences (4) to (6)” in the portion before Subclause (i) and substituting “Sentences (4) and (5) and 3.1.8.5.(6)”.**

**(2) Sentence 3.3.1.7.(6) of Division B of the Regulation is revoked and the following substituted:**

**(6)** Reserved

**50. (1) Sentence 3.3.1.10.(1) of Division B of the Regulation is amended by adding “Sentence (5) and” before “Article 3.3.1.11.”.**

**(2) Article 3.3.1.10. of Division B of the Regulation is amended by adding the following Sentence:**

**(5)** Doors that serve individual storage spaces not more than 28 m<sup>2</sup> in area in *self-service storage buildings* need not conform to Sentence (1).

**51. Sentence 3.3.1.11.(1) of Division B of the Regulation is amended by striking out “Sentence (2)” in the portion before Clause (a) and substituting “Sentences (2) and 3.3.1.10.(5)”.**

**52. Sentence 3.3.1.12.(1) of Division B of the Regulation is revoked and the following substituted:**

**(1)** Except as required by Article 3.3.3.4. and Sentences 3.3.4.11.(11), 3.8.3.3.(1) and (2), a door that opens into or is located within a *public corridor* or other facility that provides *access to exit* from a *suite*,

(a) shall provide a clear opening of not less than 800 mm, if there is only one door leaf,

(b) shall, in a doorway with multiple leaves, have the active leaf providing a clear opening of not less than 800 mm,

(c) shall not open onto a step, and

(d) shall not have a threshold more than 13 mm higher than the floor surface except where,

(i) the threshold is used to contain spillage, or

(ii) the doorway provides access to an exterior balcony, other than a balcony required by Sentence 3.3.1.7.(2).

**53. Article 3.3.1.15. of Division B of the Regulation is revoked and the following substituted:**

#### **3.3.1.15. Tapered Treads in a Curved Flight**

**(1)** *Flights* shall consist solely of,

(a) straight *flights*, or

(b) curved *flights* complying with Sentence (2).

**(2)** *Tapered treads* in a curved *flight* that is not required as an *exit* shall have,

(a) a minimum *run* of 150 mm,

- (b) a *run* not less than 280 mm when measured at a point 300 mm from the centre line of the inside handrail, and
- (c) a riser conforming to Sentence 3.4.6.8.(2).

(3) *Tapered treads* shall have a consistent angle and uniform *run* and rise dimensions in accordance with the construction tolerances described in Article 3.4.6.8. when measured at a point 300 mm from the centre line of the inside handrail.

(4) All *tapered treads* within a *flight* shall turn in the same direction.

**54. Article 3.3.1.16. of Division B of the Regulation is amended by adding the following Sentence:**

(6) In a *building* that is not *sprinklered* in accordance with Sentence 3.2.5.13.(1), an *access to exit* that is part of the principal entrance serving a dance hall or a licensed beverage establishment with an *occupant load* more than 250 shall be at least one-half of the required *exit* width.

**55. (1) Clause 3.3.1.17.(1)(c) of Division B of the Regulation is revoked and the following substituted:**

- (c) at each raised floor, *mezzanine*, balcony, gallery, interior or exterior vehicular ramp, and at other locations where,
  - (i) the difference in level is more than 600 mm between the walking surface and the adjacent surface, or
  - (ii) the adjacent surface within 1 200 mm of the walking surface has a slope of more than 1 in 2 away from the walking surface.

(2) Sentence 3.3.1.17.(3) of Division B of the Regulation is amended by striking out “Openings” at the beginning and substituting “Except as permitted by Sentence 3.3.5.9.(1), openings”.

**(3) Sentence 3.3.1.17.(6) of Division B of the Regulation is revoked and the following substituted:**

- (6) Sentence (1) does not apply,
  - (a) to the front edges of *stages*,
  - (b) to loading docks,
  - (c) to floor pits in *repair garages*, or
  - (d) where access is provided for maintenance purposes only.

**56. (1) Sentence 3.3.1.18.(1) of Division B of the Regulation is amended by striking out “non-transparent” and substituting “visually contrasting”.**

**(2) Article 3.3.1.18. of Division B of the Regulation is amended by adding the following Sentence:**

(1.1) Fully glazed transparent doors, and fully glazed transparent sidelights and panels with widths greater than 300 mm, shall be marked in conformance with Sentence 3.8.3.3.(15).

(3) Sentence 3.3.1.18.(4) of Division B of the Regulation is amended by striking out “suitably marked to indicate their existence and position” at the end and substituting “marked in conformance with Sentence 3.8.3.3.(15)”.

**(4) Article 3.3.1.18. of Division B of the Regulation is amended by adding the following Sentence:**

(4.1) Glass in a vision panel in a door or in a transparent sidelight shall conform to Sentence 3.8.3.3.(14).

**57. Article 3.3.1.19. of Division B of the Regulation is revoked and the following substituted:**

**3.3.1.19. Exhaust Ventilation and Explosion Venting**

(1) Except as provided in Sentence (2), an exhaust ventilation system designed in conformance with the appropriate requirements of Part 6 shall be provided in a *building* or part of a *building* in which dust, fumes, gases, vapour or other impurities or contaminants have the potential to create a fire or explosion hazard.

(2) Where a *fire separation* required to have a *fire-resistance rating* is penetrated by a ventilation system required by Sentence (1) for power-ventilated enclosures in laboratories, the ducts shall be continuously enclosed from the first penetrated *fire separation* to any subsequent *fire separations* or concealed spaces and to the outdoors so that the highest *fire-resistance rating* of all the penetrated *fire separations* is maintained.

(3) Ducts described in Sentence (2) need not be equipped with a *fire damper*, a smoke damper or a combination smoke and *fire damper*.

(4) Explosion relief devices, vents or other protective measures conforming to Subsection 6.2.2. shall be provided for a space in which substances or conditions that have the potential to create an explosion hazard are present as a result of the principal use of a *building*.

**58. Clause 3.3.2.4.(23)(a) of Division B of the Regulation is amended by striking out “run” and substituting “run”.**

**59. Subsection 3.3.2. of Division B of the Regulation is amended by adding the following Article:**

**3.3.2.8A. Handrails in Aisles with Steps**

(1) Handrails shall be provided in aisles with steps in conformance with Table 3.3.2.8A.

**Table 3.3.2.8A.  
Types and Location of Handrails in Aisles with Steps**

Forming Part of Sentences 3.3.2.8A.(1) and (2)

| Item | Column 1<br>Aisle Width | Column 2<br>Handrail Requirements<br>Aisle Serving Seating on One Side                                                                                                                                                                                                                                                                                                                             | Column 3<br>Handrail Requirements<br>Aisle Serving Seating on Both Sides                                                                 |
|------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| 1.   | Less than 1 100 mm      | A continuous handrail that is located on the side of the aisle opposite the seats and conforms to Sentences 3.4.6.5.(3) to (7), (9), (11) and (12).                                                                                                                                                                                                                                                | A handrail that is located on one side at the end of each row of seats and conforms to Sentences 3.4.6.5.(3) to (6), (9), (11) and (12). |
| 2.   | 1 100 mm or more        | (a) A centre line handrail that conforms to Sentence (2), or<br>(b) a continuous handrail that is located on the side of the aisle opposite the seats and conforms to Sentences 3.4.6.5.(3) to (7), (9), (11) and (12), and, in addition to that continuous handrail, a handrail that is located at the end of each row of seats and conforms to Sentences 3.4.6.5.(3) to (6), (9), (11) and (12). | A centre line handrail that conforms to Sentence (2).                                                                                    |

(2) Handrails installed along aisle centre lines as required by Table 3.3.2.8A. shall,

- (a) comply with Sentences 3.4.6.5.(3) to (5), (7) and (12),
- (b) have gaps not less than 560 mm and not more than 915 mm wide, measured horizontally, at intervals not exceeding five rows of seats,
- (c) comply with Sentence 3.4.6.5.(11) at terminations and required gaps, and
- (d) have an intermediate rail located 305 mm below the principal handrail.

**60. Clause 3.3.2.10.(1)(b) of Division B of the Regulation is amended by striking out “run” and substituting “run”.**

**61. Sentence 3.3.2.13.(1) of Division B of the Regulation is amended by striking out “flight of stairs” in the portion before Clause (a) and substituting “flight”.**

**62. Sentence 3.3.3.5.(6) of Division B of the Regulation is revoked and the following substituted:**

(6) Reserved

**63. Sentence 3.3.3.8.(1) of Division B of the Regulation is amended by striking out “Sentences 3.4.6.5.(3) to (5) and (9) to (11)” at the end and substituting “Sentences 3.4.6.5.(5) to (7) and (11) to (13)”.**

**64. Sentence 3.3.4.6.(1) of Division B of the Regulation is revoked and the following substituted:**

(1) *Buildings* containing *dwelling units* shall be constructed so that airborne noise is controlled in conformance with Section 5.8.

**65. Clauses 3.3.4.9.(1)(b) and (c) of Division B of the Regulation are revoked and the following substituted:**

- (b) for a shower, grab bars described in Clause 3.8.3.13.(2)(g), and
- (c) for a bathtub, grab bars described in Clause 3.8.3.13.(4)(e).

**66. Clause 3.3.5.2.(1)(b) of Division B of the Regulation is amended by striking out “NRCC 53303” and substituting “NRCC 56192”.**

**67. (1) Sentence 3.3.5.4.(4) of Division B of the Regulation is amended by striking out “A garage” at the beginning and substituting “A storage garage or repair garage”.**

**(2) Sentence 3.3.5.4.(6) of Division B of the Regulation is revoked and the following substituted:**

(6) Where *storage garage* or *repair garage* floors or ramps are 600 mm or more above the adjacent ground or floor level, every opening through such floors and the perimeter of such floors and ramps shall be provided with,

- (a) a continuous curb not less than 140 mm high, a *guard* not less than 1 070 mm high and a vehicle guardrail not less than 500 mm high conforming to Sentence (6.1), or
- (b) a full-height wall conforming to Sentence (6.1).

(6.1) Vehicle guardrails and full-height walls required by Sentence (6) shall be designed and constructed to withstand the loading values specified in Sentence 4.1.5.15.(1).

**68. Subsection 3.3.5. of Division B of the Regulation is amended by adding the following Article:**

**3.3.5.9. Guards**

- (1) *Guards in industrial occupancies*, other than *guards in storage garages*, are permitted to consist of,
- (a) a top rail, and
  - (b) one or more intermediate rails spaced such that the openings through the *guard* are of a size that prevents the passage of a spherical object having a diameter of 535 mm.

**69. Article 3.3.6.2. of Division B of the Regulation is revoked and the following substituted:**

**3.3.6.2. Storage of Dangerous Goods**

(1) A room intended for the storage of solid and liquid *dangerous goods* classified as oxidizers or organic peroxides shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* of not less than 2 h.

(2) A room intended for the storage of reactive materials shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* of not less than 2 h.

(3) The design and *construction* of a *building* or part of a *building* intended for the storage of *dangerous goods* classified as explosives shall conform to the *Explosives Act* (Canada) and the regulations made under that Act.

**70. Article 3.4.2.3. of Division B of the Regulation is amended by adding the following Sentence:**

- (4) The distance between exterior doors leading from two or more *exit* stairs serving the same *floor area* shall be,
- (a) not less than 9 m, or
  - (b) not less than 6 m, where,
    - (i) the *building* is *sprinklered*, and
    - (ii) the exterior doors are located within 15 m of a *street*.

**71. Article 3.4.2.6. of Division B of the Regulation is amended by adding the following Sentence:**

(2) In a *building* that is not *sprinklered* in accordance with Sentence 3.2.5.13.(1), the principal entrance serving a dance hall or a licensed beverage establishment with an *occupant load* more than 250 shall provide at least one-half of the required *exit* width.

**72. Clause 3.4.3.2.(1)(b) of Division B of the Regulation is amended by striking out “run” and substituting “run”.**

**73. Sentence 3.4.3.4.(4) of Division B of the Regulation is amended by striking out “Handrails and construction below handrails are permitted” at the beginning and substituting “Handrails and construction below handrails, including handrail supports and stair stringers, are permitted”.**

**74. (1) Clause 3.4.5.1.(2)(c) of Division B of the Regulation is amended by striking out the portion before Subclause (i) and substituting the following:**

- (c) conform to ISO 7010, “Graphical Symbols - Safety Colours and Safety Signs - Registered Safety Signs” for the following symbols:

**(2) Clause 3.4.5.1.(3)(b) of Division B of the Regulation is amended by striking out “CSA 22.2” and substituting “CSA C22.2”.**

**75. Sentence 3.4.6.2.(1) of Division B of the Regulation is amended by striking out “flight” and substituting “flight”.**

**76. (1) Sentence 3.4.6.3.(1) of Division B of the Regulation is amended by striking out “flight of stairs” wherever it appears and substituting in each case “flight”.**

**(2) Clause 3.4.6.3.(2)(a) of Division B of the Regulation is amended by striking out “flight” and substituting “flight”.**

**77. Articles 3.4.6.4. and 3.4.6.5. of Division B of the Regulation are revoked and the following substituted:**

**3.4.6.4. Dimensions of Landings**

- (1) Except as permitted in Sentences (2) and (6), a landing shall be,
- (a) at least as wide as the width of the stair or ramp in which it occurs, and
  - (b) at least as long as the width of the stair or ramp in which it occurs.

(2) Where a landing in a stair or ramp does not turn or turns less than 90°, the length of the landing need not be more than the lesser of,

- (a) the required width of the stair or ramp, or
- (b) 1 100 mm.

(3) Where a landing in a stair or ramp turns less than 90°, the length of the landing shall be measured perpendicular to the nosings of adjacent steps or to the end of the ramp, at a distance equal to half the length required by Sentence (2) from the narrow edge of the landing.

(4) Where a doorway or stair empties onto a ramp through a side wall, there shall be a level area extending across the full width of the ramp, and for a distance of 300 mm on either side of the wall opening, except one side if it abuts on an end wall.

(5) Where a doorway or stair empties onto a ramp through an end wall, there shall be a level area extending across the full width of the ramp and along its length for not less than 900 mm.

(6) Where the direction of *exit* travel changes at a landing, the landing is permitted to be chamfered or curved in plan, provided the required width of the stair is maintained where measured perpendicular to the direction of *exit* travel across the landing.

### 3.4.6.5. Handrails

(1) At least one handrail shall be provided on straight *flights* that are less than 1 100 mm in width.

(2) One handrail shall be provided on each side of,

- (a) straight *flights* that are 1 100 mm or more in width,
- (b) curved *flights*, and
- (c) ramps.

(3) In addition to Sentence (2), intermediate handrails shall be provided so that,

- (a) a handrail is reachable within 825 mm of all portions of the required *exit* width, and
- (b) at least one portion of the stair or ramp between two handrails is the required *exit* width for stairs or ramps as described in Sentences 3.4.3.2.(7) and 3.4.3.4.(4).

(4) Where a stair or ramp is wider than its required *exit* width, handrails shall be located along the most direct path of travel.

(5) Handrails shall be continuously graspable along their entire length, shall be free of any sharp or abrasive elements, and shall have,

- (a) a circular cross-section with an outside diameter not less than 30 mm and not more than 43 mm, or
- (b) any non-circular cross-section with a perimeter not less than 100 mm and not more than 125 mm and whose largest cross-sectional dimension is not more than 45 mm.

(6) The height of handrails on stairs, on aisles with steps and on ramps shall be measured vertically from the top of the handrail to,

- (a) a straight line drawn tangent to the tread nosings of the stair served by the handrail, or
- (b) the surface of the ramp, floor or landing served by the handrail.

(7) Except as provided by Sentence (8) and Clause 3.8.3.4.(1)(e), the height of handrails on stairs, on aisles with steps and on ramps shall be,

- (a) not less than 865 mm, and
- (b) not more than 1070 mm.

(8) Handrails installed in addition to required handrails need not comply with Sentence (7).

(9) Required handrails shall be continuous throughout the length of,

- (a) a ramp, and
- (b) a *flight*, from the bottom riser to the top riser.

(10) Except as required by Sentence (16) and except where interrupted by doorways or newels at changes in direction, at least one handrail shall be continuous throughout the length of a stair or ramp, including at landings.

(11) Handrails shall be terminated in a manner that will not obstruct pedestrian travel or create a hazard.

(12) At least one handrail shall,

- (a) in the case of a stair,
  - (i) extend horizontally at the required height, not less than 300 mm beyond the top riser, and
  - (ii) continue to slope for a depth of one tread beyond the bottom riser followed by a 300 mm horizontal extension, and
- (b) in the case of a ramp, extend horizontally at the required height, not less than 300 mm beyond the top and bottom edges of the incline.

**(13)** The clearance between a handrail and any surface behind it shall be not less than,

- (a) 60 mm, if the surface behind the handrail is rough or abrasive, or
- (b) 50 mm, in all other cases.

**(14)** Handrails and their supports shall be designed and constructed to withstand the loading values specified in Sentence 4.1.5.14.(7).

**(15)** A ramp shall have handrails on both sides.

**(16)** In a long-term care home, a Group B, Division 3 *occupancy* and a *retirement home*, a continuous handrail shall be provided on both sides of a stair throughout the length of the stair, including landings, except where a handrail is interrupted by doorways or newels at changes in direction.

**78. (1) Sentences 3.4.6.6.(1) to (3) of Division B of the Regulation are revoked and the following substituted:**

**(1)** Every *exit* shall have a wall or a well-secured *guard* on each side where,

- (a) the difference in level is more than 600 mm between the walking surface and the adjacent surface, or
- (b) the adjacent surface within 1 200 mm of the walking surface has a slope of more than 1 in 2 away from the walking surface.

**(2)** Except as required by Sentence (4), the height of *guards* for *exit* stairs and *exit* ramps, as well as their landings, shall be not less than 1 070 mm.

**(3)** The height of *guards* shall be measured vertically to the top of the *guard* from,

- (a) a line drawn through the outside edges of the tread nosings, or
- (b) the surface of the ramp or landing.

**(2) Sentence 3.4.6.6.(4) of Division B of the Regulation is amended by striking out “stair nosings” at the end and substituting “tread nosings”.**

**(3) Sentence 3.4.6.6.(7) of Division B of the Regulation is amended by,**

- (a) striking out “stair nosings” in the portion before Clause (a) and substituting “tread nosings”; and
- (b) striking out “stair nosings” in Subclause (a)(i) and substituting “tread nosings”.

**79. Clauses 3.4.6.7.(1)(b) and (c) of Division B of the Regulation are revoked and the following substituted:**

- (b) 1 in 6 in an *industrial occupancy*,
- (c) 1 in 8 in all other *occupancies*, and

**80. (1) Sentence 3.4.6.8.(1) of Division B of the Regulation is amended by striking out “steps for stairs shall have a run of not less than 255” and substituting “steps in *flights* shall have a *run* of not less than 280”.**

**(2) Sentence 3.4.6.8.(2) of Division B of the Regulation is amended by,**

- (a) striking out “for stairs”; and
- (b) striking out “200” and substituting “180”.

**(3) Article 3.4.6.8. of Division B of the Regulation is amended by adding the following Sentence:**

**(2.1)** Steps in *flights* shall have no open risers,

- (a) except as provided in Article 3.3.4.7., and
- (b) except for the following stairs:
  - (i) fire escape stairs,
  - (ii) stairs that are principally used for maintenance and service, and
  - (iii) stairs that serve *industrial occupancies* other than *storage garages*.

(4) Sentence 3.4.6.8.(3) of Division B of the Regulation is amended by striking out “flight” wherever it appears and substituting in each case “*flight*”.

(5) Sentence 3.4.6.8.(4) of Division B of the Regulation is amended by,

(a) striking out “run” in the portion before Clause (a) and substituting “*run*”; and

(b) striking out “flight” at the end of Clause (b) and substituting “*flight*”.

(6) Sentence 3.4.6.8.(5) of Division B of the Regulation is amended by striking out “run and rise in successive flights” and substituting “*run and rise in successive flights*”.

(7) Sentence 3.4.6.8.(6) of Division B of the Regulation is revoked and the following substituted:

(6) Reserved

81. Article 3.4.6.9. of Division B of the Regulation is revoked and the following substituted:

#### 3.4.6.9. Curved Flights in Exits

(1) *Flights* used as an *exit* shall consist solely of,

(a) straight *flights*, or

(b) curved *flights* complying with Sentence (2).

(2) A curved *flight* used as an *exit* shall have,

(a) a handrail on each side,

(b) treads with a minimum *run* of 240 mm,

(c) treads with a *run* that conforms to Article 3.4.6.8. when measured at a point 300 mm from the centre line of the inside handrail, and

(d) an inside radius that is not less than twice the stair width.

(3) *Tapered treads* shall have a consistent angle and uniform *run* and rise dimensions in accordance with the construction tolerances described in Article 3.4.6.8. when measured at a point 300 mm from the centre line of the inside handrail.

(4) All *tapered treads* within a *flight* shall turn in the same direction.

82. Article 3.4.6.11. of Division B of the Regulation is amended by adding the following Sentences:

(1.1) Except as provided in Sentence (2) and where a threshold is used to contain spillage, a threshold for a doorway in an *exit* shall be not more than 13 mm higher than the surrounding finished floor surface.

(5) Where an *exit* door leading directly to the outside is subject to being obstructed by a parked vehicle or storage because of its location, a visible sign prohibiting such obstructions shall be permanently mounted on the exterior side of the door.

83. (1) Sentence 3.4.6.12.(1) of Division B of the Regulation is amended by striking out “Sentences (2) and (3)” in the portion before Clause (a) and substituting “Sentences (2) to (4)”.

(2) Article 3.4.6.12. of Division B of the Regulation is amended by adding the following Sentence:

(4) *Exit* doors need not conform to Sentence (1) where they serve,

(a) *storage garages* serving not more than one *dwelling unit*,

(b) accessory *buildings* serving not more than one *dwelling unit*, or

(c) storage *suites* not more than 28 m<sup>2</sup> in area that are on the *first storey* of a warehouse and open directly outdoors at ground level.

84. Sentence 3.4.6.14.(1) of Division B of the Regulation is amended by striking out “Sentence (2) an *exit*” and substituting “Sentences (2) and 3.4.6.12.(4), an *exit*”.

85. Article 3.4.6.18. of Division B of the Regulation is revoked and the following substituted:

#### 3.4.6.18. Emergency Crossover Access to Floor Areas

(1) Except as permitted in Sentence (2), doors providing access to *floor areas* from *exit* stairs shall not have locking devices to prevent entry into any *floor area* from which the travel distance up or down to an unlocked door is more than 2 storeys.

(2) Doors referred to in Sentence (1) are permitted to be equipped with electromagnetic locks provided they comply with Sentences 3.4.6.16.(4) and (5).

(3) Doors referred to in Sentence (1) shall be identified by a permanently mounted sign on the stair side to indicate that they are openable from that side.

(4) Locked doors intended to prevent entry into a *floor area* from an *exit* stair shall,

- (a) be identified by a permanently mounted sign on the stair side to indicate the location of the nearest unlocked door in each direction of travel, and
- (b) be openable with a master key that fits all locking devices and is kept in a designated location accessible to firefighters or be provided with a wired glass panel not less than 0.0645 m<sup>2</sup> in area and located not more than 300 mm from the door opening hardware.

(5) Where access to a *floor area* is required by Sentence (1), access through unlocked doors to the *floor area* from at least one other *exit* shall also be provided.

(6) In a *building* not more than 6 *storeys* in *building height*, doors providing access from *exit* stairs to a *floor area* containing a *hotel* are permitted to have locking devices to prevent entry into the *floor area* provided the requirements in Clause (4)(b) are complied with.

**86. Sentence 3.4.7.5.(4) of Division B of the Regulation is amended by striking out “flight of stairs” in the portion before Clause (a) and substituting “flight”.**

**87. (1) Sentence 3.6.2.7.(1) of Division B of the Regulation is amended by striking out “solid masonry” and substituting “solid masonry”.**

**(2) Sentence 3.6.2.7.(8) of Division B of the Regulation is amended by striking out “Sentence 3.3.1.19.(2)” at the end and substituting “Sentence 3.3.1.19.(4)”.**

**88. Sentence 3.6.3.1.(1) of Division B of the Regulation is amended by striking out “Except as required by Section 3.5.” at the beginning and substituting “Except as provided in Section 3.5. and Articles 3.6.3.3. and 3.6.3.5.”.**

**89. Sentence 3.6.3.2.(1) of Division B of the Regulation is amended by striking out “Article 3.1.5.12.” at the end and substituting “Article 3.1.5.12A.”.**

**90. Subsection 3.6.3. of Division B of the Regulation is amended by adding the following Article:**

#### **3.6.3.5. Grease Duct Enclosures**

(1) Except as provided in Sentence (2), *fire separations* enclosing grease ducts for commercial cooking operations shall conform to NFPA 96, “Ventilation Control and Fire Protection of Commercial Cooking Operations”.

(2) The *fire-resistance rating* of field-applied and factory-built grease duct enclosure assemblies shall be determined in conformance with CAN/ULC-S144, “Fire Resistance Test - Grease Duct Assemblies”.

**91. Sentence 3.6.4.2.(1) of Division B of the Regulation is amended by striking out “A horizontal service space” at the beginning and substituting “Except as provided in Article 3.6.3.5., a horizontal service space”.**

**92. (1) Subclause 3.6.4.3.(1)(a)(iv) of Division B of the Regulation is amended by striking out “Fire and Smoke Characteristics of Electrical Wiring and Cables” and substituting “Fire and Smoke Characteristics of Electrical Wiring, Cables and Non-Metallic Raceways”.**

**(2) Sentence 3.6.4.3.(2) of Division B of the Regulation is amended by striking out “and” at the end of Clause (b), by adding “and” at the end of Clause (c) and by adding the following Clause:**

- (d) activate at a temperature approximately 30°C above the normal maximum temperature that occurs in the return-air *plenum*, whether the air duct system is operating or shut down.

**(3) Sentence 3.6.4.3.(3) of Division B of the Regulation is revoked.**

**93. Clause 3.7.4.2.(11)(b) of Division B of the Regulation is revoked and the following substituted:**

- (b) have a manual control that,
  - (i) has a lever type handle or is otherwise operable with a closed fist,
  - (ii) does not require the application of continuous force to maintain water flow, and
  - (iii) where metered, provides at least 10 s of water flow.

**94. Sentence 3.7.5.2.(1) of Division B of the Regulation is revoked and the following substituted:**

**(1) All medical gas piping systems shall be designed, constructed, installed and tested in conformance with,**

- (a) CSA Z7396.1, “Medical Gas Piping Systems - Part 1: Pipelines for Medical Gases, Medical Vacuum, Medical Support Gases, and Anaesthetic Gas Scavenging Systems”, and

- (b) the provisions of the Fire Code made under the *Fire Protection and Prevention Act, 1997* or, in the absence of such provisions, Part 3 of Division B of the CCBFC NRCC 56192, “National Fire Code of Canada”.

**95. Clauses 3.8.1.5.(1)(a) to (c) of Division B of the Regulation are revoked and the following substituted:**

- (a) be mounted,
  - (i) 1 200 mm above the finished floor, in the case of a thermostat or a manual pull station, and
  - (ii) not less than 900 mm and not more than 1 100 mm above the finished floor, in the case of all other controls, and
- (b) 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 1 370 mm, and
- (c) be operable,
  - (i) using one hand, without requiring tight grasping, pinching with fingers or twisting of the wrist, and with a force of not more than 22.2 N, in the case of a manual pull station, and
  - (ii) using a closed fist and with a force of not more than 22.2 N, in the case of all other controls.

**96. (1) Clause 3.8.2.3.(3)(b) of Division B of the Regulation is amended by adding “or enclosures” after “water closet stalls”.**

**(2) The heading to Column 2 of Table 3.8.2.3.B. of Division B of the Regulation is amended by adding “or Enclosures” after “Water Closet Stalls”.**

**(3) Clause 3.8.2.3.(6)(a) of Division B of the Regulation is amended by striking out “3.8.3.10.(5)” and substituting “3.8.3.10.(4)”.**

**(4) Clause 3.8.2.3.(6)(b) of Division B of the Regulation is amended by adding “or enclosure” after “water closet stall”.**

**97. (1) Sentence 3.8.3.3.(16) of Division B of the Regulation is revoked and the following substituted:**

**(16) Reserved**

**(2) Clauses 3.8.3.3.(17)(e) and (f) of Division B of the Regulation are revoked and the following substituted:**

- (e) be located to allow persons to activate the opening of the door from either direction of travel,
- (f) be located so that the path of travel is not obstructed,
- (g) be located in a clearly visible position, and
- (h) contain a sign incorporating the International Symbol of Access.

**(3) Clause 3.8.3.3.(19)(e) of Division B of the Regulation is amended by striking out “it shall comply with Sentences (16) and (17)” at the end and substituting “the control for the power door operator shall comply with Sentence (17)”.**

**98. Subclause 3.8.3.4.(1)(e)(v) of Division B of the Regulation is revoked and the following substituted:**

- (v) be provided with a clearance that conforms to Sentence 3.4.6.5.(13), and

**99. (1) Sentence 3.8.3.8.(1) of Division B of the Regulation is revoked and the following substituted:**

**(1) Every *barrier-free* water closet stall or enclosure in a washroom described in Sentence 3.8.2.3.(3) or (4) shall,**

- (a) have a clear turning space within the stall or enclosure of at least 1 500 mm in diameter,
- (b) have a clear floor space in front of the stall or enclosure of at least 1 500 mm in diameter,
- (c) be equipped with a door that,
  - (i) is capable of being latched from the inside with a mechanism conforming to Subclause 3.8.1.5.(1)(b)(ii),
  - (ii) in an open position, has a clear opening of at least 860 mm wide,
  - (iii) swings outward, unless 820 mm by 1 440 mm clear floor area is provided within the stall to permit the door to be closed without interfering with the wheelchair,
  - (iv) is self-closing so that, when at rest, the door remains open not more than 50 mm beyond the jamb,
  - (v) is provided with a horizontal, D-shaped, visually contrasting door pull on both sides of the door, mounted on the vertical centre line of the door, located at a height not less than 800 mm and not more than 1 000 mm above the finished floor,
  - (vi) is aligned with a clear transfer space required by Subclause (2)(a)(ii) or Clause (2)(b), and
  - (vii) is capable of having the latch required by Subclause (i) released from the outside in case of an emergency,

- (d) be equipped with a water closet conforming to Article 3.8.3.9. that is located in accordance with Clause (2)(a) or (b),
- (e) be equipped with a coat hook mounted not more than 1 200 mm above the finished floor on a side wall and projecting not more than 50 mm from the wall,
- (f) have a clearance of at least 1 700 mm between the outside of the stall face and the face of an in-swinging washroom door and 1 400 mm between the outside of the stall face and any wall-mounted fixture or other obstruction, and
- (g) be equipped with a toilet paper dispenser mounted on the side wall closest to the water closet so that,
  - (i) the dispenser is located below the grab bar,
  - (ii) the closest edge of the dispenser is 300 mm from the front of the water closet seat, and
  - (iii) the bottom of the dispenser is 600 mm to 800 mm above the finished floor.

**(2) Sentence 3.8.3.8.(2) of Division B of the Regulation is amended by striking out “Clause (1)(c)” in the portion before Clause (a) and substituting “Clause (1)(d)”.**

**(3) Clause 3.8.3.8.(7)(b) of Division B of the Regulation is amended by striking out “35 mm” and substituting “30 mm”.**

**(4) Clause 3.8.3.8.(8)(e) of Division B of the Regulation is amended by striking out “35 mm” and substituting “30 mm”.**

**(5) Sentence 3.8.3.8.(10) of Division B of the Regulation is amended by adding “or enclosure” after “water closet stall” in the portion before Clause (a).**

**100. Articles 3.8.3.9. and 3.8.3.10. of Division B of the Regulation are revoked and the following substituted:**

#### **3.8.3.9. Water Closets**

- (1)** A water closet described in Clause 3.8.3.8.(1)(d) or (10)(c) or 3.8.3.12.(1)(d) shall,
  - (a) be equipped with a seat located at not less than 430 mm and not more than 485 mm above the finished floor,
  - (b) flush automatically or be equipped with a flushing control that,
    - (i) is located between 500 mm and 900 mm above the finished floor,
    - (ii) is operable from the transfer side, and
    - (iii) is operable using a closed fist and with a force of not more than 22.2 N, and
  - (c) be equipped with a back support where there is no seat lid or tank.

#### **3.8.3.10. Urinals**

- (1)** Where more than one urinal is provided in a washroom described in Sentence 3.8.2.3.(3) or (4), at least one urinal shall,
  - (a) be mounted with the rim located not more than 430 mm above the finished floor,
  - (b) have a clear floor space at least 800 mm wide that is perpendicular to, and centred on, the urinal and is unobstructed by privacy screens, and
  - (c) have no step in front of it.
- (2)** A urinal described in Sentence (1) shall,
  - (a) flush automatically or be equipped with a flushing control that is,
    - (i) located between 900 mm and 1 100 mm above the finished floor, and
    - (ii) operable using a closed fist and with a force of not more than 22.2 N, and
  - (b) have installed on each side, a vertically mounted grab bar that,
    - (i) complies with Article 3.8.3.8.(7),
    - (ii) is not less than 600 mm long, with its centre line 1 000 mm above the finished floor, and
    - (iii) is located not more than 380 mm from the centre line of the urinal.
- (3)** Where privacy screens are installed for a urinal described in Sentence (1), they shall,
  - (a) be mounted a minimum of 460 mm from the centre line of the urinal, and
  - (b) have a clearance of at least 50 mm from the grab bars required by Clause (2)(b).

(4) Where more than one urinal is provided in a washroom described in Sentence 3.8.2.3.(6), at least one urinal conforming to Sentences (1) to (3) shall be provided in the washroom.

**101. (1) Sentence 3.8.3.11.(1) of Division B of the Regulation is revoked and the following substituted:**

(1) A washroom described in Sentence 3.8.2.3.(2), (3) or (4) shall be provided with a lavatory that shall,

- (a) be located so that the distance between the centre line of the lavatory and the side wall is not less than 460 mm,
- (b) have a rim height not more than 865 mm above the finished floor,
- (c) have a clearance beneath the lavatory not less than,
  - (i) 920 mm wide,
  - (ii) 735 mm high at the front edge,
  - (iii) 685 mm high at a point 200 mm back from the front edge, and
  - (iv) 350 mm high over the distance from a point 280 mm to a point 430 mm back from the front edge,
- (d) have insulated pipes where they would otherwise present a burn hazard or have water supply temperature limited to a maximum of 43°C,
- (e) be equipped with faucets that,
  - (i) operate automatically or comply with 3.7.4.2.(11)(b)(i) and (ii), and
  - (ii) 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,
- (f) have a minimum 1 370 mm deep floor space to allow for a forward approach, of which a maximum of 500 mm can be located under the lavatory,
- (g) have a soap dispenser that,
  - (i) operates automatically or is operable using a closed fist and with a force of not more than 22.2 N, and
  - (ii) is located not more than 1 100 mm above the finished floor, within 500 mm from the front of the lavatory, and,
- (h) have a towel dispenser or other hand drying equipment that is,
  - (i) located to be accessible to persons in wheelchairs,
  - (ii) located so that the dispensing height is not more than 1 200 mm above the finished floor,
  - (iii) operable with one hand, and
  - (iv) located not more than 610 mm, measured horizontally, from the edge of the lavatory.

(2) Sentence 3.8.3.11.(3) of Division B of the Regulation is amended by striking out “except those located in water closet stalls or described in Clause (1)(g)” in the portion before Clause (a) and substituting “other than those located in water closet stalls or enclosures and those described in Clause (1)(g)”.

**102. (1) Clause 3.8.3.12.(1)(b) of Division B of the Regulation is revoked and the following substituted:**

- (b) have a door that,
  - (i) complies with Article 3.8.3.3.,
  - (ii) has a graspable latch-operating mechanism that is,
    - (A) operable using a closed fist and with a force of not more than 22.2 N, and
    - (B) located between 900 mm and 1 000 mm above the finished floor, and
  - (iii) is capable of being locked from the inside and released from the outside in case of emergency,

**(2) Clause 3.8.3.12.(1)(i) of Division B of the Regulation is revoked and the following substituted:**

- (i) be provided with a door equipped with a power door operator,

**103. (1) Sentence 3.8.3.13.(2) of Division B of the Regulation is revoked and the following substituted:**

(2) A *barrier-free* shower required by Sentence (1) shall,

- (a) be not less than 1 500 mm wide and 900 mm deep,
- (b) have a clear floor space at the entrance to the shower not less than 900 mm deep and the same width as the shower, except that fixtures are permitted to project into that space provided they do not restrict access to the shower,

- (c) have no doors that obstruct the shower controls or the clear floor space described in Clause (b),
- (d) have a slip-resistant floor surface,
- (e) have a threshold that is level with the adjacent finished floor or a bevelled threshold not more than 13 mm higher than the adjacent finished floor,
- (f) have a hinged seat, other than a spring-loaded hinged seat, or a fixed seat that shall,
  - (i) be not less than 450 mm wide and 400 mm deep,
  - (ii) be mounted on the same side wall as the vertical grab bar between 460 mm and 480 mm above the finished floor,
  - (iii) be designed to carry a minimum load of 1.3 kN,
  - (iv) be located so that the edge of the seat is within 500 mm of the shower controls, and
  - (v) have a smooth and slip-resistant surface and no rough edges,
- (g) have two grab bars,
  - (i) that conform to Sentence 3.8.3.8.(7) and do not obstruct the use of the shower controls,
  - (ii) one of which is 1 000 mm long vertically located on the side wall between 50 mm and 80 mm from the adjacent clear floor area, and with the lower end between 600 mm and 650 mm above the finished floor, and
  - (iii) one of which is L-shaped, located on the wall opposite the entrance to the shower, with a 1 000 mm long horizontal component mounted between 750 mm and 870 mm above the finished floor and a 750 mm long vertical component mounted between 400 mm and 500 mm from the side wall on which the vertical grab bar described in Subclause (ii) is mounted,
- (h) have a pressure-equalizing or thermostatic mixing valve that,
  - (i) is operable using a closed fist and with a force of not more than 22.2 N,
  - (ii) is mounted on the wall opposite the entrance to the shower no more than 1 200 mm above the finished floor, and
  - (iii) is located within reach of the seat,
- (i) have a hand-held shower head with not less than 1 800 mm of flexible hose located so that it,
  - (i) can be reached from a seated position,
  - (ii) can be used in a fixed position at a height of 1 200 mm and 2 030 mm from the finished floor, and
  - (iii) does not obstruct the use of the grab bars, and
- (j) have fully recessed soap holders that can be reached from the seated position.

**(2.1)** All other controls installed in a shower described in Sentence (2) shall comply with Subclauses (2)(h)(i) to (iii).

**(2) Sentence 3.8.3.13.(4) of Division B of the Regulation is revoked and the following substituted:**

**(4)** Individual bathtubs that are provided for the use of patients or residents in *buildings* of Group B, Division 2 or 3 occupancy shall,

- (a) be located in a room with a clear floor space not less than 1 500 mm in diameter,
- (b) be not less than 1 500 mm long,
- (c) be capable of being accessed along the full length of the bathtub with no tracks mounted on the bathtub rim,
- (d) have faucets that,
  - (i) are operable using a closed fist and with a force of not more than 22.2 N, and
  - (ii) are located on the centre line of the bathtub or between the centre line of the bathtub and the exterior edge of the bathtub rim, at a maximum height of 450 mm above the rim,
- (e) unless the bathtub is free-standing, have three grab bars,
  - (i) conforming to Sentence 3.8.3.8.(7),
  - (ii) that are not less than 1 200 mm long,
  - (iii) two of which are located vertically at each end of the bathtub, mounted between 80 mm and 280 mm above the bathtub rim, and
  - (iv) one of which is located horizontally along the full length of the bathtub, mounted between 80 mm and 280 mm above the bathtub rim,

- (f) have a slip-resistant bottom surface, and
- (g) be equipped with a hand-held shower head with not less than 1 800 mm of flexible hose that can be used in a fixed position at a height of 1 200 mm and 2 030 mm and does not obstruct the use of the grab bars.

**(3) Sentence 3.8.3.13.(5) of Division B of the Regulation is amended by striking out “1 440 mm” and substituting “1 500 mm”.**

**104. Sentence 3.13.3.3.(2) of Division B of the Regulation is amended by striking out “flight of stairs” and substituting “flight”.**

**105. (1) Sentence 4.1.3.2.(7) of Division B of the Regulation is revoked and the following substituted:**

**(7)** The companion-load factor for *live loads*, **L** in Table 4.1.3.2.A. and **L<sub>XC</sub>** in Table 4.1.3.2.B. shall be increased by 0.5 for storage areas and for equipment areas and *service rooms* referred to in Table 4.1.5.3.

**(2) Tables 4.1.3.2.A. and 4.1.3.2.B. of Division B of the Regulation are revoked and the following substituted:**

**Table 4.1.3.2.A.  
Load Combinations without Crane Loads for Ultimate Limit States**

Forming Part of Sentences 4.1.3.2.(2) and (5) to (10)

| Item | Column 1<br>Case | Column 2<br>Load Combination <sup>(1)</sup><br>Principal Loads                 | Column 3<br>Load Combination <sup>(1)</sup><br>Companion Loads |
|------|------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------|
| 1.   | 1                | $1.4\mathbf{D}^{(2)}$                                                          | ---                                                            |
| 2.   | 2                | $(1.25\mathbf{D}^{(3)} \text{ or } 0.9\mathbf{D}^{(4)}) + 1.5\mathbf{L}^{(5)}$ | $1.0\mathbf{S}^{(6)} \text{ or } 0.4\mathbf{W}$                |
| 3.   | 3                | $(1.25\mathbf{D}^{(3)} \text{ or } 0.9\mathbf{D}^{(4)}) + 1.5\mathbf{S}$       | $1.0\mathbf{L}^{(6)(7)} \text{ or } 0.4\mathbf{W}$             |
| 4.   | 4                | $(1.25\mathbf{D}^{(3)} \text{ or } 0.9\mathbf{D}^{(4)}) + 1.4\mathbf{W}$       | $0.5\mathbf{L}^{(7)} \text{ or } 0.5\mathbf{S}$                |
| 5.   | 5                | $1.0\mathbf{D}^{(4)} + 1.0\mathbf{E}^{(8)}$                                    | $0.5\mathbf{L}^{(6)(7)} + 0.25\mathbf{S}^{(6)}$                |

**Notes to Table 4.1.3.2.A.:**

<sup>(1)</sup> See Sentences 4.1.3.2.(2), (3) and (4).

<sup>(2)</sup> See Sentence 4.1.3.2.(9).

<sup>(3)</sup> See Sentence 4.1.3.2.(8).

<sup>(4)</sup> See Sentence 4.1.3.2.(5).

<sup>(5)</sup> See Sentence 4.1.3.2.(6).

<sup>(6)</sup> See Article 4.1.5.5.

<sup>(7)</sup> See Sentence 4.1.3.2.(7).

<sup>(8)</sup> See Sentence 4.1.3.2.(10).

**Table 4.1.3.2.B.  
Load Combinations with Crane Loads for Ultimate Limit States**

Forming Part of Sentences 4.1.3.2.(2), (5) to (8) and (10)

| Item | Column 1<br>Case | Column 2<br>Load Combination <sup>(1)</sup><br>Principal Loads                                                 | Column 3<br>Load Combination <sup>(1)</sup><br>Companion Loads                  |
|------|------------------|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| 1.   | 1                | $(1.25\mathbf{D}^{(2)} \text{ or } 0.9\mathbf{D}^{(3)}) + (1.5\mathbf{C} + 1.0\mathbf{L}_{\mathbf{XC}})$       | $1.0\mathbf{S}^{(4)} \text{ or } 0.4\mathbf{W}$                                 |
| 2.   | 2                | $(1.25\mathbf{D}^{(2)} \text{ or } 0.9\mathbf{D}^{(3)}) + (1.0\mathbf{C} + 1.5\mathbf{L}_{\mathbf{XC}}^{(5)})$ | $1.0\mathbf{S}^{(4)} \text{ or } 0.4\mathbf{W}$                                 |
| 3.   | 3                | $(1.25\mathbf{D}^{(2)} \text{ or } 0.9\mathbf{D}^{(3)}) + 1.5\mathbf{S}$                                       | $1.0\mathbf{C} + 1.0\mathbf{L}_{\mathbf{XC}}^{(4)(6)}$                          |
| 4.   | 4                | $(1.25\mathbf{D}^{(2)} \text{ or } 0.9\mathbf{D}^{(3)}) + 1.4\mathbf{W}$                                       | $1.0\mathbf{C}^{(7)} + 0.5\mathbf{L}_{\mathbf{XC}}^{(4)(6)}$                    |
| 5.   | 5                | $(1.25\mathbf{D}^{(2)} \text{ or } 0.9\mathbf{D}^{(3)}) + \mathbf{C}_7$                                        | ---                                                                             |
| 6.   | 6                | $1.0\mathbf{D}^{(3)} + 1.0\mathbf{E}^{(8)}$                                                                    | $1.0\mathbf{C}_d + 0.5\mathbf{L}_{\mathbf{XC}}^{(4)(6)} + 0.25\mathbf{S}^{(4)}$ |

**Notes to Table 4.1.3.2.B.:**

<sup>(1)</sup> See Sentences 4.1.3.2.(2) to (4).

<sup>(2)</sup> See Sentence 4.1.3.2.(8).

<sup>(3)</sup> See Sentence 4.1.3.2.(5).

<sup>(4)</sup> See Article 4.1.5.5.

<sup>(5)</sup> See Sentence 4.1.3.2.(6).

<sup>(6)</sup> See Sentence 4.1.3.2.(7).

<sup>(7)</sup> Side thrust due to cranes need not be combined with full wind load.

<sup>(8)</sup> See Sentence 4.1.3.2.(10).

**106. Article 4.1.5.14. of Division B of the Regulation is revoked and the following substituted:**

**4.1.5.14. Loads on Guards and Handrails**

(1) The minimum specified horizontal load applied outward at the minimum required height of every required *guard* shall be,

- (a) 3.0 kN/m for open viewing stands without fixed seats and for *means of egress* in grandstands, stadia, bleachers and arenas,
- (b) a concentrated load of 1.0 kN applied at any point so as to produce the most critical effect, for access ways to equipment platforms, contiguous stairs and similar areas where the gathering of many people is improbable, and
- (c) 0.75 kN/m or a concentrated load of 1.0 kN applied at any point so as to produce the most critical effect, whichever governs for locations other than those described in Clauses (a) and (b).

(2) The minimum specified horizontal load applied inward at the minimum required height of every required *guard* shall be half that specified in Sentence (1).

(3) Individual elements within the *guard*, including solid panels and pickets, shall be designed for a load of 0.5 kN applied outward over an area of 100 mm by 100 mm located at any point in the element or elements so as to produce the most critical effect.

(4) The size of the opening between any two adjacent vertical elements within a *guard* shall not exceed the limits required by Part 3 when each of these elements is subjected to a specified *live load* of 0.1 kN applied in opposite directions in the in-plane direction of the *guard* so as to produce the most critical effect.

(5) The loads required in Sentence (3) need not be considered to act simultaneously with the loads provided for in Sentences (1), (2) and (6).

(6) The minimum specified load applied vertically at the top of every required *guard* shall be 1.5 kN/m and need not be considered to act simultaneously with the horizontal load provided for in Sentence (1).

(7) Handrails and their supports shall be designed and constructed to withstand the following loads, which need not be considered to act simultaneously:

- (a) a concentrated load not less than 0.9 kN applied at any point and in any direction for all handrails, and
- (b) a uniform load not less than 0.7 kN/m applied in any direction to handrails not located within *dwelling units*.

**107. (1) Sentence 4.1.5.15.(1) of Division B of the Regulation is amended by adding “so as to produce the most critical effect” at the end.**

**(2) Article 4.1.5.15. of Division B of the Regulation is amended by adding the following Sentence:**

(2) The loads described in Sentence (1) need not be considered to act simultaneously with the loads provided for in Article 4.1.5.14.

**108. Sentence 4.1.5.16.(1) of Division B of the Regulation is revoked and the following substituted:**

(1) Where the floor elevation on one side of a wall, including a wall around a shaft, is more than 600 mm higher than the elevation of the floor or ground on the other side, the wall shall be designed to resist the appropriate outward lateral design loads prescribed elsewhere in this Subsection or 0.5 kPa acting outward, whichever produces the more critical effect.

**109. Article 4.1.6.2. of Division B of the Regulation is revoked and the following substituted:**

**4.1.6.2. Specified Snow Load**

(1) The specified load, *S*, due to snow and associated rain accumulation on a roof or any other *building* surface subject to snow accumulation shall be calculated from the formula,

$$S = I_s [S_s (C_b C_w C_s C_a) + S_r]$$

where,

*I<sub>s</sub>* = importance factor for snow load as provided in Table 4.1.6.2.A.,

*S<sub>s</sub>* = 1-in-50-year ground snow load, in kPa, determined in accordance with Subsection 1.1.2.,

*C<sub>b</sub>* = basic roof snow load factor in Sentence (2),

$C_w$  = wind exposure factor in Sentences (3) and (4),

$C_s$  = slope factor in Sentences (5), (6) and (7),

$C_a$  = accumulation factor in Sentence (8), and

$S_r$  = 1-in-50-year associated rain load, in kPa, determined in accordance with Subsection 1.1.2., but not greater than  $S_s(C_b C_w C_s C_a)$ .

**Table 4.1.6.2.A.**  
**Importance Factor for Snow Load,  $I_s$**

Forming Part of Sentence 4.1.6.2.(1)

| Item | Column 1<br>Importance Category | Column 2<br>Importance Factor, $I_s$<br>ULS | Column 3<br>Importance Factor, $I_s$<br>SLS |
|------|---------------------------------|---------------------------------------------|---------------------------------------------|
| 1.   | Low                             | 0.8                                         | 0.9                                         |
| 2.   | Normal                          | 1                                           | 0.9                                         |
| 3.   | High                            | 1.15                                        | 0.9                                         |
| 4.   | Post-disaster                   | 1.25                                        | 0.9                                         |

(2) The basic roof snow load factor,  $C_b$ , shall be,

(a) for  $l_c \leq (70/C_w^2)$ , 0.8, and

(b) for  $l_c > (70/C_w^2)$ ,

(i) calculated using the following formula:

$$\frac{1}{C_w} \left[ 1 - (1 - 0.8C_w) \exp \left( - \frac{l_c C_w^2 - 70}{100} \right) \right]$$

where,

$l_c$  = characteristic length of the upper or lower roof, defined as  $2w \cdot w^2/l$ , in metres,

$w$  = smaller plan dimension of the roof, in metres, and

$l$  = larger plan dimension of the roof, in metres, or

(ii) determined in accordance with Table 4.1.6.2.B., using linear interpolation for intermediate values of  $l_c C_w^2$

**Table 4.1.6.2.B**  
**Basic Roof Snow Load Factor for  $l_c > (70/C_w^2)$**

Forming Part of Sentence 4.1.6.2.(2)

| Item | Column 1<br>Value of $l_c C_w^2$ | Column 2<br>Value of $C_b$ where $C_w = 1.0$ | Column 3<br>Value of $C_b$ where $C_w = 0.75$ | Column 4<br>Value of $C_b$ where $C_w = 0.5$ |
|------|----------------------------------|----------------------------------------------|-----------------------------------------------|----------------------------------------------|
| 1.   | 70                               | 0.80                                         | 0.80                                          | 0.80                                         |
| 2.   | 80                               | 0.82                                         | 0.85                                          | 0.91                                         |
| 3.   | 100                              | 0.85                                         | 0.94                                          | 1.11                                         |
| 4.   | 120                              | 0.88                                         | 1.01                                          | 1.27                                         |
| 5.   | 140                              | 0.90                                         | 1.07                                          | 1.40                                         |
| 6.   | 160                              | 0.92                                         | 1.12                                          | 1.51                                         |
| 7.   | 180                              | 0.93                                         | 1.16                                          | 1.60                                         |
| 8.   | 200                              | 0.95                                         | 1.19                                          | 1.67                                         |
| 9.   | 220                              | 0.96                                         | 1.21                                          | 1.73                                         |
| 10.  | 240                              | 0.96                                         | 1.24                                          | 1.78                                         |
| 11.  | 260                              | 0.97                                         | 1.25                                          | 1.82                                         |
| 12.  | 280                              | 0.98                                         | 1.27                                          | 1.85                                         |
| 13.  | 300                              | 0.98                                         | 1.28                                          | 1.88                                         |
| 14.  | 320                              | 0.98                                         | 1.29                                          | 1.90                                         |
| 15.  | 340                              | 0.99                                         | 1.30                                          | 1.92                                         |
| 16.  | 360                              | 0.99                                         | 1.30                                          | 1.93                                         |

| Item | Column 1<br>Value of $I_c C_w^2$ | Column 2<br>Value of $C_b$ where $C_w = 1.0$ | Column 3<br>Value of $C_b$ where $C_w = 0.75$ | Column 4<br>Value of $C_b$ where $C_w = 0.5$ |
|------|----------------------------------|----------------------------------------------|-----------------------------------------------|----------------------------------------------|
| 17.  | 380                              | 0.99                                         | 1.31                                          | 1.95                                         |
| 18.  | 400                              | 0.99                                         | 1.31                                          | 1.96                                         |
| 19.  | 420                              | 0.99                                         | 1.32                                          | 1.96                                         |
| 20.  | 440                              | 1.00                                         | 1.32                                          | 1.97                                         |
| 21.  | 460                              | 1.00                                         | 1.32                                          | 1.98                                         |
| 22.  | 480                              | 1.00                                         | 1.32                                          | 1.98                                         |
| 23.  | 500                              | 1.00                                         | 1.33                                          | 1.98                                         |
| 24.  | 520                              | 1.00                                         | 1.33                                          | 1.99                                         |
| 25.  | 540                              | 1.00                                         | 1.33                                          | 1.99                                         |
| 26.  | 560                              | 1.00                                         | 1.33                                          | 1.99                                         |
| 27.  | 580                              | 1.00                                         | 1.33                                          | 1.99                                         |
| 28.  | 600                              | 1.00                                         | 1.33                                          | 1.99                                         |
| 29.  | 620                              | 1.00                                         | 1.33                                          | 2.00                                         |

(3) Except as provided for in Sentence (4), the wind exposure factor,  $C_w$ , shall be 1.0.

(4) For *buildings* in the Low and Normal Importance Categories as set out in Table 4.1.2.1.B., the wind exposure factor given in Sentence (3) may be reduced to 0.75 in rural areas, or to 0.5 in exposed areas north of the treeline, where,

- (a) the *building* is exposed on all sides to wind over open terrain as defined in Clause 4.1.7.1.(5)(a), and is expected to remain so during its life,
- (b) the area of roof under consideration is exposed to the wind on all sides with no significant obstructions on the roof, such as parapet walls, within a distance of at least 10 times the difference between the height of the obstruction and  $C_b C_w S_s / \gamma$  metres, where  $\gamma$  is the unit weight of snow on roofs as specified in Article 4.1.6.13., and
- (c) the loading does not involve the accumulation of snow due to drifting from adjacent surfaces.

(5) Except as provided for in Sentences (6) and (7), the slope factor,  $C_s$ , shall be,

- (a) 1.0 where the roof slope,  $\alpha$ , is equal to or less than  $30^\circ$ ,
- (b)  $(70^\circ - \alpha)/40^\circ$  where  $\alpha$  is greater than  $30^\circ$  but not greater than  $70^\circ$ , and
- (c) 0 where  $\alpha$  exceeds  $70^\circ$ .

(6) The slope factor,  $C_s$ , for unobstructed slippery roofs where snow and ice can slide completely off the roof shall be,

- (a) 1.0 when the roof slope,  $\alpha$ , is equal to or less than  $15^\circ$ ,
- (b)  $(60^\circ - \alpha)/45^\circ$  when  $\alpha$  is greater than  $15^\circ$ , but not greater than  $60^\circ$ , and
- (c) 0 when  $\alpha$  exceeds  $60^\circ$ .

(7) Except as otherwise provided in this Subsection, the slope factor,  $C_s$ , shall be 1.0 when used in conjunction with accumulation factors for increased snow loads.

(8) The accumulation factor,  $C_a$ , shall be 1.0, which corresponds to the uniform snow load case, except that where appropriate for the shape of the roof, it shall be assigned other values that account for,

- (a) increased non-uniform snow loads due to snow drifting onto a roof that is at a level lower than other parts of the same *building* or at a level lower than another *building* within 5 m of it horizontally, as prescribed in Articles 4.1.6.5., 4.1.6.6. and 4.1.6.8.,
- (b) increased non-uniform snow loads on areas adjacent to roof projections, such as penthouses, large *chimneys* and equipment, as prescribed in Articles 4.1.6.7. and 4.1.6.8.,
- (c) non-uniform snow loads on,
  - (i) gable roofs, as prescribed in Article 4.1.6.9., and
  - (ii) arched roofs, curved roofs and domes, as prescribed in Article 4.1.6.10.,
- (d) increased snow or ice loads due to snow sliding, as prescribed in Article 4.1.6.11.,
- (e) increased snow loads in roof valleys, as prescribed in Article 4.1.6.12., and
- (f) increased snow or ice loads due to meltwater draining from adjacent *building* elements and roof projections.

(9) For shapes not addressed in Sentence (8),  $C_a$  corresponding to the non-uniform snow load case shall be established based on applicable field observations, special analyses including local climatic effects, appropriate model tests or a combination of these methods.

**110. Subsection 4.1.6. of Division B of the Regulation is amended by adding the following Articles:**

**4.1.6.5. Multi-Level Roofs**

(1) The drifting load of snow on a roof adjacent to a higher roof shall be taken as trapezoidal, as shown in Figure 4.1.6.5.A., where the accumulation factor,  $C_a$ , is,

$$C_a = C_{a0} - (C_{a0} - 1)(x/x_d), \text{ for } 0 \leq x \leq x_d$$

or

$$C_a = 1.0, \text{ for } x > x_d$$

where,

$C_{a0}$  = peak value of  $C_a$  at  $x = 0$  as specified in Sentences (3) and (4) and as shown in Figure 4.1.6.5.A.,

$x$  = distance from roof step as shown in Figure 4.1.6.5.A., and

$x_d$  = length of drift as specified in Sentence (2) and as shown in Figure 4.1.6.5.A.

(2) The length of the drift,  $x_d$ , shall be calculated as follows:

$$x_d = 5 \frac{C_b S_s}{\gamma} (C_{a0} - 1)$$

where,

$\gamma$  = specific weight of snow as specified in Article 4.1.6.13.

(3) The value of  $C_{a0}$  for each of Cases I, II and III shall be the lesser of,

$$C_{a0} = \beta \frac{\gamma h}{C_b S_s} \text{ and } C_{a0} = \frac{F}{C_b}$$

where,

$\beta$  = 1.0 for Case I and 0.67 for Cases II and III,

$h$  = difference in elevation between the lower roof surface and the top of the parapet on the upper roof as shown in Figure 4.1.6.5.A., and

$$F = 0.35\beta \sqrt{\frac{\gamma(l_{cs} - 5h'_p)}{S_s}} + C_b, \text{ but } F \leq 5 \text{ for } C_{ws} = 1.0$$

where,

$C_{ws}$  = value for  $C_w$  applicable to the source of drifting,

$$l_{cs} = 2w_s - \frac{w_s^2}{l_s}$$

$l_{cs}$  = the characteristic length of the source area for drifting, defined as respectively the shorter and longer dimensions of the relevant source areas for snow drifting shown in Figure 4.1.6.5.B. for Cases I, II and III, and

$$h'_p = h_p - \left( \frac{0.8S_s}{\gamma} \right), \text{ but } 0 \leq h'_p \leq \left( \frac{l_{cs}}{5} \right)$$

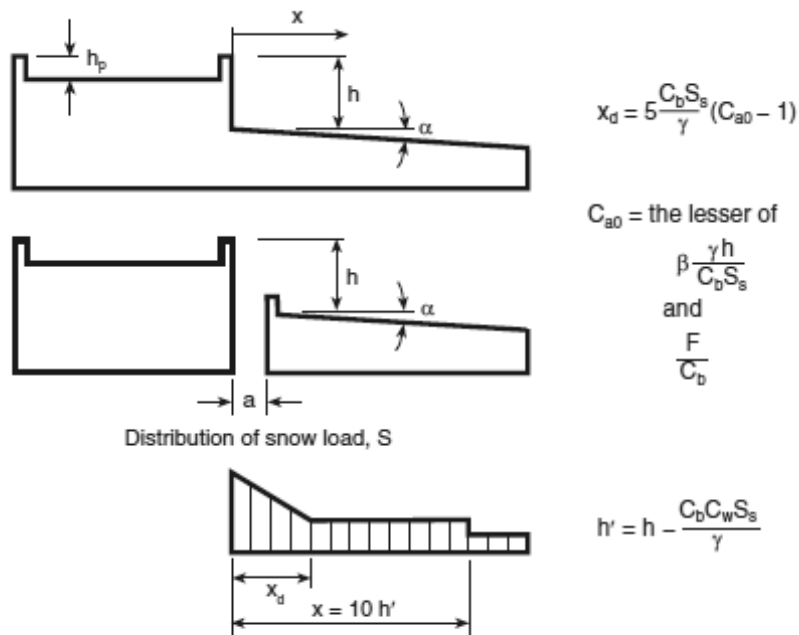
where,

$h_p$  = height of the roof perimeter parapet of the source area, to be taken as zero unless all the roof edges of the source area have parapets.

(4) The value of  $C_{a0}$  shall be the highest of Cases I, II and III, considering the different roof source areas for drifting snow, as specified in Sentence (3) and Figure 4.1.6.5.B.

**Figure 4.1.6.5.A.**  
**Snow Load Factors for Lower Level Roofs**

Forming Part of Sentences 4.1.6.5.(1) and (3) and 4.1.6.6.(1)



| x                    | Factors <sup>(1)</sup>                                                                                         |             |                                       |
|----------------------|----------------------------------------------------------------------------------------------------------------|-------------|---------------------------------------|
|                      | $C_w$                                                                                                          | $C_s^{(2)}$ | $C_a$                                 |
| 0                    | 1.0                                                                                                            | $f(\alpha)$ | $C_{a0}$                              |
| $0 < x \leq x_d$     | 1.0                                                                                                            | $f(\alpha)$ | $C_{a0} - (C_{a0} - 1) \frac{x}{x_d}$ |
| $x_d < x \leq 10 h'$ | 1.0                                                                                                            | $f(\alpha)$ | 1.0                                   |
| $x > 10 h'$          | 1.0 for non-exposed roof areas<br>0.75 for exposed roof areas<br>0.5 for exposed roof areas north of tree line | $f(\alpha)$ | 1.0                                   |

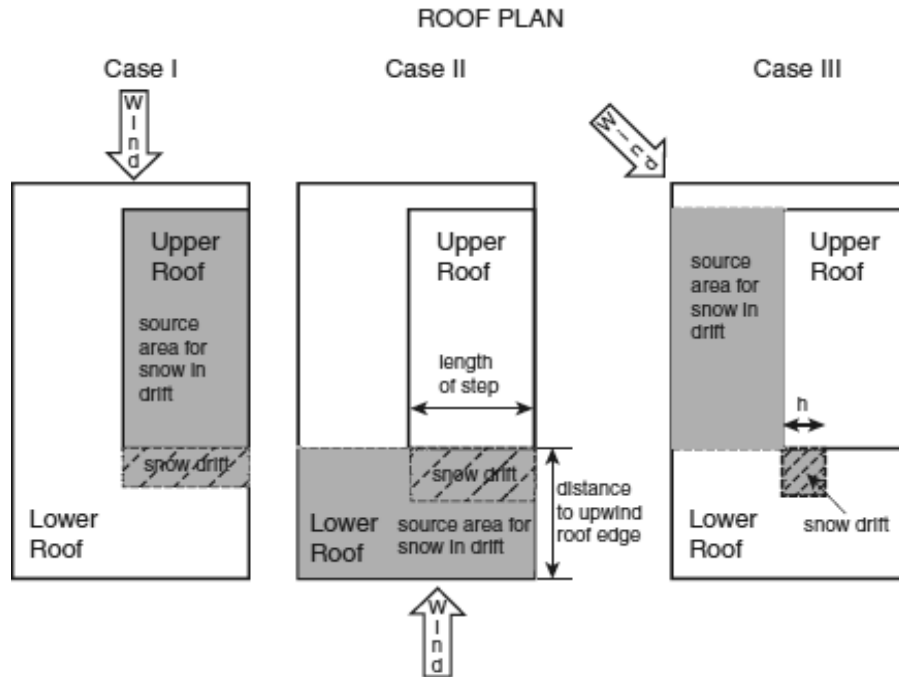
Notes to Figure 4.1.6.5.A.:

<sup>(1)</sup> If  $a > 5$  m or  $h \leq 0.8 S_s / \gamma$ , drifting from the higher roof need not be considered.

<sup>(2)</sup> For lower roofs with parapets,  $C_s = 1.0$ , otherwise it varies as a function of slope  $\alpha$  as defined in Sentences 4.1.6.2.(5) and (6).

**Figure 4.1.6.5.B.**  
**Snow Load Cases I, II and III for Lower Level Roofs**

Forming Part of Sentences 4.1.6.5.(3) and (4)



| Parameter                           | Case I                                                                         | Case II                                                                                                          | Case III                                                                                                                   |
|-------------------------------------|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| $\beta$                             | 1.0                                                                            | 0.67                                                                                                             | 0.67                                                                                                                       |
| $h_p$                               | parapet height of upper-roof source area                                       | parapet height of lower-roof source area                                                                         | parapet height of lower-roof source area                                                                                   |
| $l_{cs} = 2w_s - \frac{w_s^2}{l_s}$ | with $w_s$ and $l_s$ being the shorter and longer dimensions of the upper roof | with $w_s$ and $l_s$ being the shorter and longer dimensions of source area on lower roof for upwind facing step | with $w_s$ and $l_s$ being the shorter and longer dimensions of the source area on the lower roof for downwind facing step |

#### 4.1.6.6. Horizontal Gap between a Roof and a Higher Roof

(1) Where the roof of one *building* is separated by a distance,  $a$ , from an adjacent *building* with a higher roof as shown in Figure 4.1.6.5.A., the influence of the adjacent *building* on the value of the accumulation factor,  $C_a$ , for the lower roof shall be determined as follows:

- (a) if  $a > 5$  m, the influence of the adjacent *building* on  $C_a$  need not be considered, and
- (b) if  $a \leq 5$  m,  $C_a$  for the lower roof shall be calculated in accordance with Article 4.1.6.5. for values of  $x \geq a$ .

#### 4.1.6.7. Areas Adjacent to Roof Projections

(1) Except as provided in Sentences (2) and (3), the accumulation factor,  $C_a$ , for areas adjacent to roof-mounted vertical projections shall be calculated in accordance with Sentence 4.1.6.5.(1) using the following values for the peak accumulation factor,  $C_{a0}$ , and the drift length,  $x_d$ :

- (a)  $C_{a0}$  shall be taken as the lesser of,

$$0.67 \frac{\gamma h}{C_b S_s} \text{ and } \frac{\gamma l_0}{7.5 C_b S_s} + 1$$

(b)  $x_d$  shall be taken as the lesser of,

(i)  $3.35h$ , and

(ii)  $(2/3)l_0$ ,

where,

$h$  = height of the projection, and

$l_0$  = longest horizontal dimension of the projection.

(2)  $C_a$  is permitted to be calculated in accordance with Article 4.1.6.5. for larger projections.

(3) Where the longest horizontal dimension of the roof projection,  $l_0$ , is less than 3 m, the drift surcharge adjacent to the projection need not be considered.

#### 4.1.6.8. Snow Drift at Corners

(1) The drift loads on the lower level roof against the two faces of an outside corner of an upper level roof or roof obstruction shall be extended radially around the corner as shown in Figure 4.1.6.8.A. and may be taken as the least severe of the drift loads lying against the two faces of the corner.

(2) The drift loads on the lower level roof against the two faces of an inside corner of an upper level roof or a parapet shall be calculated for each face and applied as far as the bisector of the corner angle as shown in Figure 4.1.6.8.B.

**Figure 4.1.6.8.A.**  
**Snow Load at Outside Corner**

Forming Part of Sentence 4.1.6.8.(1)

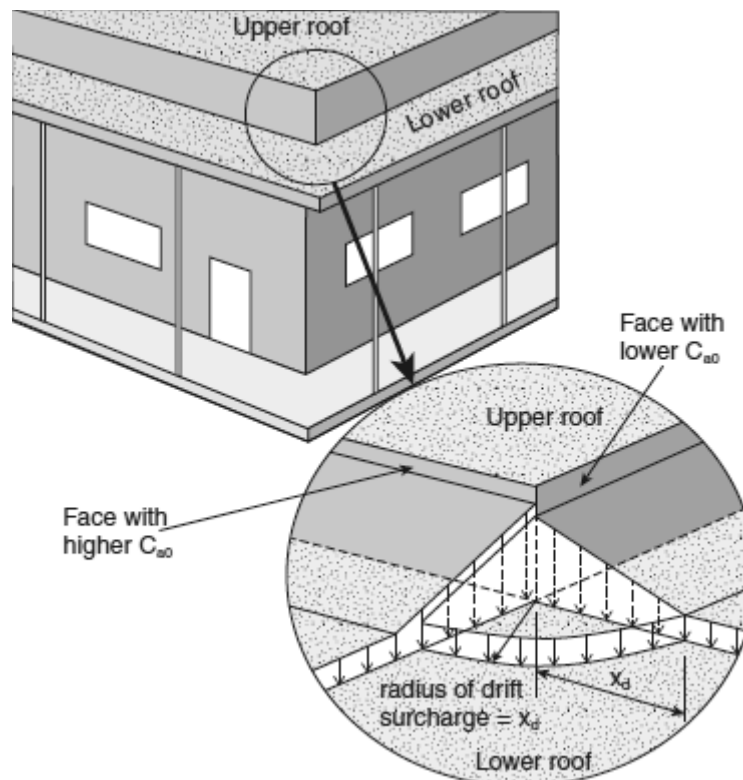
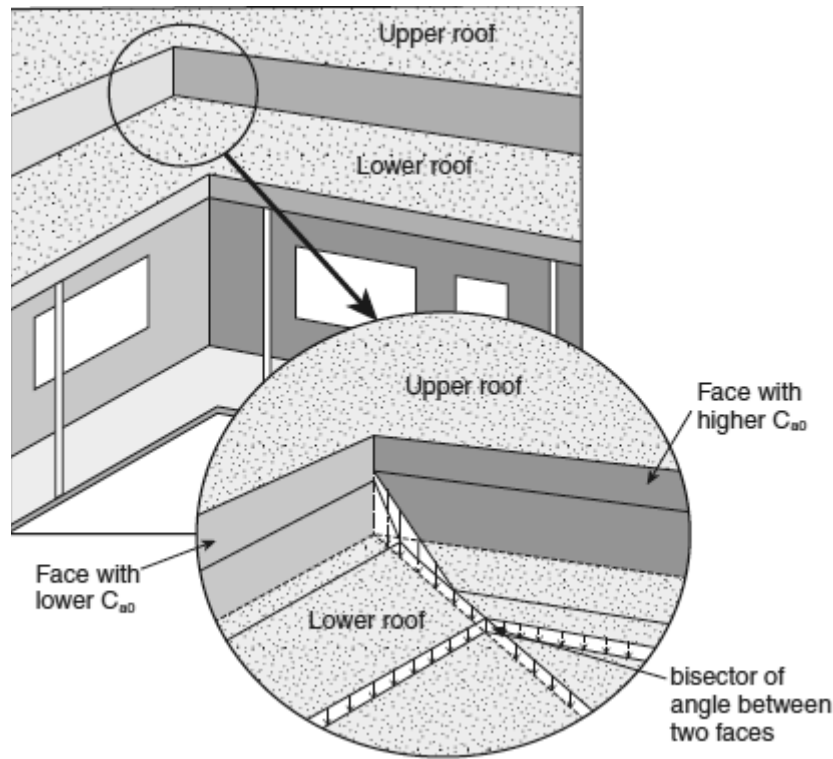


**Figure 4.1.6.8.B.**  
**Snow Load at Inside Corner**

Forming Part of Sentence 4.1.6.8.(2)



#### 4.1.6.9. Gable Roofs

- (1) For all gable roofs, the full and partial load cases defined in Article 4.1.6.3. shall be considered.
- (2) For gable roofs with a slope of  $\alpha > 15^\circ$ , the unbalanced load case shall also be considered by setting the values of the accumulation factor,  $C_{a0}$ , as follows:
  - (a) on the upwind side of the roof peak,  $C_a$  shall be taken as 0, and
  - (b) on the downwind side of the roof peak,  $C_a$  shall be taken as,
    - (i)  $0.25 + \alpha/20$ , where  $15^\circ \leq \alpha \leq 20^\circ$ , and
    - (ii) 1.25, where  $20^\circ < \alpha \leq 90^\circ$ .
- (3) For all gable roofs, the slope factor,  $C_s$ , shall be as prescribed in Sentences 4.1.6.2.(5) and (6).
- (4) For all gable roofs, the wind exposure factor,  $C_w$ , shall be,
  - (a) as prescribed in Sentences 4.1.6.2.(3) and (4) for the full and partial load cases, and
  - (b) 1.0 for the unbalanced load case referred to in Sentence (2).

#### 4.1.6.10. Arch Roofs, Curved Roofs and Domes

- (1) For all arch roofs, curved roofs and domes, the full and partial load cases defined in Article 4.1.6.3. shall be considered.
- (2) For arch roofs, curved roofs and domes with rise-to-span ratio  $h/b > 0.05$  as shown in Figure 4.1.6.10.A., the load cases provided in Sentences (3) to (7) shall also be considered.
- (3) For arch roofs with a slope at the edge  $\alpha \leq 30^\circ$  as shown in Figure 4.1.6.10.A. and as described in Table 4.1.6.10.,  $C_a$  shall be,
  - (a) taken as 0 on the upwind side of the peak, and
  - (b) on the downwind side of the peak, taken as,

$$C_a = \frac{xh}{0.03C_b b^2} \text{ for } 0.05 < \frac{h}{b} \leq 0.12 \text{ and } C_a = \frac{4x}{C_b b} \text{ for } \frac{h}{b} > 0.12$$

where,

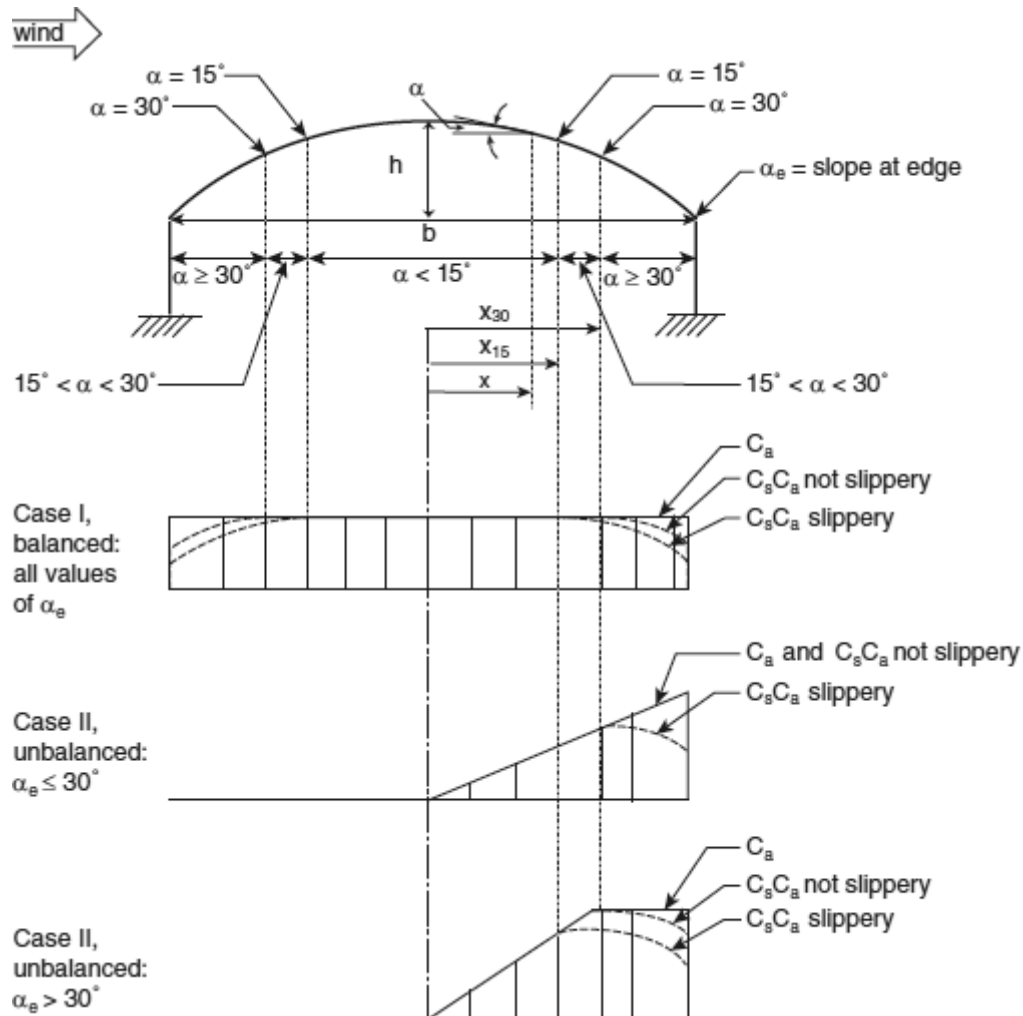
x = horizontal distance from the roof peak,

h = height of arch, and

b = width of arch.

**Figure 4.1.6.10.A.**  
**Accumulation Factors for Arch Roofs and Curved Roofs<sup>(1)</sup>**

Forming Part of Sentences 4.1.6.10.(2) to (4)



Notes to Figure 4.1.6.10.A.:

<sup>(1)</sup> Refer to Table 4.1.6.10. for applicable values of  $C_w$  and Sentences 4.1.6.2.(5) and (6) for applicable values of  $C_s$ .

**Table 4.1.6.10.**  
**Load Cases for Arch Roofs, Curved Roofs and Domes**  
 Forming Part of Sentences 4.1.6.10.(3), (4) and (9)

| Item | Column 1<br>Load Case | Column 2<br>Range of application                                   | Column 3<br>Arch Roofs,<br>Curved Roofs and<br>Domes<br>$C_w$ | Column 4<br>Arch Roofs,<br>Curved Roofs and<br>Domes<br>$C_a$ - Upwind Side | Column 5<br>Arch and Curved Roofs<br>$C_a$ - Downwind Side                                          | Column 6<br>Domes<br>$C_a$ - Downwind Side |
|------|-----------------------|--------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|--------------------------------------------|
| 1.   | Case I                | All values of $h/b$                                                | As prescribed in<br>Sentences<br>4.1.6.2.(3) and (4)          | 1.0                                                                         | 1.0                                                                                                 | 1.0                                        |
| 2.   | Case II               | Slope at edge $\leq 30^\circ$<br>$h/b > 0.05$<br>all values of $x$ | 1.0                                                           | 0.0                                                                         | $C_a = (xh/0.03C_b b^2)$<br>for $h/b \leq 0.12$<br>$C_a = (4x/C_b b)$<br>for $h/b > 0.12$           | $C_a(x,y) = C_a(x,0)(1 - y/r)$             |
| 3.   | Case II               | Slope at edge $> 30^\circ$<br>$h/b > 0.05$<br>$0 < x < x_{30}$     | 1.0                                                           | 0.0                                                                         | $C_a = (xh/0.06C_b x_{30} b)$<br>for $h/b \leq 0.12$<br>$C_a = (2x/C_b x_{30})$<br>for $h/b > 0.12$ | $C_a(x,y) = C_a(x,0)(1 - y/r)$             |
| 4.   | Case II               | Slope at edge $> 30^\circ$<br>$h/b > 0.05$<br>$x_{30} \leq x$      | 1.0                                                           | 0.0                                                                         | $C_a = (h/0.06C_b b)$<br>for $h/b \leq 0.12$<br>$C_a = (2/C_b)$<br>for $h/b > 0.12$                 | $C_a(x,y) = C_a(x,0)(1 - y/r)$             |

(4) For arch roofs with slope at the edge  $\alpha_e > 30^\circ$  as shown in Figure 4.1.6.10.A. and as described in Table 4.1.6.10.,  $C_a$ , shall be,

(a) taken as 0 on the upwind side of the peak, and

(b) on the downwind side of the peak,

(i) for the part of the roof between the peak and point where the slope  $\alpha = 30^\circ$ , taken as,

$$C_a = \frac{xh}{0.06C_b x_{30} b} \text{ for } 0.05 < \frac{h}{b} \leq 0.12$$

and

$$C_a = \frac{2x}{C_b x_{30}} \text{ for } \frac{h}{b} > 0.12$$

where,

$x, h, b$  = as specified in Sentence (2), and

$x_{30}$  = value of  $x$  where the slope  $\alpha = 30^\circ$ , and

(ii) for the part of the roof where the slope  $\alpha > 30^\circ$ , taken as,

$$C_a = \frac{h}{0.06C_b b} \text{ for } 0.05 < \frac{h}{b} \leq 0.12 \text{ and } C_a = \frac{2}{C_b} \text{ for } \frac{h}{b} > 0.12$$

(5) Except as provided in Sentence (6),  $C_a$  for curved roofs shall be determined in accordance with the requirements for arch roofs stated in Sentences (3) and (4).

(6) Where the slope,  $\alpha$ , of a curved roof at its peak is greater than  $10^\circ$ ,  $C_a$  shall be determined in accordance with the requirements for gable roofs described in Article 4.1.6.9. using a slope equal to the mean slope of the curved roof.

(7) For domes of circular plan form as shown in Figure 4.1.6.10.B.,  $C_a$  shall,

(a) along the central axis parallel to the wind, vary in the same way as for an arch roof with the same rise-to-span ratio,  $h/b$ , and

(b) off this axis, vary according to,

$$C_a(x,y) = C_a(x,0) \left(1 - \frac{y}{r}\right)$$

where,

$C_a(x,y)$  = value of  $C_a$  at location  $(x,y)$ ,

$C_a(x,0)$  = value of  $C_a$  on the central axis parallel to the wind,

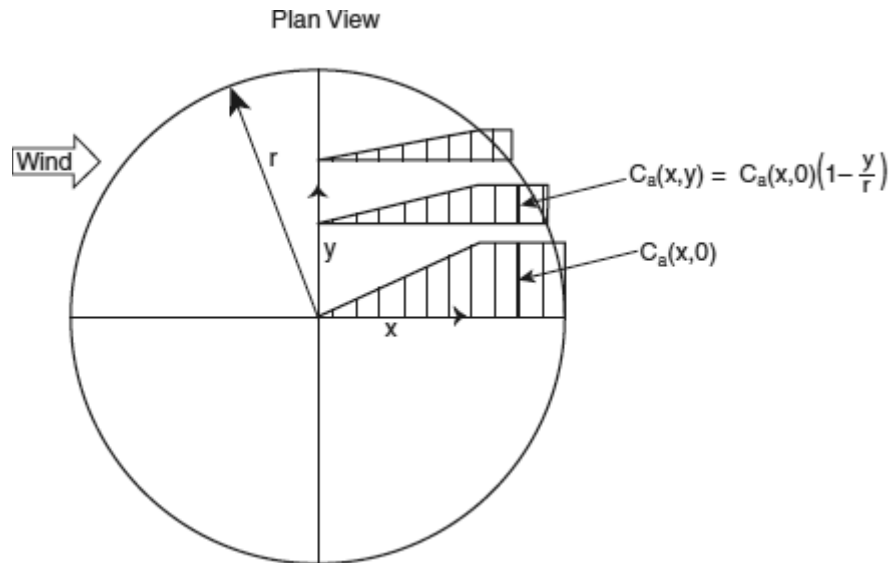
$x$  = distance along the central axis parallel to the wind,

$y$  = horizontal coordinate normal to the  $x$  direction, and

$r$  = radio of dome.

**Figure 4.1.6.10.B.**  
**Unbalanced Snow Accumulation Factor on a Circular Dome<sup>(1),(2)</sup>**

Forming Part of Sentence 4.1.6.10.(7)



**Notes to Figure 4.1.6.10.B.:**

<sup>(1)</sup> Refer to Table 4.1.6.10. for applicable values of  $C_w$  and Sentences 4.1.6.2.(5) and (6) for applicable values of  $C_s$ .

<sup>(2)</sup> Refer to Sentences 4.1.6.10.(3) and (4) for the calculation of  $C_a(x,0)$ .

**(8)** For all arch roofs, curved roofs and domes, the slope factor,  $C_s$ , shall be as prescribed in Sentences 4.1.6.2.(5) and (6).

**(9)** For all arch roofs, curved roofs and domes, the wind exposure factor,  $C_w$ , shall be as prescribed in Table 4.1.6.10.

#### 4.1.6.11. Snow Loads Due to Sliding

**(1)** Except as provided in Sentence (2), where an upper roof, or part thereof, slopes downwards with a slope  $\alpha > 0$  towards a lower roof, the snow load,  $S$ , on the lower roof, determined in accordance with Articles 4.1.6.2. and 4.1.6.5., shall be augmented in accordance with Sentence (3) to account for the additional load resulting from sliding snow.

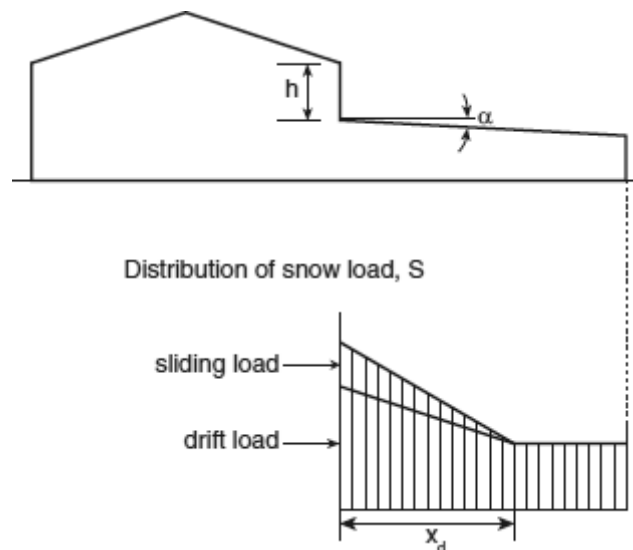
**(2)** Sentence (1) need not apply where,

- (a) snow from the upper roof is prevented from sliding by a parapet or other effective means, or
- (b) the upper roof is not considered slippery and has a slope less than  $20^\circ$ .

**(3)** The total weight of additional snow resulting from sliding shall be taken as half the total weight of snow resulting from the uniform load case prescribed in Article 4.1.6.2. with,

- (a) the accumulation factor  $C_a = 1.0$  for the relevant part of the upper roof,
- (b) the slope factor,  $C_s$ , based on the slope of the lower roof, as prescribed in Sentences 4.1.6.2.(5) and (6), and
- (c) the sliding snow distributed on the lower roof such that it is a maximum for  $x = 0$  and decreases linearly to 0 at  $x = x_d$ , as shown in Figure 4.1.6.11., where  $x$  and  $x_d$  are as defined in Article 4.1.6.5.

**Figure 4.1.6.11.**  
**Snow Distribution on Lower Roof with Sloped Upper Roof**  
 Forming Part of Sentence 4.1.6.11.(3)



#### 4.1.6.12. Valleys in Curved or Sloped Roofs

(1) For valleys in curved or sloped roofs with a slope  $\alpha > 10^\circ$ , in addition to the full and partial load cases defined in Article 4.1.6.3., the non-uniform load Cases II and III described in Sentences (2) and (3) shall be considered to account for sliding, creeping and movement of meltwater.

(2) For Case II as shown in Figure 4.1.6.12., the accumulation factor,  $C_a$ , shall be calculated as follows:

$$C_a = \frac{1}{C_b} \text{ for } 0 < x \leq \frac{b}{4} \text{ and } C_a = \frac{0.5}{C_b} \text{ for } \frac{b}{4} < x \leq \frac{b}{2}$$

where,

$x$  = horizontal distance from the bottom of the valley, and

$b$  = twice the horizontal distance between the bottom of the valley and the peak of the roof surface under consideration.

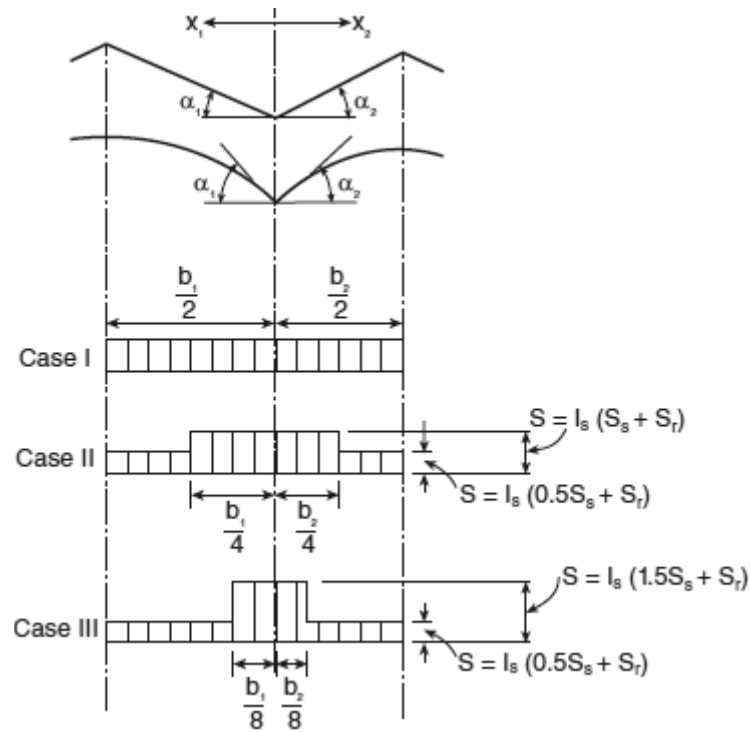
(3) For Case III as shown in Figure 4.1.6.12.,  $C_a$  shall be calculated as follows:

$$C_a = \frac{1.5}{C_b} \text{ for } 0 < x \leq \frac{b}{8} \text{ and } C_a = \frac{0.5}{C_b} \text{ for } \frac{b}{8} < x \leq \frac{b}{2}$$

where,

$x, b$  = as specified in Sentence (2).

**Figure 4.1.6.12.**  
**Snow Loads in Valleys of Sloped or Curved Roofs<sup>(1),(2)</sup>**  
 Forming Part of Sentences 4.1.6.12.(2) and (3)



Notes to Figure 4.1.6.12.:

<sup>(1)</sup>  $C_w = 1.0$ , as specified in Sentence 4.1.6.2.(3).

<sup>(2)</sup>  $C_s = 1.0$ , as specified in Sentence 4.1.6.2.(7).

#### 4.1.6.13. Specific Weight of Snow

(1) For the purposes of calculating snow loads in drifts, the specific weight of snow,  $\gamma$ , shall be taken as the lesser of 4.0 kN/m<sup>3</sup> and  $0.43S_s + 2.2$  kN/m<sup>3</sup>.

#### 4.1.6.14. Snow Removal

(1) Snow removal by mechanical, thermal, manual or other means shall not be used as a rationale to reduce design snow loads.

#### 4.1.6.15. Ice Loading of Structures

(1) For lattice structures connected to the *building*, and other *building* components or appurtenances involving small width elements subject to significant ice accretion, the weight of ice accretion and the effective area presented to wind shall be as prescribed in CSA S37, "Antennas, Towers, and Antenna-Supporting Structures".

**111. Subsection 4.1.7. of Division B of the Regulation is revoked and the following substituted:**

#### 4.1.7. Wind Load

##### 4.1.7.1. Specified Wind Load

(1) The specified wind loads for a *building* and its components shall be determined using the Static, Dynamic or Wind Tunnel Procedure as provided in Sentences (2) to (5).

(2) For the design of *buildings* that are not classified as dynamically sensitive in accordance with Sentence 4.1.7.2.(1), one of the following procedures shall be used to determine the specified wind loads:

- (a) the Static Procedure described in Article 4.1.7.3.,
- (b) the Dynamic Procedure described in Article 4.1.7.8., or
- (c) the Wind Tunnel Procedure described in Article 4.1.7.12.

(3) For the design of *buildings* that are classified as dynamically sensitive in accordance with Sentence 4.1.7.2.(2), one of the following procedures shall be used to determine the specified wind loads:

- (a) the Dynamic Procedure described in Article 4.1.7.8., or
- (b) the Wind Tunnel Procedure described in Article 4.1.7.12.

(4) For the design of *buildings* that may be subject to wake buffeting or channelling effects from nearby *buildings*, or that are classified as very dynamically sensitive in accordance with Sentence 4.1.7.2.(3), the Wind Tunnel Procedure described in Article 4.1.7.12. shall be used to determine the specified wind loads.

(5) For the design of cladding and secondary structural members, one of the following procedures shall be used to determine the specified wind loads:

- (a) the Static Procedure described in Article 4.1.7.3., or
- (b) the Wind Tunnel Procedure described in Article 4.1.7.12.

(6) Computational fluid dynamics shall not be used to determine the specified wind loads for a *building* and its components.

#### 4.1.7.2. Classification of Buildings

(1) Except as provided in Sentences (2) and (3), a *building* is permitted to be classified as not dynamically sensitive.

(2) A *building* shall be classified as dynamically sensitive if,

- (a) its lowest natural frequency is less than 1 Hz and greater than 0.25 Hz,
- (b) its height is greater than 60 m, or
- (c) its height is greater than 4 times its minimum effective width considering all wind directions, where the effective width,  $w$ , of a *building* shall be taken as,

$$w = \frac{\sum h_i w_i}{\sum h_i}$$

where,

the summations are over the height of the *building* for a given wind direction,

$h_i$  = the height above *grade* to level  $i$ , and

$w_i$  = the width normal to the wind direction at height  $h_i$ .

(3) A *building* shall be classified as very dynamically sensitive if,

- (a) its lowest natural frequency is less than or equal to 0.25 Hz, or
- (b) its height is more than 6 times its minimum effective width, where the minimum effective width is determined in accordance with Clause (2)(c).

#### 4.1.7.3. Static Procedure

(1) The specified external pressure or suction due to wind on part or all of a surface of a *building* shall be calculated using the following formula:

$$p = I_w q C_e C_t C_g C_p$$

where,

$p$  = specified external pressure acting statically and in a direction normal to the surface, considered positive when the pressure acts towards the surface and negative when it acts away from the surface,

$I_w$  = importance factor for wind load, as provided in Table 4.1.7.3.,

$q$  = reference velocity pressure, as provided in Sentence (4),

$C_e$  = exposure factor, as provided in Sentences (5) and (7),

$C_t$  = topographic factor, as provided in Article 4.1.7.4.,

$C_g$  = gust effect factor, as provided in Sentence (8), and

$C_p$  = external pressure coefficient, as provided in Articles 4.1.7.5. and 4.1.7.6.

**Table 4.1.7.3.**  
**Importance Factor for Wind Load,  $I_w$**   
 Forming Part of Sentences 4.1.7.1.(1) and (3)

| Item | Column 1<br>Importance Category | Column 2<br>Importance Factor, $I_w$<br>ULS | Column 3<br>Importance Factor, $I_w$<br>SLS |
|------|---------------------------------|---------------------------------------------|---------------------------------------------|
| 1.   | Low                             | 0.8                                         | 0.75                                        |
| 2.   | Normal                          | 1.0                                         | 0.75                                        |
| 3.   | High                            | 1.15                                        | 0.75                                        |
| 4.   | Post-disaster                   | 1.25                                        | 0.75                                        |

(2) The net wind load for the *building* as a whole shall be the algebraic difference of the loads on the windward and the leeward surfaces, and in some cases may be calculated as the sum of the products of the external pressures or suctions and the areas of the surfaces over which they are averaged as provided in Sentence (1).

(3) The net specified pressure due to wind on part or all of a surface of a *building* shall be the algebraic difference, such as to produce the most critical effect, of the external pressure or suction calculated in accordance with Sentence (1) and the specified internal pressure or suction due to wind calculated as follows:

$$p_i = I_w q C_{ei} C_t C_{gi} C_{pi}$$

where,

$p_i$  = specified internal pressure acting statically and in a direction normal to the surface, either as a pressure directed toward the surface or as a suction directed away from the surface,

$I_w$  = importance factor for wind load, as defined in Sentence (1)

$q$  = reference velocity pressure, as defined in Sentence (1)

$C_{ei}$  = exposure factor for internal pressure, as provided in Sentence (7),

$C_t$  = topographic factor, as defined in Sentence (1),

$C_{gi}$  = internal gust effect factor, as provided in Sentence (10), and

$C_{pi}$  = internal pressure coefficient, as provided in Article 4.1.7.7.

(4) The reference velocity pressure,  $q$ , shall be the appropriate value determined in conformance with Subsection 1.1.2. based on a probability of being exceeded in any one year of 1-in-50.

(5) The exposure factor  $C_e$ , shall be based on the reference height,  $h$ , determined in accordance with Sentence (6) for the surface or part of the surface under consideration and shall be,

- $(h/10)^{0.2}$  but not less than 0.9 for open terrain, where open terrain is level terrain with only scattered *buildings*, trees or other obstructions, open water or shorelines thereof,
- $0.7(h/12)^{0.3}$  but not less than 0.7 for rough terrain, where rough terrain is suburban, urban or wooded terrain extending upwind from the *building* uninterrupted for at least 1 km or 20 times the height of the *building*, whichever is greater, or
- an intermediate value between the two exposures defined in Clauses (a) and (b) in cases where the site is less than 1 km or 20 times the height of the *building* from a change in terrain conditions, whichever is greater, provided an appropriate interpolation method is used.

(6) The reference height,  $h$ , shall be determined as follows:

- for *buildings* with height less than or equal to 20 m and less than the smaller plan dimension,  $h$  shall be the mid-height of the roof above *grade*, but shall not be less than 6 m,
- for other *buildings*,  $h$  shall be,
  - the actual height above *grade* of the point on the windward wall for which external pressures are being calculated,
  - the mid-height of the roof for pressures on surfaces parallel to the wind direction, and
  - the mid-height of the *building* for pressures on the leeward wall, and
- for any structural element exposed to wind,  $h$  shall be the mid-height of the element above the ground.

(7) The exposure factor for internal pressure,  $C_{ei}$ , shall be determined as follows:

- (a) for *buildings* whose height is greater than 20 m and that have a dominant opening,  $C_{ei}$  shall be equal to the exposure factor for external pressures,  $C_e$ , calculated at the mid-height of the dominant opening, and
- (b) for other *buildings*,  $C_{ei}$  shall be the same as the exposure factor for external pressures,  $C_e$ , calculated for a reference height,  $h$ , equal to the mid-height of the *building* or 6 m, whichever is greater.
- (8) Except as provided in Sentences (9) and 4.1.7.6.(1), the gust effect factor,  $C_g$ , shall be one of the following values:
- (a) 2.0 for the *building* as a whole and main structural members, or
- (b) 2.5 for external pressures and suctions on secondary structural members including cladding.
- (9) For cases where  $C_g$  and  $C_p$  are combined into a single product,  $C_p C_g$ , as provided in Article 4.1.7.6., the values  $C_p$  and  $C_g$  need not be independently specified.
- (10) The internal gust effect factor,  $C_{gi}$ , shall be 2.0, except it is permitted to be calculated using the following equation for large structures enclosing a single large unpartitioned volume that does not have numerous overhead doors or openings:

$$C_{gi} = 1 + \frac{1}{\sqrt{1 + \frac{V_0}{6950A}}}$$

where,

$V_0$  = internal volume in  $m^3$ , and

$A$  = total area of all exterior openings of the volume in  $m^2$ .

#### 4.1.7.4. Topographic Factor

- (1) Except as provided in Sentence (2), the topographic factor,  $C_t$ , shall be taken as 1.0.
- (2) For *buildings* on hills or escarpments with slope,  $H_h/(2L_h)$ , greater than 0.1 as shown in Figure 4.1.7.4., the topographic factor,  $C_t$ , shall be calculated as follows:

$$C_t = \left(1 + \frac{\Delta S}{C_g}\right)(1 + \Delta S)$$

where,

$$\Delta S = \Delta S_{\max} \left(\frac{|x|}{kL_h}\right) \exp(-\alpha z/L_h)$$

where,

$\Delta S_{\max}$  = applicable values from Table 4.1.7.4.,

$x$  = horizontal distance from the peak of the hill or escarpment,

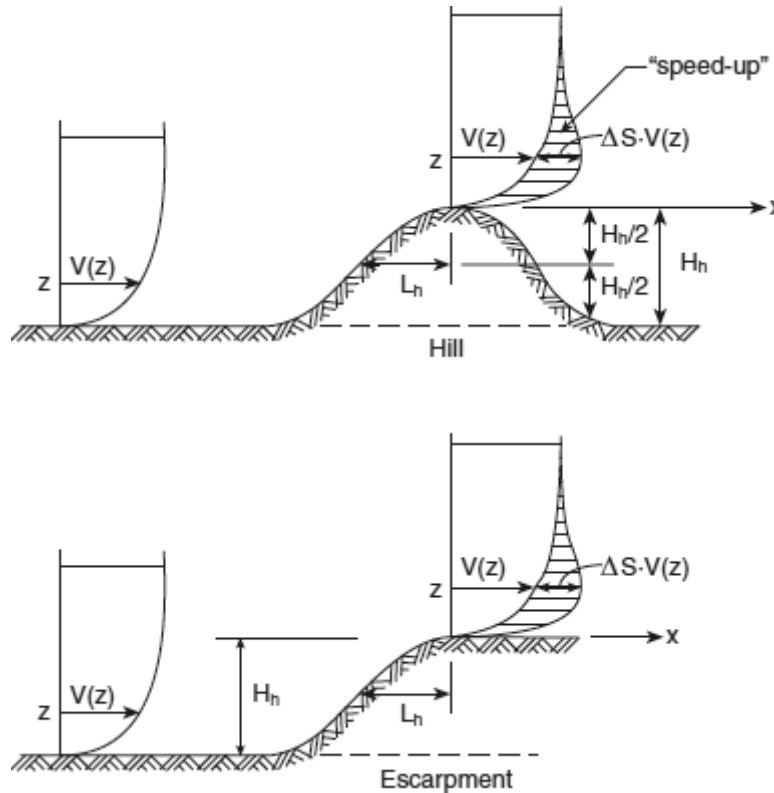
$L_h$  = horizontal distance upwind from the peak to the point where the ground surface lies at half the height of the hill or escarpment, or  $2H_h$  where  $H_h$  is the height of the hill or escarpment, whichever is greater,

$z$  = height above ground, and

$k$  and  $\alpha$  = applicable constants from Table 4.1.7.4. based on shape of hill or escarpment.

**Figure 4.1.7.4.**  
**Speed-up of Mean Velocity on a Hill or Escarpment<sup>(1)</sup>**

Forming Part of Sentence 4.1.7.4.(2)



Notes to Figure 4.1.7.4.:

<sup>(1)</sup>  $V(z)$  = wind speed.

**Table 4.1.7.4.**  
**Parameters for Maximum Speed-up Over Hills and Escarpments**

Forming Part of Sentence 4.1.7.4.(2)

| Item | Column 1<br>Shape of Hill or Escarpment | Column 2<br>$\Delta S_{\max}^{(1)}$ | Column 3<br>$\alpha$ | Column 4<br>$k$ , where $x < 0$ | Column 5<br>$k$ , where $x \geq 0$ |
|------|-----------------------------------------|-------------------------------------|----------------------|---------------------------------|------------------------------------|
| 1.   | 2-dimensional hill                      | $2.2 H_h/L_h$                       | 3                    | 1.5                             | 1.5                                |
| 2.   | 2-dimensional escarpment                | $1.3 H_h/L_h$                       | 2.5                  | 1.5                             | 4                                  |
| 3.   | 3-dimensional axi-symmetrical hill      | $1.6 H_h/L_h$                       | 4                    | 1.5                             | 1.5                                |

Notes to Table 4.1.7.4.:

<sup>(1)</sup> For  $H_h/L_h > 0.5$ , assume  $H_h/L_h = 0.5$  and substitute  $2 H_h$  for  $L_h$  in the equation for  $\Delta S$ .

#### 4.1.7.5. External Pressure Coefficients

(1) Applicable values of external pressure coefficients,  $C_p$ , are provided in,

- (a) Sentences (2) to (5), and
- (b) Article 4.1.7.6. for certain shapes of low *buildings*.

(2) For the design of the main structural system, the value of  $C_p$  shall be established as follows, where  $H$  is the height of the *building* and  $D$  is the width of the *building* parallel to the wind direction:

(a) on the windward face,

$$\begin{aligned}
 C_p &= 0.6 \text{ for } H/D < 0.25 \\
 &= 0.27(H/D + 2) \text{ for } 0.25 \leq H/D < 1.0 \\
 &= 0.8 \text{ for } H/D \geq 1.0,
 \end{aligned}$$

- (b) on the leeward face,

$$\begin{aligned} C_p &= -0.3 \text{ for } H/D < 0.25 \\ &= -0.27(H/D + 0.88) \text{ for } 0.25 \leq H/D < 1.0 \\ &= -0.5 \text{ for } H/D \geq 1.0, \text{ and} \end{aligned}$$

- (c) on the walls parallel to the wind,  $C_p = -0.7$ .

(3) For the design of roofs, the value of  $C_p$  shall be established as follows, where  $x$  is the distance from the upwind edge of the roof:

- (a) for  $H/D \geq 1.0$ ,  $C_p = -1.0$ , and

- (b) for  $H/D < 1.0$ ,

$$\begin{aligned} C_p &= -1.0 \text{ for } x \leq H \\ &= -0.5 \text{ for } x > H \end{aligned}$$

(4) For the design of the cladding and of secondary structural elements supporting the cladding, the value of  $C_p$  shall be established as follows, where  $W$  and  $D$  are the widths of the *building*:

- (a) on walls,  $C_p$  shall be taken as  $\pm 0.9$ , except that within a distance equal to the larger of  $0.1D$  and  $0.1W$  from a *building* corner the negative value of  $C_p$  shall be taken as  $-1.2$ ,

- (b) on walls where vertical ribs deeper than 1 m are placed on the facade,  $C_p$  shall be taken as  $\pm 0.9$ , except that within a distance equal to the larger of  $0.2D$  and  $0.2W$  from a *building* corner the negative value of  $C_p$  shall be taken as  $-1.4$ , and

- (c) on roofs,  $C_p$  shall be taken as  $-1.0$ , except that,

- (i) within a distance equal to the larger of  $0.1D$  and  $0.1W$  from a roof edge,  $C_p$  shall be taken as  $-1.5$ ,

- (ii) in a zone that is within a distance equal to the larger of  $0.2D$  and  $0.2W$  from a roof corner,  $C_p$  shall be taken as  $-2.3$  but is permitted to be taken as  $-2.0$  for roofs with perimeter parapets that are higher than 1 m, and

- (iii) on lower levels of flat stepped roofs, positive pressure coefficients established for the walls of the steps apply for a distance  $b$  as shown in Figure 4.1.7.6.D.

(5) For the design of balcony *guards*, the internal pressure coefficient,  $C_{pi}$ , shall be taken as zero and the value of  $C_p$  shall be taken as  $\pm 0.9$ , except that within a distance equal to the larger of  $0.1D$  and  $0.1W$  from a *building* corner,  $C_p$  shall be taken as  $\pm 1.2$ .

#### 4.1.7.6. External Pressure Coefficients for Low Buildings

(1) For the design of *buildings* with a height,  $H$ , that is less than or equal to 20 m and less than the smaller plan dimension, the values of the product of the pressure coefficient and gust factor,  $C_p C_g$ , provided in Sentences (2) to (9) are permitted to be used.

(2) For the design of the main structural system of the *building*, which is affected by wind pressures on more than one surface, the values of  $C_p C_g$  are provided in Figure 4.1.7.6.A.

(3) For the design of individual walls and wall cladding, the values of  $C_p C_g$  are provided in Figure 4.1.7.6.B.

(4) For the design of roofs with a slope less than or equal to  $7^\circ$ , the values of  $C_p C_g$  are provided in Figure 4.1.7.6.C.

(5) For the design of flat roofs with steps in elevation, the values of  $C_p C_g$  are provided in Figure 4.1.7.6.D.

(6) For the design of gabled or hipped, single-ridge roofs with slope greater than  $7^\circ$ , the values of  $C_p C_g$  are provided in Figure 4.1.7.6.E.

(7) For the design of gabled, multi-ridge roofs, the values of  $C_p C_g$  are provided in,

(a) Figure 4.1.7.6.C. for roofs with slope less than or equal to  $10^\circ$ , and

(b) Figure 4.1.7.6.F. for roofs with slope greater than  $10^\circ$ .

(8) For monosloped roofs, the values of  $C_p C_g$  are provided in,

(a) Figure 4.1.7.6.C. for roofs with a slope less than or equal to  $3^\circ$ , and

(b) Figure 4.1.7.6.G. for roofs with a slope greater than  $3^\circ$  and less than or equal to  $30^\circ$ .

(9) For sawtooth roofs, the values of  $C_p C_g$  are provided in,

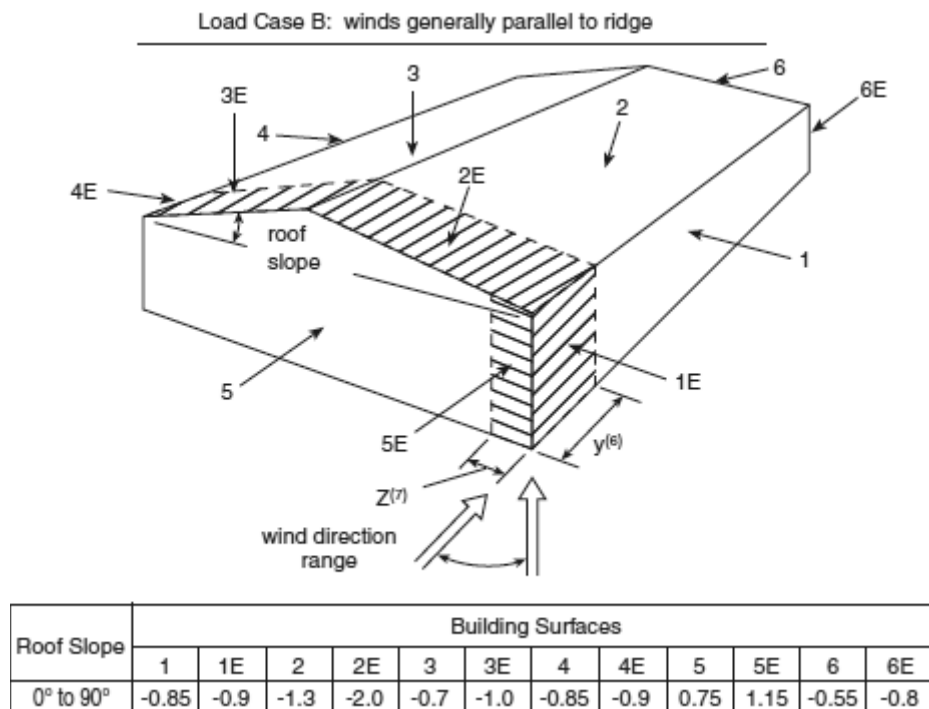
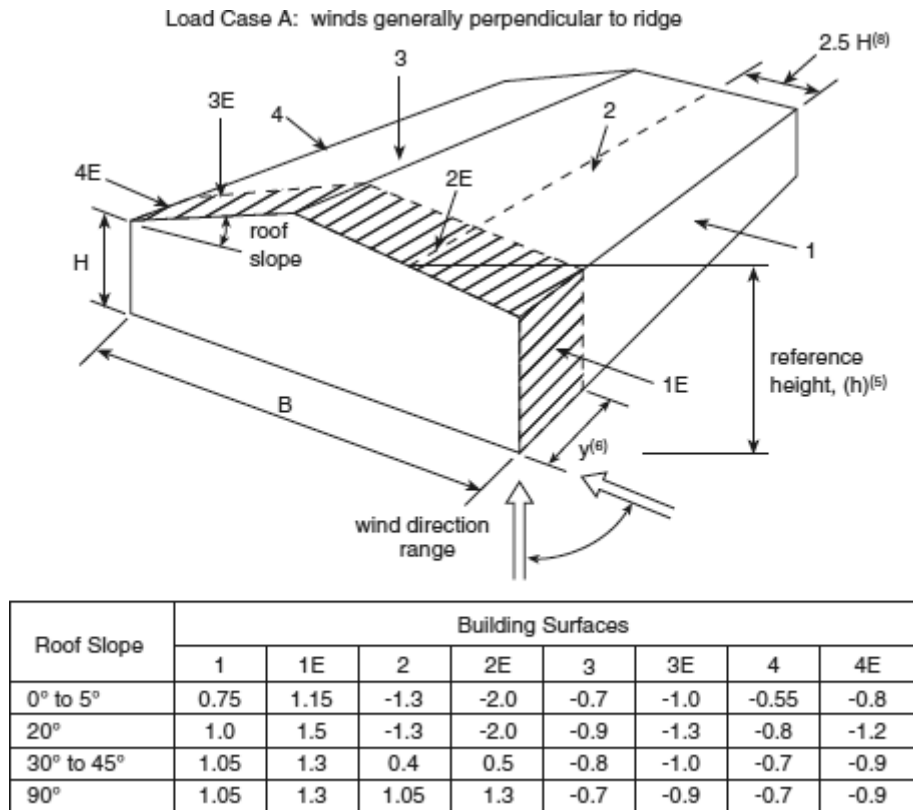
(a) Figure 4.1.7.6.C. for roofs with a slope less than or equal to  $10^\circ$ , and

(b) Figure 4.1.7.6.H. for roofs with a slope greater than  $10^\circ$ .

**Figure 4.1.7.6.A.**

**External Peak Values of  $C_p C_g$  for Primary Structural Actions Arising from Wind Load Acting Simultaneously on All Surfaces of Low Buildings,  $H < 20 \text{ m}$ <sup>(1),(2),(3),(4)</sup>**

Forming Part of Sentence 4.1.7.6.(2)

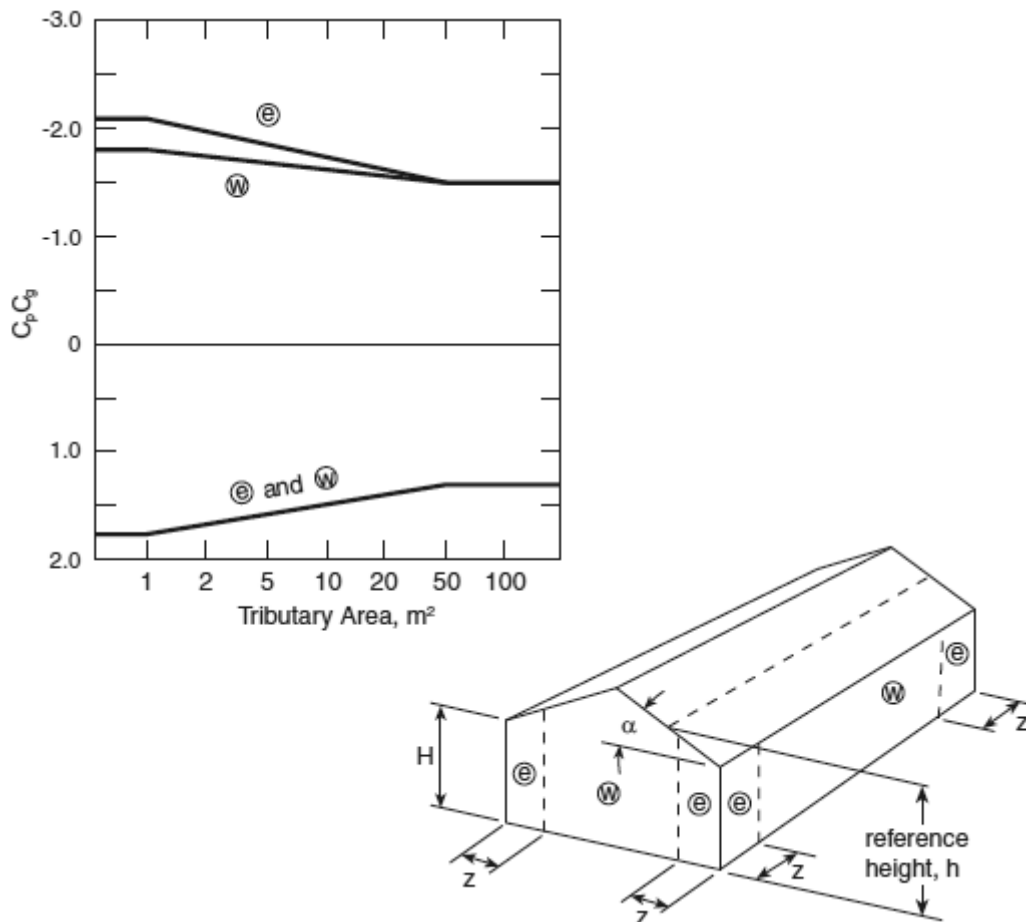


**Notes to Figure 4.1.7.6.A.:**

- (1) The *building* shall be designed for all wind directions. Each corner shall be considered in turn as the windward corner shown in the Figure. For all roof slopes, Load Case A and Load Case B are required as two separate loading conditions to generate the wind actions, including torsion, to be resisted by the structural system.
- (2) For values of roof slope not shown, the coefficient,  $C_p C_g$ , may be interpolated linearly.
- (3) Positive coefficients denote forces toward the surface, whereas negative coefficients denote forces away from the surface.
- (4) For the design of *foundations*, exclusive of anchorages to the frame, only 70% of the effective load is to be considered.
- (5) The reference height,  $h$ , for pressures is the mid-height of the roof or 6 m, whichever is greater. The eave height,  $H$ , may be substituted for the mid-height of the roof if the roof slope is less than  $7^\circ$ .
- (6) End-zone width,  $y$ , is the greater of 6 m or  $2z$ , where  $z$  is the width of the gable-wall end zone defined for Load Case B. Alternatively, for *buildings* with frames,  $y$  may be the distance between the end and the first interior frame.
- (7) End-zone width,  $z$ , is the lesser of 10% of the least horizontal dimension and 40% of height,  $H$ , but not less than 4% of the least horizontal dimension or 1 m.
- (8) For  $B/H > 5$  in Load Case A, the listed negative coefficients on surfaces 2 and 2E shall only be applied on an area whose width is  $2.5H$  measured from the windward eave. The pressures on the remainder of the windward roof may be reduced to the pressures for the leeward roof.

**Figure 4.1.7.6.B.**  
**External Peak Values of  $C_p C_g$  on Individual Walls for the Design of Cladding and Secondary Structural Members<sup>(1),(2),(3),(4),(5)</sup>**

Forming Part of Sentence 4.1.7.6.(3)

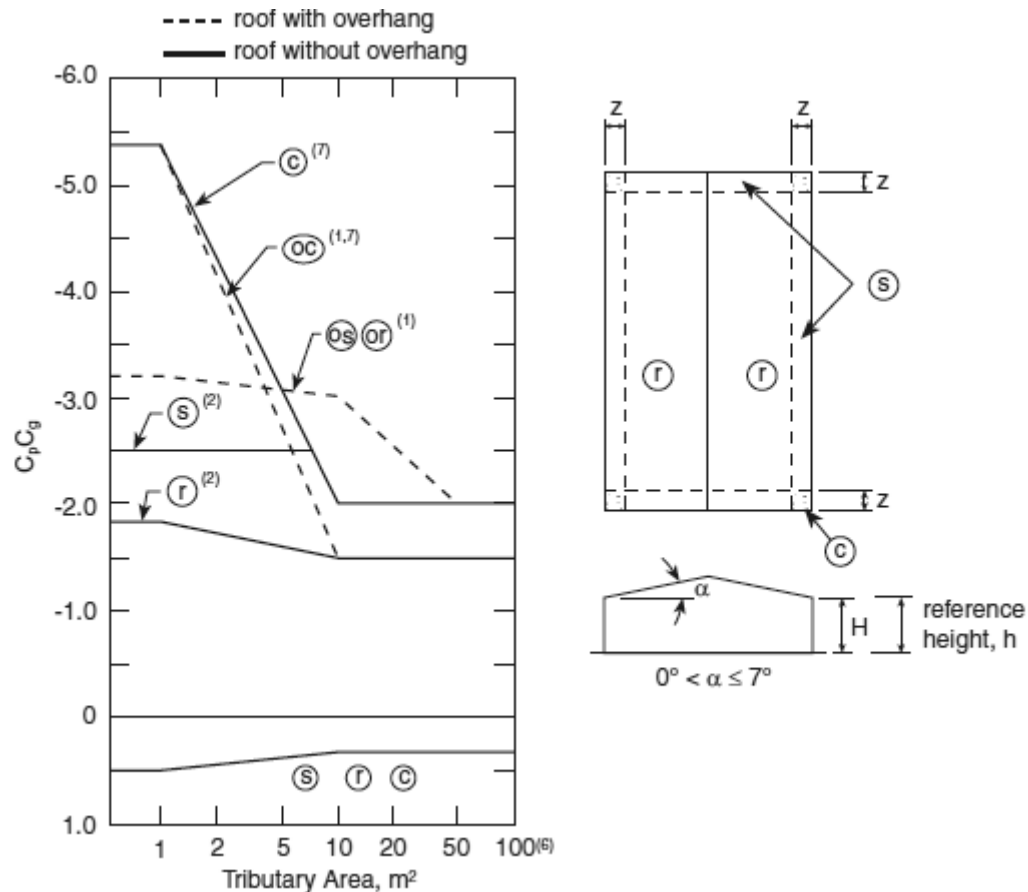
**Notes to Figure 4.1.7.6.B.:**

- (1) These coefficients apply for any roof slope,  $\alpha$ .

- (2) End-zone width,  $z$ , is the lesser of 10% of the least horizontal dimension and 40% of height,  $H$ , but not less than 4% of the least horizontal dimension or 1 m.
- (3) Combinations of exterior and interior pressures shall be evaluated to obtain the most severe loading.
- (4) Positive coefficients denote forces toward the surface, whereas negative coefficients denote forces away from the surface. Each structural element shall be designed to withstand forces of both signs.
- (5) Pressure coefficients generally apply for facades with architectural features; however, where vertical ribs deeper than 1 m are placed on a facade, a local  $C_p C_g$  of  $-2.8$  applies to zone e.

**Figure 4.1.7.6.C.**  
**External Peak Values of  $C_p C_g$  on Roofs with a Slope of  $7^\circ$  or Less for the Design of Structural Components and Cladding**<sup>(3),(4),(5)</sup>

Forming Part of Sentences 4.1.7.6.(4), (7), (8), and (9)



**Notes to Figure 4.1.7.6.C.:**

- (1) Coefficients for overhung roofs have the prefix "o" and refer to the same roof areas as referred to by the corresponding symbol without a prefix. They include contributions from both upper and lower surfaces. In the case of overhangs, the walls are inboard of the roof outline.
- (2) s and r apply to both roofs and upper surfaces of canopies.
- (3) End-zone width,  $z$ , is the lesser of 10% of the least horizontal dimension and 40% of height,  $H$ , but not less than 4% of the least horizontal dimension or 1 m.
- (4) Combinations of exterior and interior pressures shall be evaluated to obtain the most severe loading.
- (5) Positive coefficients denote forces toward the surface, whereas negative coefficients denote forces away from the surface. Each structural element shall be designed to withstand forces of both signs.

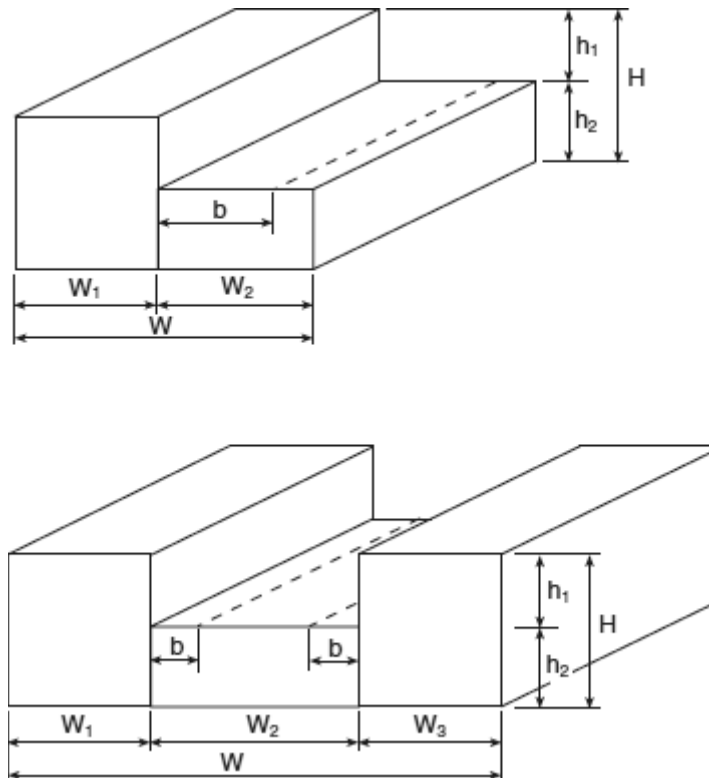
<sup>(6)</sup> For calculating the uplift forces on tributary areas larger than  $100 \text{ m}^2$  on unobstructed nearly-flat roofs with low parapets, and where the centre of the tributary area is at least twice the height of the *building* from the nearest edge, the value of  $C_p C_g$  may be reduced from  $-1.5$  to  $-1.1$  at  $x/H = 2$  and further reduced linearly to  $-0.6$  at  $x/H = 5$ , where  $x$  is the distance to the nearest edge and  $H$  is the height of the *building*.

<sup>(7)</sup> For roofs having a perimeter parapet with a height of  $1 \text{ m}$  or greater, the corner coefficients  $C_p C_g$  for tributary areas less than  $1 \text{ m}^2$  can be reduced from  $-5.4$  to  $-4.4$ .

**Figure 4.1.7.6.D.**

**External Peak Values of  $C_p C_g$  for the Design of the Structural Components and Cladding of Buildings with Stepped Roofs<sup>(1),(2)</sup>**

Forming Part of Sentences 4.1.7.5.(4) and 4.1.7.6.(5)



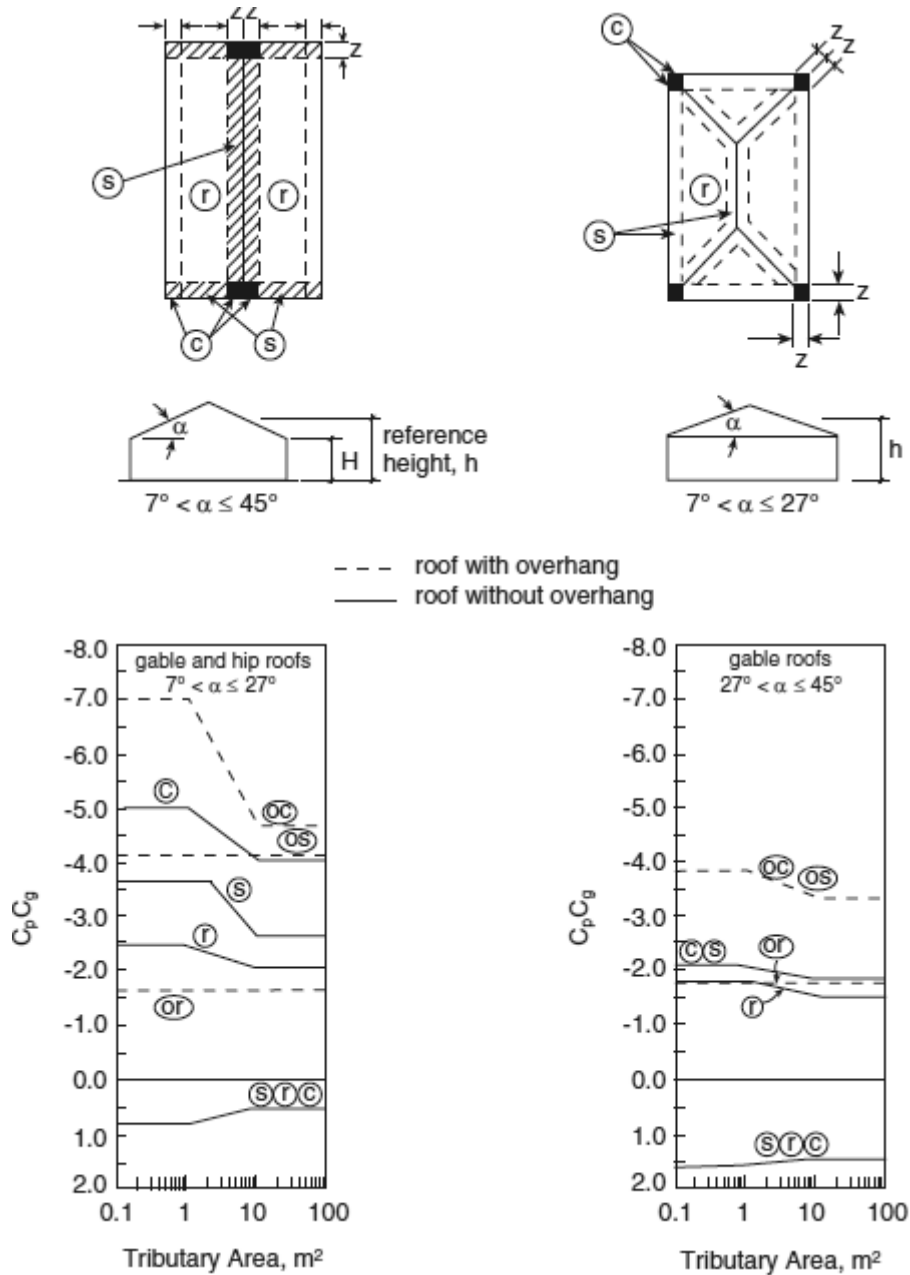
**Notes to Figure 4.1.7.6.D.:**

<sup>(1)</sup> The zone designations, pressure-gust coefficients and Notes to Figure 4.1.7.6.C. apply on both the upper and lower levels of flat stepped roofs, except that on the lower levels, positive pressure-gust coefficients equal to those in Figure 4.1.7.6.B. for walls apply for a distance,  $b$ , where  $b$  is equal to  $1.5h_1$  but not greater than  $30 \text{ m}$ . For all walls in Figure 4.1.7.6.D., zone designations and pressure coefficients provided for walls in Figure 4.1.7.6.B. apply.

<sup>(2)</sup> Note (1) applies only when the following conditions are met:  $h_1 \geq 0.3H$ ,  $h_1 \geq 3 \text{ m}$ , and  $W_1$ ,  $W_2$ , or  $W_3$  is greater than  $0.25W$  but not greater than  $0.75W$ .

**Figure 4.1.7.6.E.**  
**External Peak Values of  $C_p C_g$  on Single-Span Gabled and Hipped Roofs with a Slope Greater than  $7^\circ$  for the Design of Structural Components and Cladding**<sup>(1),(2),(3),(4),(5)</sup>

Forming Part of Sentence 4.1.7.6.(6)



Notes to Figure 4.1.7.6.E.:

<sup>(1)</sup> Coefficients for overhung roofs have the prefix "o" and refer to the same roof areas as referred to by the corresponding symbol without a prefix. They include contributions from both upper and lower surfaces.

<sup>(2)</sup> End-zone width,  $z$ , is the lesser of 10% of the least horizontal dimension and 40% of height,  $H$ , but not less than 4% of the least horizontal dimension or 1 m.

<sup>(3)</sup> Combinations of external and internal pressures shall be evaluated to obtain the most severe loading.

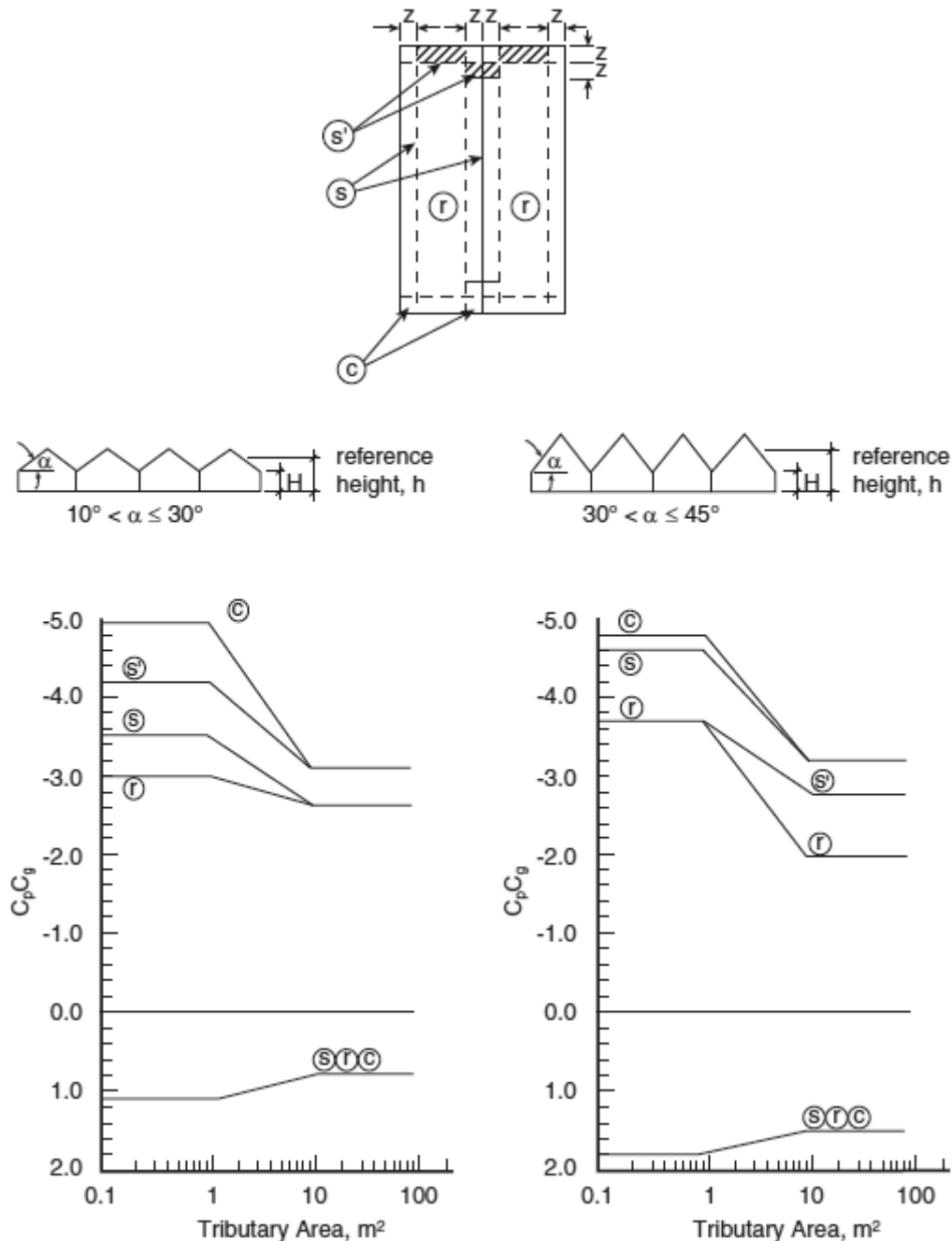
<sup>(4)</sup> Positive coefficients denote forces toward the surface, whereas negative coefficients denote forces away from the surface. Each structural element shall be designed to withstand forces of both signs.

<sup>(5)</sup> For hipped roofs with  $7^\circ < \alpha \leq 27^\circ$ , edge/ridge strips and pressure-gust coefficients for ridges of gabled roofs apply along each hip.

**Figure 4.1.7.6.F.**

**External Peak Values of  $C_p C_g$  on Multi-Span Gabled (Folded) Roofs with a Slope Greater than  $10^\circ$  for the Design of Structural Components and Cladding<sup>(1),(2),(3),(4)</sup>**

Forming Part of Sentence 4.1.7.6.(7)



**Notes to Figure 4.1.7.6.F.:**

<sup>(1)</sup> End-zone width,  $z$ , is the lesser of 10% of the least horizontal dimension and 40% of height,  $H$ , but not less than 4% of the least horizontal dimension or 1 m.

<sup>(2)</sup> Combinations of external and internal pressures shall be evaluated to obtain the most severe loading.

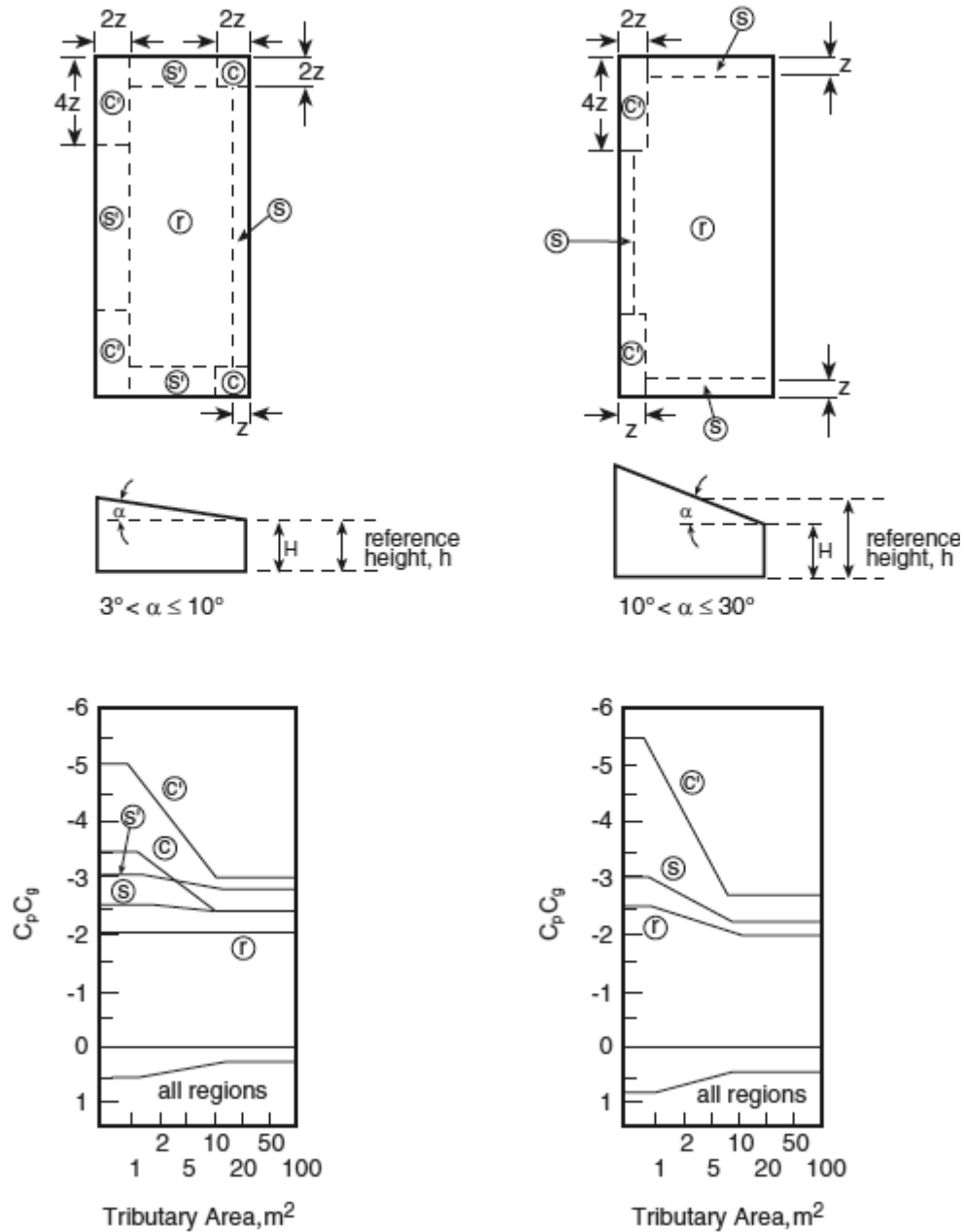
<sup>(3)</sup> Positive coefficients denote forces toward the surface, whereas negative coefficients denote forces away from the surface. Each structural element shall be designed to withstand forces of both signs.

<sup>(4)</sup> Where  $\alpha \leq 10^\circ$ , the coefficients given in Figure 4.1.7.6.C. apply. Where  $\alpha > 10^\circ$ , use  $\alpha = 7^\circ$ .

**Figure 4.1.7.6.G.**

**External Peak Values of  $C_p C_g$  on Monoslope Roofs for the Design of Structural Components and Cladding<sup>(1),(2),(3),(4)</sup>**

Forming Part of Sentence 4.1.7.6.(8)



**Notes to Figure 4.1.7.6.G.:**

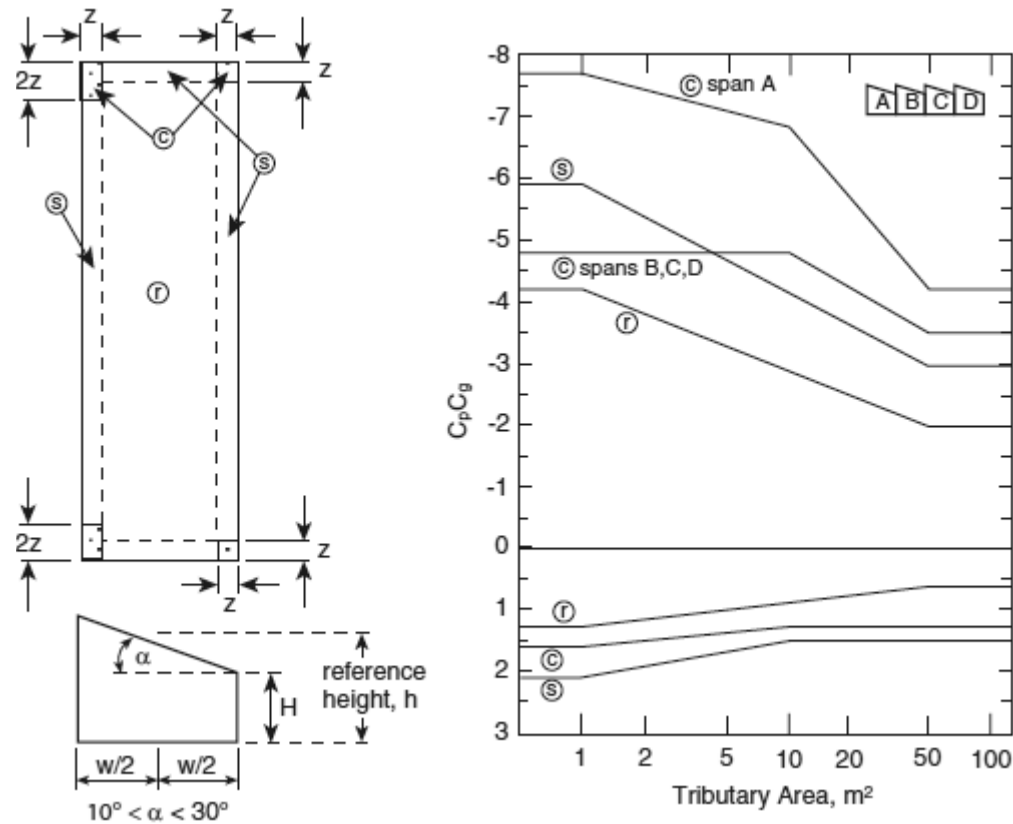
<sup>(1)</sup> End-zone width,  $z$ , is the lesser of 10% of the least horizontal dimension and 40% of height,  $H$ , but not less than 4% of the least horizontal dimension or 1 m.

<sup>(2)</sup> Combinations of external and internal pressures shall be evaluated to obtain the most severe loading.

<sup>(3)</sup> Positive coefficients denote forces toward the surface, whereas negative coefficients denote forces away from the surface. Each structural element shall be designed to withstand forces of both signs.

<sup>(4)</sup> Where  $\alpha \leq 3^\circ$ , the coefficients given in Figure 4.1.7.6.C. apply.

**Figure 4.1.7.6.H.**  
**External Peak Values of  $C_p C_g$  on Sawtooth Roofs with a Slope Greater than  $10^\circ$  for the Design of Structural Components and Cladding**<sup>(1),(2),(3),(4),(5)</sup>  
Forming Part of Sentence 4.1.7.6.(9)



- Notes to Figure 4.1.7.6.H.:**
- <sup>(1)</sup> End-zone width,  $z$ , is the lesser of 10% of the least horizontal dimension and 40% of height,  $H$ , but not less than 4% of the least horizontal dimension or 1 m.
  - <sup>(2)</sup> Combinations of external and internal pressures shall be evaluated to obtain the most severe loading.
  - <sup>(3)</sup> Positive coefficients denote forces toward the surface, whereas negative coefficients denote forces away from the surface. Each structural element shall be designed to withstand forces of both signs.
  - <sup>(4)</sup> Negative coefficients on corner zones of Span A differ from those on Spans B, C, and D.
  - <sup>(5)</sup> Where  $\alpha \leq 10^\circ$ , the coefficients given in Figure 4.1.7.6.C. apply. Where  $\alpha > 7^\circ$ , use  $\alpha = 7^\circ$ .

**4.1.7.7. Internal Pressure Coefficient**

(1) The internal pressure coefficient,  $C_{pi}$ , shall be as prescribed in Table 4.1.7.7.

**Table 4.1.7.7.**  
**Internal Pressure Coefficients**  
Forming Part of Sentence 4.1.7.7.(1)

| Item | Column 1<br>Building openings                                                                                                            | Column 2<br>Values for $C_{pi}$ |
|------|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| 1.   | Uniformly distributed small openings amounting to less than 0.1% of the total surface area                                               | -0.15 to 0.0                    |
| 2.   | Non-uniformly distributed openings of which none is significant or significant openings that are wind-resistant and closed during storms | -0.45 to +0.30                  |
| 3.   | Large openings likely to remain open during storms                                                                                       | -0.70 to +0.70                  |

**4.1.7.8. Dynamic Procedure**

(1) For the application of the Dynamic Procedure, the provisions of Article 4.1.7.3. shall be followed, except that the exposure factor,  $C_e$ , shall be as prescribed in Sentences (2) and (3), and the gust effect factor,  $C_g$ , shall be as prescribed in Sentence (4), when determining the wind loads on the main structural system.

(2) For *buildings* in open terrain as described in Clause 4.1.7.3.(5)(a), the value of  $C_e$  for the design of the main structural system shall be calculated as follows:

$$C_e = (h/10)^{0.28}, \text{ but } 1.0 \leq C_e \leq 2.5$$

(3) For *buildings* in rough terrain as described in Clause 4.1.7.3.(5)(b), the value of  $C_e$  for the design of the main structural system shall be calculated as follows:

$$C_e = 0.5(h/12.7)^{0.5}, \text{ but } 0.5 \leq C_e \leq 2.5$$

(4) For the design of the main structural system,  $C_g$  shall be calculated as follows:

$$C_g = 1 + g_p(\delta/\mu)$$

where,

$$g_p = \text{peak factor calculated as } \sqrt{2 \ln(vT)} + \frac{0.577}{\sqrt{2 \ln(vT)}}, \text{ and}$$

$$\delta/\mu = \sqrt{\frac{K}{C_{eH}} \left( B + \frac{sF}{\beta} \right)},$$

where,

$$f_{nD} \sqrt{\frac{sF}{sF + \beta B}},$$

$v$  = average fluctuation rate calculated as

$$T = 3\,600 \text{ s},$$

$K$  = 0.08 for open terrain and 0.10 for rough terrain,

$C_{eH}$  = exposure factor evaluated at reference height  $h = H$ ,

$B$  = background turbulence factor, a function of  $w/H$  determined from Figure 4.1.7.8.,

$$s = \text{size reduction factor calculated as } \frac{\pi}{3} \left[ \frac{1}{1 + \frac{8f_n H}{3V_H}} \right] \left[ \frac{1}{1 + \frac{10f_n w}{V_H}} \right],$$

$$F = \text{gust energy ratio calculated as } \frac{x_0^2}{(1 + x_0^2)^{4/3}}, \text{ where } x_0 = (1\,222 f_n/V_H), \text{ and}$$

$\beta$  = damping ratio, which shall be determined by a rational method or may be taken to be 0.01 for steel structures, 0.02 for concrete structures and 0.015 for composite structures,

where,

$f_{nD}$  = natural frequency of vibration of the *building* in the along-wind direction, in Hz,

$f_n$  = lowest natural frequency of the *building*, in Hz, as described in Sentences 4.1.7.2.(2) and (3),

$H$  = height of the *building*,

$w$  = effective width of windward face of the *building* calculated as  $w = \frac{\sum h_i w_i}{\sum h_i}$ , where  $w_i$  = width normal to wind direction at height  $h_i$ , and

$V_H$  = mean wind speed at the top of the structure, in m/s, calculated as  $\bar{V}\sqrt{C_{eH}}$ ,  
 where,

$\bar{V}$  = reference wind speed at a height of 10 m, in m/s, calculated as  $\sqrt{\frac{2 \cdot I_w \cdot q}{\rho}}$ ,

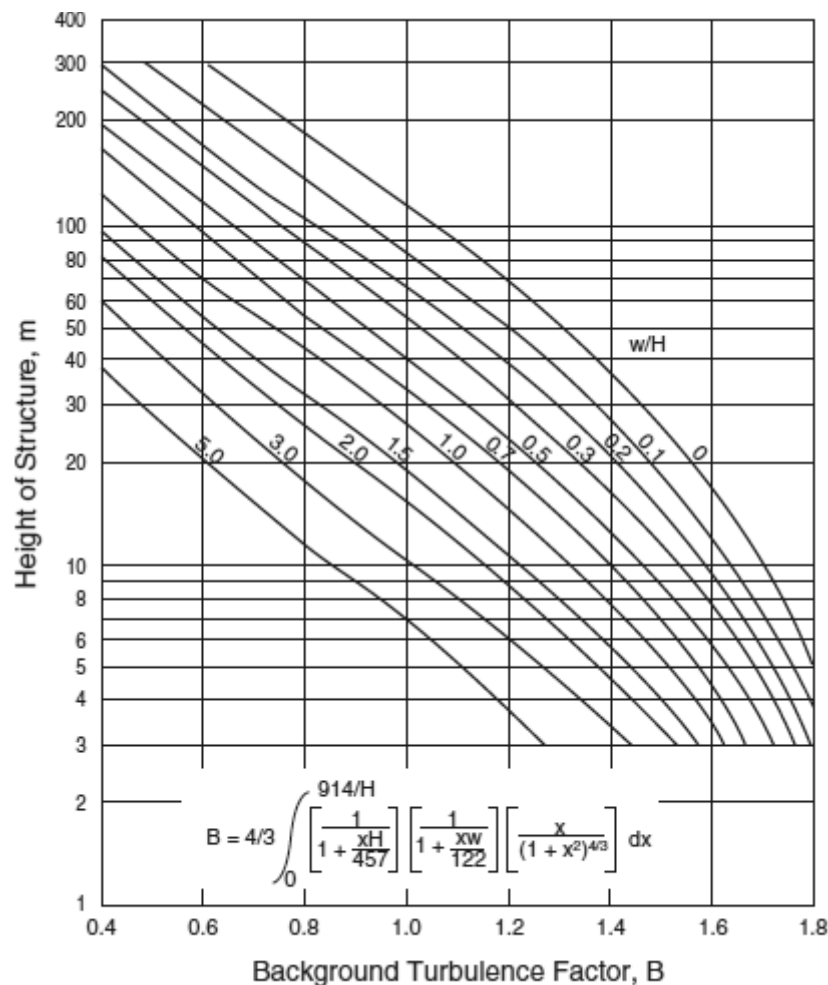
where,

$I_w$  = importance factor,

$q$  = reference velocity pressure, in Pa, and

$\rho$  = air density = 1.2929 kg/m<sup>3</sup>.

**Figure 4.1.7.8.**  
**Background Turbulence Factor, B**  
 Forming Part of Sentence 4.1.7.8.(4)



#### 4.1.7.9. Full and Partial Wind Loading

(1) Except where the wind loads are derived from the combined  $C_p C_g$  values determined in accordance with Article 4.1.7.6., *buildings* and structural members shall be capable of withstanding the effects of,

- (a) the full wind loads acting along each of the two principal horizontal axes considered separately,
- (b) the wind loads as described in Clause (a) but with 100% of the load removed from any one portion of the area,
- (c) the wind loads as described in Clause (a) but with both axes considered simultaneously at 75% of their full value, and

- (d) the wind loads as described in Clause (c) but with 50% of these loads removed from any portion of the area.

#### 4.1.7.10. Interior Walls and Partitions

(1) In the design of interior walls and *partitions*, due consideration shall be given to differences in air pressure on opposite sides of the wall or *partition* that may result from,

- (a) pressure differences between the windward and leeward sides of a *building*,
- (b) stack effects due to a difference in air temperature between the exterior and interior of the *building*, and
- (c) air pressurization by the mechanical services of the *building*.

#### 4.1.7.11. Exterior Ornamentations, Equipment and Appendages

(1) The effects of wind loads on exterior ornamentations, equipment and appendages, including the increase in exposed area as a result of ice buildup as described in CSA S37, "Antennas, Towers, and Antenna-Supporting Structures", shall be considered in the structural design of the connections and the *building*.

(2) Where there are a number of similar components, the net increase in force is permitted to be based on the total area for all similar components as opposed to the summation of forces of individual elements.

#### 4.1.7.12. Wind Tunnel Procedure

(1) Except as provided in Sentences (2) and (3), wind tunnel tests on scale models to determine wind loads on *buildings* shall be conducted in accordance with ASCE/SEI 49, "Wind Tunnel Testing for Buildings and Other Structures".

(2) Where an adjacent *building* provides substantial sheltering effect, the wind loads for the main structural system shall be no lower than 80% of the loads determined from tests described in Sentence (1) with the effect of the sheltering *building* removed as applied to,

- (a) the base shear force for *buildings* with ratio of height to minimum effective width, as described in Sentence 4.1.7.2.(2), less than or equal to 1.0, or
- (b) the base moment for *buildings* with a ratio of height to minimum effective width greater than 1.0.

(3) For the design of cladding and secondary structural members, the exterior wind loads determined from the wind tunnel tests shall be no less onerous than those determined by analysis in accordance with Article 4.1.7.3. using the following assumptions:

- (a)  $C_p = \pm 0.72$  and  $C_g = 2.5$ , where the height of the *building* is greater than 20 m or greater than its minimum effective width, and
- (b)  $C_p C_g = 80\%$  of the values for zones w and r provided in Article 4.1.7.6., where the height of the *building* is less than or equal to 20 m and no greater than its minimum effective width.

**112. Subsection 4.1.8. of Division B of the Regulation is revoked and the following substituted:**

#### 4.1.8. Earthquake Load and Effects

##### 4.1.8.1. Analysis

(1) Except as permitted in Sentence (2), the deflections and specified loading due to earthquake motions shall be determined according to the requirements of Articles 4.1.8.2. to 4.1.8.22.

(2) Where  $I_E F_s S_a(0.2)$  and  $I_E F_s S_a(2.0)$  are less than 0.16 and 0.03 respectively, the deflections and specified loading due to earthquake motions are permitted to be determined in accordance with Sentences (3) to (15), where,

- (a)  $I_E$  is the earthquake importance factor and has a value of 0.8, 1.0, 1.3 and 1.5 for *buildings* of Low, Normal, High and Post-Disaster importance respectively,
- (b)  $F_s$  is the site coefficient based on the average  $\bar{N}_{60}$  or  $s_u$ , as defined in Article 4.1.8.2., for the top 30 m of *soil* below the footings, pile caps or mat *foundations* and has a value of,

(i) 1.0 for *rock* sites or when  $\bar{N}_{60} > 50$  or  $s_u > 100$  kPa,

(ii) 1.6 when  $15 \leq \bar{N}_{60} \leq 50$  or  $50 \text{ kPa} \leq s_u \leq 100 \text{ kPa}$ , and

(iii) 2.8 for all other cases, and

- (c)  $S_a(T)$  is the 5% damped spectral response acceleration value for period T, determined in accordance with Subsection 1.1.2.

(3) The structure shall have a clearly defined,

- (a) SFRS, as defined in Article 4.1.8.2., to resist the earthquake loads and their effects, and

- (b) load path or paths that will transfer the inertial forces generated by the earthquake to the *foundations* and supporting ground.
- (4) An unreinforced masonry SFRS shall not be permitted where,
- (a)  $I_E$  is greater than 1.0, or
- (b) the height above *grade* is greater than or equal to 30 m.
- (5) The height above *grade* of SFRS designed in accordance with CSA S136, "North American Specification for the Design of Cold-Formed Steel Structural Members", shall be less than 15 m.
- (6) Earthquake forces shall be assumed to act horizontally and independently about any two orthogonal axes.
- (7) The minimum lateral earthquake design force,  $V_s$ , at the base of the structure in the direction under consideration shall be calculated as follows:

$$V_s = F_s S_a(T_s) I_E W_t / R_s$$

where,

$S_a(T_s)$  = value of  $S_a$  at  $T_s$  determined by linear interpolation between the value of  $S_a$  at 0.2 s, 0.5 s and 1.0 s, and  
 =  $S_a(0.2)$  for  $T_s \leq 0.2$  s,

$W_t$  = sum of  $W_i$  over the height of the *building*, where  $W_i$  is defined in Article 4.1.8.2., and

$R_s$  = 1.5 except  $R_s = 1.0$  for structures where the *storey* strength is less than that in the *storey* above and for an unreinforced masonry SFRS,

where,

$T_s$  = fundamental lateral period of vibration of the *building*, as defined in Article 4.1.8.2.,  
 =  $0.085(h_n)^{3/4}$  for steel moment frames,  
 =  $0.075(h_n)^{3/4}$  for concrete moment frames,  
 = 0.1 N for other moment frames,  
 =  $0.025h_n$  for braced frames, and  
 =  $0.05(h_n)^{3/4}$  for shear walls and other structures,

where,

$h_n$  = height above the base, in m, as defined in Article 4.1.8.2.,

except that  $V_s$  shall not be less than  $F_s S_a(1.0) I_E W_t / R_s$  and, in cases where  $R_s = 1.5$ ,  $V_s$  need not be greater than  $F_s S_a(0.5) I_E W_t / R_s$ .

(8) The total lateral earthquake design force,  $V_s$ , shall be distributed over the height of the *building* in accordance with the following formula:

$$F_x = V_s W_x h_x / \left( \sum_{i=1}^n W_i h_i \right)$$

where,

$F_x$  = force applied through the centre of mass at level x,

$W_x, W_i$  = portion of  $W$  that is located at or is assigned to level x or level i respectively, and

$h_x, h_i$  = height, in m, above the base of level x and level i as described in Article 4.1.8.2.

(9) Accidental torsional effects applied concurrently with  $F_x$  shall be considered by applying torsional moments about the vertical axis at each level for each of the following cases considered separately:

- (a)  $+0.1D_{nx}F_x$ , and
- (b)  $-0.1D_{nx}F_x$ .

(10) Deflections obtained from a linear analysis shall include the effects of torsion and be multiplied by  $R_s/I_E$  to get realistic values of expected deflections.

(11) The deflections described in Sentence (10) shall be used to calculate the largest interstorey deflection, which shall not exceed,

- (a)  $0.01h_s$  for *post-disaster buildings*,
- (b)  $0.02h_s$  for High Importance Category *buildings*, and
- (c)  $0.025h_s$  for all other *buildings*,

where  $h_s$  is the interstorey height as defined in Article 4.1.8.2.

(12) When earthquake forces are calculated using  $R_s = 1.5$ , the following elements in the SFRS shall have their design forces due to earthquake effects increased by 33%:

- (a) diaphragms and their chords, connections, struts and collectors,
- (b) tie downs in wood or drywall shear walls,
- (c) connections and anchor bolts in steel- and wood-braced frames,
- (d) connections in precast concrete, and
- (e) connections in steel moment frames.

(13) Except as provided in Sentence (14), where cantilever parapet walls, other cantilever walls, exterior ornamentation and appendages, towers, chimneys or penthouses are connected to or form part of a *building*, they shall be designed, along with their connections, for a lateral force,  $V_{sp}$ , distributed according to the distribution of mass of the element and acting in the lateral direction that results in the most critical loading for design using the following equation:

$$V_{sp} = 0.1F_s I_E W_p$$

where  $W_p$  is the weight of a portion of a structure as defined in Article 4.1.8.2.

(14) The value of  $V_{sp}$  shall be doubled for unreinforced masonry elements.

(15) Structures designed in accordance with this Article need not comply with the seismic requirements stated in the applicable design standard referenced in Section 4.3.

#### 4.1.8.2. Notation

(1) In this Subsection,

$A_r$  = response amplification factor to account for type of attachment of mechanical/electrical equipment, as defined in Sentence 4.1.8.18.(1),

$A_x$  = amplification factor at level  $x$  to account for variation of response of mechanical/electrical equipment with elevation within the *building*, as defined in Sentence 4.1.8.18.(1),

$B_x$  = ratio at level  $x$  used to determine torsional sensitivity, as defined in Sentence 4.1.8.11.(9),

$B$  = maximum value of  $B_x$ , as defined in Sentence 4.1.8.11.(9),

$C_p$  = seismic coefficient for mechanical/electrical equipment, as defined in Sentence 4.1.8.18.(1),

$D_{nx}$  = plan dimension of the *building* at level  $x$  perpendicular to the direction of seismic loading being considered,

$e_x$  = distance measured perpendicular to the direction of earthquake loading between centre of mass and centre of rigidity at the level being considered,

$F_a$  = site coefficient, as defined in Sentence 4.1.8.4.(7),

$F(PGA)$  = site coefficient for PGA, as defined in Sentence 4.1.8.4.(5),

$F(PGV)$  = site coefficient for PGV, as defined in Sentence 4.1.8.4.(5),

$F_s$  = site coefficient, as defined in Sentence 4.1.8.1.(2),

$F(T)$  = site coefficient for spectral acceleration, as defined in Sentence 4.1.8.4.(5),

$F_t$  = portion of  $V$  to be concentrated at the top of the structure, as defined in Sentence 4.1.8.11.(6),

$F_v$  = site coefficient, as defined in Sentence 4.1.8.4.(7),

$F_x$  = lateral force applied to level  $x$ , as defined in Sentence 4.1.8.11.(6),

$h_i, h_n, h_x$  = the height above the base ( $i = 0$ ) to level  $i, n$ , or  $x$  respectively, where the base of the structure is the level at which horizontal earthquake motions are considered to be imparted to the structure,

$h_s$  = interstorey height ( $h_i - h_{i-1}$ ),

$I_E$  = earthquake importance factor of the structure, as described in Sentence 4.1.8.5.(1),

$J$  = numerical reduction coefficient for base overturning moment, as defined in Sentence 4.1.8.11.(5),

- $J_x$  = numerical reduction coefficient for overturning moment at level  $x$ , as defined in Sentence 4.1.8.11.(7),
- Level  $i$  = any level in the *building*,  $i=1$  for first level above the base,
- Level  $n$  = level that is uppermost in the main portion of the structure,
- Level  $x$  = level that is under design consideration,
- $M_v$  = factor to account for higher mode effect on base shear, as defined in Sentence 4.1.8.11.(5),
- $M_x$  = overturning moment at level  $x$ , as defined in Sentence 4.1.8.11.(7),
- $N$  = total number of *storeys* above exterior *grade* to level  $n$ ,
- $\bar{N}_{60}$  = Average Standard Penetration Resistance for the top 30 m, corrected to a rod energy efficiency of 60% of the theoretical maximum,
- PGA = Peak Ground Acceleration expressed as a ratio to gravitational acceleration, as defined in Sentence 4.1.8.4.(1),
- PGA<sub>ref</sub> = reference PGA for determining  $F(T)$ ,  $F(PGA)$  and  $F(PGV)$ , as defined in Sentence 4.1.8.4.(4),
- PGV = Peak Ground Velocity, in m/s, as defined in Sentence 4.1.8.4.(1),
- PI = plasticity index for clays,
- $R_d$  = ductility-related force modification factor reflecting the capability of a structure to dissipate energy through reversed cyclic inelastic behaviour, as given in Article 4.1.8.9.,
- $R_o$  = overstrength-related force modification factor accounting for the dependable portion of reserve strength in a structure designed according to these provisions, as defined in Article 4.1.8.9.,
- $R_s$  = combined overstrength and ductility-related modification factor, as defined in Sentence 4.1.8.1.(7),
- $S_p$  = horizontal force factor for part or portion of a *building* and its anchorage, as given in Sentence 4.1.8.18.(1),
- $S(T)$  = design spectral response acceleration, expressed as a ratio to gravitational acceleration, for a period of  $T$ , as defined in Sentence 4.1.8.4.(7),
- $S_a(T)$  = 5% damped spectral response acceleration, expressed as a ratio to gravitational acceleration, for a period of  $T$ , as defined in Sentence 4.1.8.4.(1),
- SFRS = Seismic Force Resisting System(s) is that part of the structural system that has been considered in the design to provide the required resistance to the earthquake forces and effects defined in Subsection 4.1.8.,
- $s_u$  = average undrained shear strength in the top 30 m of *soil*,
- $T$  = period in seconds,
- $T_a$  = fundamental lateral period of vibration of the *building* or structure in seconds in the direction under consideration, as defined in Sentence 4.1.8.11.(3),
- $T_x$  = floor torque at level  $x$ , as defined in Sentence 4.1.8.11.(10),
- TDD = Total Design Displacement of any point in a seismically isolated structure, within or above the isolation system, obtained by calculating the mean + ( $I_E \times$  the standard deviation) of the peak horizontal displacements from all sets of ground motion histories analyzed, but not less than  $\sqrt{I_E} \times$  the mean, where the peak horizontal displacement is based on the vector sum of the two orthogonal horizontal displacements considered for each time step,
- $V$  = lateral earthquake design force at the base of the structure, as determined by Article 4.1.8.11.,
- $V_d$  = lateral earthquake design force at the base of the structure, as determined by Article 4.1.8.12.,
- $V_e$  = lateral earthquake elastic force at the base of the structure, as determined by Article 4.1.8.12.,
- $V_{ed}$  = lateral earthquake design elastic force at the base of the structure, as determined by Article 4.1.8.12.,
- $V_p$  = lateral force on a part of the structure, as determined by Article 4.1.8.18.,
- $V_s$  = lateral earthquake design force at the base of the structure, as determined by Sentence 4.1.8.1.(7),
- $\bar{v}_{s30}$  = average shear wave velocity in the top 30 m of *soil* or *rock*,
- $W$  = *dead load*, as defined in Article 4.1.4.1., except that the minimum *partition* load as defined in Sentence 4.1.4.1.(3) need not exceed 0.5 kPa, plus 25% of the design snow load specified in Subsection 4.1.6., plus 60% of

the storage load for areas used for storage, except that *storage garages* need not be considered storage areas, and the full contents of any tanks,

$W_i, W_x$  = portion of  $W$  that is located at or is assigned to level  $i$  or  $x$  respectively,

$W_p$  = weight of a part or portion of a structure, e.g., cladding, *partitions* and appendages,

$W_t$  = sum of  $W_i$  over the height of the *building*,

$\delta_{ave}$  = average displacement of the structure at level  $x$ , as defined in Sentence 4.1.8.11.(9), and

$\delta_{max}$  = maximum displacement of the structure at level  $x$ , as defined in Sentence 4.1.8.11.(9).

#### 4.1.8.3. General Requirements

(1) The *building* shall be designed to meet the requirements of this Subsection and of the design standards referenced in Section 4.3.

(2) Structures shall be designed with a clearly defined load path, or paths, that will transfer the inertial forces generated in an earthquake to the supporting ground.

(3) The structure shall have a clearly defined Seismic Force Resisting System(s) (SFRS), as defined in Article 4.1.8.2.

(4) The SFRS shall be designed to resist 100% of the earthquake loads and their effects.

(5) All structural framing elements not considered to be part of the SFRS must be investigated and shown to behave elastically or to have sufficient non-linear capacity to support their gravity loads while undergoing earthquake-induced deformations calculated from the deflections determined in Article 4.1.8.13.

(6) Stiff elements that are not considered part of the SFRS, such as concrete, masonry, brick or pre-cast walls or panels, shall be,

(a) separated from all structural elements of the *building* such that no interaction takes place as the *building* undergoes deflections due to earthquake effects as calculated in this Subsection, or

(b) made part of the SFRS and satisfy the requirements of this Subsection.

(7) Stiffness imparted to the structure from elements not part of the SFRS, other than those described in Sentence (6), shall not be used to resist earthquake deflections but shall be accounted for,

(a) in calculating the period of the structure for determining forces if the added stiffness decreases the fundamental lateral period by more than 15%,

(b) in determining the irregularity of the structure, except the additional stiffness shall not be used to make an irregular SFRS regular or to reduce the effects of torsion, and

(c) in designing the SFRS if inclusion of the elements not part of the SFRS in the analysis has an adverse effect on the SFRS.

(8) Structural modelling shall be representative of the magnitude and spatial distribution of the mass of the *building* and of the stiffness of all elements of the SFRS, including stiff elements that are not separated in accordance with Sentence 4.1.8.3.(6), and shall account for,

(a) the effect of cracked sections in reinforced concrete and reinforced masonry elements,

(b) the effect of the finite size of members and joints,

(c) sway effects arising from the interaction of gravity loads with the displaced configuration of the structure, and

(d) other effects that influence the lateral stiffness of the *building*.

#### 4.1.8.4. Site Properties

(1) The peak ground acceleration (PGA), peak ground velocity (PGV) and the 5% damped spectral response acceleration values,  $S_a(T)$ , for the reference ground conditions (Site Class C in Table 4.1.8.4.A.) for periods  $T$  of 0.2 s, 0.5 s, 1.0 s, 2.0 s, 5.0 s and 10.0 s, shall be determined in accordance with Subsection 1.1.2. and are based on a 2% probability of exceedance in 50 years.

(2) Site classifications for ground shall conform to Table 4.1.8.4.A. and shall be determined using  $\bar{v}_{s30}$  or, where  $\bar{v}_{s30}$  is not known, using Sentence (3).

(3) If average shear wave velocity,  $\bar{v}_{s30}$ , is not known, Site Class shall be determined from energy-corrected Average Standard Penetration Resistance,  $\bar{N}_{60}$ , or from *soil* average undrained shear strength,  $s_u$ , as noted in Table 4.1.8.4.A.,  $\bar{N}_{60}$  and  $s_u$  being calculated based on rational analysis.

(4) For the purpose of determining the values of  $F(T)$  to be used in the calculation of design spectral acceleration,  $S(T)$ , in Sentence (9), and the values of  $F(PGA)$  and  $F(PGV)$ , the value of  $PGA_{ref}$  to be used with Tables 4.1.8.4.B. to 4.1.8.4.I. shall be taken as,

- (a)  $0.8 PGA$ , where the ratio  $S_a(0.2)/PGA < 2.0$ , and
- (b)  $1 PGA$ , in all other cases.

(5) The values of the site coefficient for design spectral acceleration at period  $T$ ,  $F(T)$ , and of similar coefficients  $F(PGA)$  and  $F(PGV)$  shall conform to Tables 4.1.8.4.B. to 4.1.8.4.I. using linear interpolation for intermediate values of  $PGA_{ref}$ .

(6) Site-specific evaluation is required to determine  $F(T)$ ,  $F(PGA)$  and  $F(PGV)$  for Site Class F.

(7) For all applications in Subsection 4.1.8.,  $F_a = F(0.2)$  and  $F_v = F(1.0)$ .

(8) For structures with a fundamental period of vibration equal to or less than 0.5 s that are built on liquefiable *soils*, Site Class and the corresponding values of  $F(T)$  may be determined as described in Tables 4.1.8.4.A., 4.1.8.4.B., and 4.1.8.4.C. by assuming that the *soils* are not liquefiable.

(9) The design spectral acceleration values of  $S(T)$  shall be determined as follows, using linear interpolation for intermediate values of  $T$ :

$$\begin{aligned}
 S(T) &= F(0.2)S_a(0.2) \text{ or } F(0.5)S_a(0.5), \text{ whichever is larger, for } T \leq 0.2 \text{ s} \\
 &= F(0.5)S_a(0.5) \text{ for } T = 0.5 \text{ s} \\
 &= F(1.0)S_a(1.0) \text{ for } T = 1.0 \text{ s} \\
 &= F(2.0)S_a(2.0) \text{ for } T = 2.0 \text{ s} \\
 &= F(5.0)S_a(5.0) \text{ for } T = 5.0 \text{ s} \\
 &= F(10.0)S_a(10.0) \text{ for } T \geq 10.0 \text{ s}
 \end{aligned}$$

**Table 4.1.8.4.A.**  
**Site Classification for Seismic Site Response**

Forming Part of Sentences 4.1.8.4.(1) to (3)

| Item | Column 1<br>Site Class | Column 2<br>Ground Profile Name                | Column 3<br>Average Properties in Top<br>30 m<br>Average Shear Wave<br>Velocity, $\bar{v}_{s30}$ (m/s) | Column 4<br>Average Properties in Top<br>30 m<br>Average Standard<br>Penetration Resistance,<br>$\bar{N}_{60}$ | Column 5<br>Average Properties in Top 30 m<br>Soil Undrained Shear Strength,<br>$s_u$ |
|------|------------------------|------------------------------------------------|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 1.   | A                      | Hard <i>rock</i> <sup>(1)(2)</sup>             | $\bar{v}_{s30} > 1500$                                                                                 | N/A                                                                                                            | N/A                                                                                   |
| 2.   | B                      | <i>Rock</i> <sup>(1)</sup>                     | $760 < \bar{v}_{s30} \leq 1500$                                                                        | N/A                                                                                                            | N/A                                                                                   |
| 3.   | C                      | Very dense <i>soil</i> and soft<br><i>rock</i> | $360 < \bar{v}_{s30} < 760$                                                                            | $\bar{N}_{60} > 50$                                                                                            | $s_u > 100 \text{ kPa}$                                                               |
| 4.   | D                      | Stiff <i>soil</i>                              | $180 < \bar{v}_{s30} < 360$                                                                            | $15 \leq \bar{N}_{60} \leq 50$                                                                                 | $50 \text{ kPa} < s_u \leq 100 \text{ kPa}$                                           |
| 5.   | E                      | Soft <i>soil</i> <sup>(3)</sup>                | $\bar{v}_{s30} < 180$                                                                                  | $\bar{N}_{60} < 15$                                                                                            | $s_u < 50 \text{ kPa}$                                                                |
| 6.   | F                      | Other <i>soils</i> <sup>(4)</sup>              | Site-specific evaluation<br>required                                                                   | Site-specific evaluation<br>required                                                                           | Site-specific evaluation required                                                     |

**Notes to Table 4.1.8.4.A.:**

<sup>(1)</sup> Site Classes A and B, hard *rock* and *rock*, are not to be used if there is more than 3 m of softer materials between the *rock* and the underside of footing or mat *foundations*. The appropriate Site Class for such cases is determined on the basis of the average properties of the total thickness of the softer materials.

<sup>(2)</sup> Where  $\bar{v}_{s30}$  has been measured in-situ, the  $F(T)$  values for Site Class A derived from Tables 4.1.8.4.B. to 4.1.8.4.G. are permitted to be multiplied by the factor  $0.04 + (1500/\bar{v}_{s30})^{1/2}$ .

<sup>(3)</sup> Any profile with more than 3 m of *soil* with the following characteristics:

- (a) plasticity index:  $PI > 20$
- (b) moisture content:  $w \geq 40\%$ , and

(c) undrained shear strength:  $s_u < 25$  kPa.

<sup>(4)</sup> Other *soils* include:

- (a) liquefiable *soils*, quick and highly sensitive clays, collapsible weakly cemented *soils*, and other *soils* susceptible to failure or collapse under seismic loading,
- (b) peat and/or highly organic clays greater than 3 m in thickness,
- (c) highly plastic clays ( $PI > 75$ ) more than 8 m thick, and
- (d) soft to medium stiff clays more than 30 m thick.

**Table 4.1.8.4.B.**  
**Values of F(0.2) as a Function of Site Class and  $PGA_{ref}$**

Forming Part of Sentences 4.1.8.4.(4) and (5)

| Item | Column 1<br>Site Class | Column 2<br>Values of F(0.2)<br>$PGA_{ref} \leq 0.1$ | Column 3<br>Values of F(0.2)<br>$PGA_{ref} = 0.2$ | Column 4<br>Values of F(0.2)<br>$PGA_{ref} = 0.3$ | Column 5<br>Values of F(0.2)<br>$PGA_{ref} = 0.4$ | Column 6<br>Values of F(0.2)<br>$PGA_{ref} \geq 0.5$ |
|------|------------------------|------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|------------------------------------------------------|
| 1.   | A                      | 0.69                                                 | 0.69                                              | 0.69                                              | 0.69                                              | 0.69                                                 |
| 2.   | B                      | 0.77                                                 | 0.77                                              | 0.77                                              | 0.77                                              | 0.77                                                 |
| 3.   | C                      | 1.00                                                 | 1.00                                              | 1.00                                              | 1.00                                              | 1.00                                                 |
| 4.   | D                      | 1.24                                                 | 1.09                                              | 1.00                                              | 0.94                                              | 0.90                                                 |
| 5.   | E                      | 1.64                                                 | 1.24                                              | 1.05                                              | 0.93                                              | 0.85                                                 |
| 6.   | F                      | <sup>(1)</sup>                                       | <sup>(1)</sup>                                    | <sup>(1)</sup>                                    | <sup>(1)</sup>                                    | <sup>(1)</sup>                                       |

Notes to Table 4.1.8.4.B.:

<sup>(1)</sup> See Sentence 4.1.8.4.(6)

**Table 4.1.8.4.C.**  
**Values of F(0.5) as a Function of Site Class and  $PGA_{ref}$**

Forming Part of Sentence 4.1.8.4.(4) and (5)

| Item | Column 1<br>Site Class | Column 2<br>Values of F(0.5)<br>$PGA_{ref} \leq 0.1$ | Column 3<br>Values of F(0.5)<br>$PGA_{ref} = 0.2$ | Column 4<br>Values of F(0.5)<br>$PGA_{ref} = 0.3$ | Column 5<br>Values of F(0.5)<br>$PGA_{ref} = 0.4$ | Column 6<br>Values of F(0.5)<br>$PGA_{ref} \geq 0.5$ |
|------|------------------------|------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|------------------------------------------------------|
| 1.   | A                      | 0.57                                                 | 0.57                                              | 0.57                                              | 0.57                                              | 0.57                                                 |
| 2.   | B                      | 0.65                                                 | 0.65                                              | 0.65                                              | 0.65                                              | 0.65                                                 |
| 3.   | C                      | 1.00                                                 | 1.00                                              | 1.00                                              | 1.00                                              | 1.00                                                 |
| 4.   | D                      | 1.47                                                 | 1.30                                              | 1.20                                              | 1.14                                              | 1.10                                                 |
| 5.   | E                      | 2.47                                                 | 1.80                                              | 1.48                                              | 1.30                                              | 1.17                                                 |
| 6.   | F                      | <sup>(1)</sup>                                       | <sup>(1)</sup>                                    | <sup>(1)</sup>                                    | <sup>(1)</sup>                                    | <sup>(1)</sup>                                       |

Notes to Table 4.1.8.4.C.:

<sup>(1)</sup> See Sentence 4.1.8.4.(6)

**Table 4.1.8.4.D.**  
**Values of F(1.0) as a Function of Site Class and  $PGA_{ref}$**

Forming Part of Sentences 4.1.8.4.(4) and (5)

| Item | Column 1<br>Site Class | Column 2<br>Values of F(1.0)<br>$PGA_{ref} \leq 0.1$ | Column 3<br>Values of F(1.0)<br>$PGA_{ref} = 0.2$ | Column 4<br>Values of F(1.0)<br>$PGA_{ref} = 0.3$ | Column 5<br>Values of F(1.0)<br>$PGA_{ref} = 0.4$ | Column 6<br>Values of F(1.0)<br>$PGA_{ref} \geq 0.5$ |
|------|------------------------|------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|------------------------------------------------------|
| 1.   | A                      | 0.57                                                 | 0.57                                              | 0.57                                              | 0.57                                              | 0.57                                                 |
| 2.   | B                      | 0.63                                                 | 0.63                                              | 0.63                                              | 0.63                                              | 0.63                                                 |
| 3.   | C                      | 1.00                                                 | 1.00                                              | 1.00                                              | 1.00                                              | 1.00                                                 |
| 4.   | D                      | 1.55                                                 | 1.39                                              | 1.31                                              | 1.25                                              | 1.21                                                 |
| 5.   | E                      | 2.81                                                 | 2.08                                              | 1.74                                              | 1.53                                              | 1.39                                                 |
| 6.   | F                      | <sup>(1)</sup>                                       | <sup>(1)</sup>                                    | <sup>(1)</sup>                                    | <sup>(1)</sup>                                    | <sup>(1)</sup>                                       |

Notes to Table 4.1.8.4.D.:

<sup>(1)</sup> See Sentence 4.1.8.4.(6)

**Table 4.1.8.4.E.**  
**Values of F(2.0) as a Function of Site Class and  $PGA_{ref}$**

Forming Part of Sentences 4.1.8.4.(4) and (5)

| Item | Column 1<br>Site Class | Column 2<br>Values of F(2.0)<br>$PGA_{ref} \leq 0.1$ | Column 3<br>Values of F(2.0)<br>$PGA_{ref} = 0.2$ | Column 4<br>Values of F(2.0)<br>$PGA_{ref} = 0.3$ | Column 5<br>Values of F(2.0)<br>$PGA_{ref} = 0.4$ | Column 6<br>Values of F(2.0)<br>$PGA_{ref} \geq 0.5$ |
|------|------------------------|------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|------------------------------------------------------|
| 1.   | A                      | 0.58                                                 | 0.58                                              | 0.58                                              | 0.58                                              | 0.58                                                 |
| 2.   | B                      | 0.63                                                 | 0.63                                              | 0.63                                              | 0.63                                              | 0.63                                                 |
| 3.   | C                      | 1.00                                                 | 1.00                                              | 1.00                                              | 1.00                                              | 1.00                                                 |
| 4.   | D                      | 1.57                                                 | 1.44                                              | 1.36                                              | 1.31                                              | 1.27                                                 |
| 5.   | E                      | 2.90                                                 | 2.24                                              | 1.92                                              | 1.72                                              | 1.58                                                 |
| 6.   | F                      | (1)                                                  | (1)                                               | (1)                                               | (1)                                               | (1)                                                  |

**Notes to Table 4.1.8.4.E.:**

(1) See Sentence 4.1.8.4.(6)

**Table 4.1.8.4.F.**  
**Values of F(5.0) as a Function of Site Class and  $PGA_{ref}$**

Forming Part of Sentences 4.1.8.4.(4) and (5)

| Item | Column 1<br>Site Class | Column 2<br>Values of F(5.0)<br>$PGA_{ref} \leq 0.1$ | Column 3<br>Values of F(5.0)<br>$PGA_{ref} = 0.2$ | Column 4<br>Values of F(5.0)<br>$PGA_{ref} = 0.3$ | Column 5<br>Values of F(5.0)<br>$PGA_{ref} = 0.4$ | Column 6<br>Values of F(5.0)<br>$PGA_{ref} \geq 0.5$ |
|------|------------------------|------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|------------------------------------------------------|
| 1.   | A                      | 0.61                                                 | 0.61                                              | 0.61                                              | 0.61                                              | 0.61                                                 |
| 2.   | B                      | 0.64                                                 | 0.64                                              | 0.64                                              | 0.64                                              | 0.64                                                 |
| 3.   | C                      | 1.00                                                 | 1.00                                              | 1.00                                              | 1.00                                              | 1.00                                                 |
| 4.   | D                      | 1.58                                                 | 1.48                                              | 1.41                                              | 1.37                                              | 1.34                                                 |
| 5.   | E                      | 2.93                                                 | 2.40                                              | 2.14                                              | 1.96                                              | 1.84                                                 |
| 6.   | F                      | (1)                                                  | (1)                                               | (1)                                               | (1)                                               | (1)                                                  |

**Notes to Table 4.1.8.4.F.:**

(1) See Sentence 4.1.8.4.(6)

**Table 4.1.8.4.G.**  
**Values of F(10.0) as a Function of Site Class and  $PGA_{ref}$**

Forming Part of Sentences 4.1.8.4.(4) and (5)

| Item | Column 1<br>Site Class | Column 2<br>Values of F(10.0)<br>$PGA_{ref} \leq 0.1$ | Column 3<br>Values of F(10.0)<br>$PGA_{ref} = 0.2$ | Column 4<br>Values of F(10.0)<br>$PGA_{ref} = 0.3$ | Column 5<br>Values of F(10.0)<br>$PGA_{ref} = 0.4$ | Column 6<br>Values of F(10.0)<br>$PGA_{ref} \geq 0.5$ |
|------|------------------------|-------------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|-------------------------------------------------------|
| 1.   | A                      | 0.67                                                  | 0.67                                               | 0.67                                               | 0.67                                               | 0.67                                                  |
| 2.   | B                      | 0.69                                                  | 0.69                                               | 0.69                                               | 0.69                                               | 0.69                                                  |
| 3.   | C                      | 1.00                                                  | 1.00                                               | 1.00                                               | 1.00                                               | 1.00                                                  |
| 4.   | D                      | 1.49                                                  | 1.41                                               | 1.37                                               | 1.34                                               | 1.31                                                  |
| 5.   | E                      | 2.52                                                  | 2.18                                               | 2.00                                               | 1.88                                               | 1.79                                                  |
| 6.   | F                      | (1)                                                   | (1)                                                | (1)                                                | (1)                                                | (1)                                                   |

**Notes to Table 4.1.8.4.G.:**

(1) See Sentence 4.1.8.4.(6)

**Table 4.1.8.4.H.**  
**Values of F(PGA) as a Function of Site Class and  $PGA_{ref}$**

Forming Part of Sentences 4.1.8.4.(4) and (5)

| Item | Column 1<br>Site Class | Column 2<br>Values of F(PGA)<br>$PGA_{ref} \leq 0.1$ | Column 3<br>Values of F(PGA)<br>$PGA_{ref} = 0.2$ | Column 4<br>Values of F(PGA)<br>$PGA_{ref} = 0.3$ | Column 5<br>Values of F(PGA)<br>$PGA_{ref} = 0.4$ | Column 6<br>Values of F(PGA)<br>$PGA_{ref} \geq 0.5$ |
|------|------------------------|------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|------------------------------------------------------|
| 1.   | A                      | 0.90                                                 | 0.90                                              | 0.90                                              | 0.90                                              | 0.90                                                 |
| 2.   | B                      | 0.87                                                 | 0.87                                              | 0.87                                              | 0.87                                              | 0.87                                                 |
| 3.   | C                      | 1.00                                                 | 1.00                                              | 1.00                                              | 1.00                                              | 1.00                                                 |

| Item | Column 1<br>Site Class | Column 2<br>Values of F(PGA)<br>$PGA_{ref} \leq 0.1$ | Column 3<br>Values of F(PGA)<br>$PGA_{ref} = 0.2$ | Column 4<br>Values of F(PGA)<br>$PGA_{ref} = 0.3$ | Column 5<br>Values of F(PGA)<br>$PGA_{ref} = 0.4$ | Column 6<br>Values of F(PGA)<br>$PGA_{ref} \geq 0.5$ |
|------|------------------------|------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|------------------------------------------------------|
| 4.   | D                      | 1.29                                                 | 1.10                                              | 0.99                                              | 0.93                                              | 0.88                                                 |
| 5.   | E                      | 1.81                                                 | 1.23                                              | 0.87                                              | 0.83                                              | 0.74                                                 |
| 6.   | F                      | (1)                                                  | (1)                                               | (1)                                               | (1)                                               | (1)                                                  |

Notes to Table 4.1.8.4.H.:

(1) See Sentence 4.1.8.4.(6)

**Table 4.1.8.4.I.**  
**Values of F(PGV) as a Function of Site Class and  $PGA_{ref}$**

Forming Part of Sentences 4.1.8.4.(4) and (5)

| Item | Column 1<br>Site Class | Column 2<br>Values of F(PGV)<br>$PGA_{ref} \leq 0.1$ | Column 3<br>Values of F(PGV)<br>$PGA_{ref} = 0.2$ | Column 4<br>Values of F(PGV)<br>$PGA_{ref} = 0.3$ | Column 5<br>Values of F(PGV)<br>$PGA_{ref} = 0.4$ | Column 6<br>Values of F(PGV)<br>$PGA_{ref} \geq 0.5$ |
|------|------------------------|------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|------------------------------------------------------|
| 1.   | A                      | 0.62                                                 | 0.62                                              | 0.62                                              | 0.62                                              | 0.62                                                 |
| 2.   | B                      | 0.67                                                 | 0.67                                              | 0.67                                              | 0.67                                              | 0.67                                                 |
| 3.   | C                      | 1.00                                                 | 1.00                                              | 1.00                                              | 1.00                                              | 1.00                                                 |
| 4.   | D                      | 1.47                                                 | 1.30                                              | 1.20                                              | 1.14                                              | 1.10                                                 |
| 5.   | E                      | 2.47                                                 | 1.80                                              | 1.48                                              | 1.30                                              | 1.17                                                 |
| 6.   | F                      | (1)                                                  | (1)                                               | (1)                                               | (1)                                               | (1)                                                  |

Notes to Table 4.1.8.4.I.:

(1) See Sentence 4.1.8.4.(6)

#### 4.1.8.5. Importance Factor

(1) The earthquake importance factor,  $I_E$ , shall be determined according to Table 4.1.8.5.

**Table 4.1.8.5.**  
**Importance Factor for Earthquake Loads and Effects,  $I_E$**

Forming Part of Sentence 4.1.8.5.(1)

| Item | Column 1<br>Importance Category | Column 2<br>Importance Factor, $I_E$<br>ULS | Column 3<br>Importance Factor, $I_E$<br>SLS |
|------|---------------------------------|---------------------------------------------|---------------------------------------------|
| 1.   | Low                             | 0.8                                         | (1)                                         |
| 2.   | Normal                          | 1.0                                         | (1)                                         |
| 3.   | High                            | 1.3                                         | (1)                                         |
| 4.   | Post-disaster                   | 1.5                                         | (1)                                         |

Notes to Table 4.1.8.5.:

(1) See Article 4.1.8.13.

#### 4.1.8.6. Structural Configuration

(1) Structures having any of the features listed in Table 4.1.8.6. shall be designated irregular.

(2) Structures not classified as irregular according to Sentence 4.1.8.6.(1) may be considered regular.

(3) Except as required by Article 4.1.8.10., in cases where  $I_E F_a S_a(0.2)$  is equal to or greater than 0.35, structures designated as irregular must satisfy the provisions referenced in Table 4.1.8.6.

**Table 4.1.8.6.**  
**Structural Irregularities<sup>(1)</sup>**

Forming Part of Sentence 4.1.8.6.(1)

| Item | Column 1<br>Type | Column 2<br>Irregularity Type and Definition                                                                                                                                                                                                                                                                             | Column 3<br>Notes |
|------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| 1.   | 1                | <b>Vertical Stiffness Irregularity</b><br>Vertical stiffness irregularity shall be considered to exist when the lateral stiffness of the SFRS in a <i>storey</i> is less than 70% of the stiffness of any adjacent <i>storey</i> , or less than 80% of the average stiffness of the three <i>storeys</i> above or below. | (2)(3)            |

| Item | Column 1<br>Type | Column 2<br>Irregularity Type and Definition                                                                                                                                                                                                                                                                                                                 | Column 3<br>Notes |
|------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| 2.   | 2                | <b>Weight (mass) Irregularity</b><br>Weight irregularity shall be considered to exist where the weight, $W_n$ , of any <i>storey</i> is more than 150% of the weight of an adjacent <i>storey</i> . A roof that is lighter than the floor below need not be considered.                                                                                      | (2)               |
| 3.   | 3                | <b>Vertical Geometric Irregularity</b><br>Vertical geometric irregularity shall be considered to exist where the horizontal dimension of the SFRS in any <i>storey</i> is more than 130% of that in an adjacent <i>storey</i> .                                                                                                                              | (2)(3)(4)         |
| 4.   | 4                | <b>In-Plane Discontinuity in Vertical Lateral-Force-Resisting Element</b><br>Except for braced frames and moment-resisting frames, an in-plane discontinuity shall be considered to exist where there is an offset of a lateral-force-resisting element of the SFRS or a reduction in lateral stiffness of the resisting element in the <i>storey</i> below. | (2)(3)(4)         |
| 5.   | 5                | <b>Out-of-Plane Offsets</b><br>Discontinuities in a lateral force path, such as out-of-plane offsets of the vertical elements of the SFRS.                                                                                                                                                                                                                   | (2)(3)(4)         |
| 6.   | 6                | <b>Discontinuity in Capacity – Weak Storey</b><br>A weak <i>storey</i> is one in which the <i>storey</i> shear strength is less than that in the <i>storey</i> above. The <i>storey</i> shear strength is the total strength of all seismic-resisting elements of the SFRS sharing the <i>storey</i> shear for the direction under consideration.            | (2)(3)            |
| 7.   | 7                | <b>Torsional Sensitivity (to be considered when diaphragms are not flexible)</b><br>Torsional sensitivity shall be considered to exist when the ratio B calculated according to Sentence 4.1.8.11.(9) exceeds 1.7.                                                                                                                                           | (2)(3)(5)         |
| 8.   | 8                | <b>Non-Orthogonal Systems</b><br>A non-orthogonal system irregularity shall be considered to exist when the SFRS is not oriented along a set of orthogonal axes.                                                                                                                                                                                             | (6)               |
| 9.   | 9                | <b>Gravity-Induced Lateral Demand Irregularity</b><br>Gravity-induced lateral demand irregularity on the SFRS shall be considered to exist where the ratio $\alpha$ calculated in accordance with Sentence 4.1.8.10.(5) exceeds 0.1 for SFRS with self-centering characteristics and 0.03 for other systems.                                                 | (2)(3)(6)         |

**Notes to Table 4.1.8.6.:**

- (1) One-storey penthouses with a weight of less than 10% of the level below need not be considered in the application of this Table.
- (2) See Article 4.1.8.7.
- (3) See Article 4.1.8.10.
- (4) See Article 4.1.8.15.
- (5) See Sentences 4.1.8.11.(9) and (10) and 4.1.8.12.(4).
- (6) See Article 4.1.8.8.

**4.1.8.7. Methods of Analysis**

(1) Analysis for design earthquake actions shall be carried out in accordance with the Dynamic Analysis Procedure described in Article 4.1.8.12., except that the Equivalent Static Force Procedure described in Article 4.1.8.11. may be used for structures that meet any of the following criteria:

- (a) in cases where  $I_E F_a S_a(0.2)$  is less than 0.35,
- (b) regular structures that are less than 60 m in height and have a fundamental lateral period,  $T_a$ , less than 2 s in each of two orthogonal directions as defined in Article 4.1.8.8., or
- (c) structures with structural irregularity, of Type 1, 2, 3, 4, 5, 6 or 8 as defined in Table 4.1.8.6., that are less than 20 m in height and have a fundamental lateral period,  $T_a$ , less than 0.5 s in each of two orthogonal directions as defined in Article 4.1.8.8.

**4.1.8.8. Direction of Loading**

(1) Earthquake forces shall be assumed to act in any horizontal direction, except that the following shall be considered to provide adequate design force levels in the structure:

- (a) where components of the SFRS are oriented along a set of orthogonal axes, independent analyses about each of the principal axes of the structure shall be performed,
- (b) where the components of the SFRS are not oriented along a set of orthogonal axes and  $I_E F_a S_a(0.2)$  is less than 0.35, independent analyses about any two orthogonal axes is permitted, or

- (c) where the components of the SFRS are not oriented along a set of orthogonal axes and  $I_E F_a S_a(0.2)$  is equal to or greater than 0.35, analysis of the structure independently in any two orthogonal directions for 100% of the prescribed earthquake loads applied in one direction plus 30% of the prescribed earthquake loads in the perpendicular direction, with the combination requiring the greater element strength being used in the design.

#### 4.1.8.9. SFRS Force Reduction Factors, System Overstrength Factors, and General Restrictions

(1) Except as provided in Sentence 4.1.8.20.(7), the values of  $R_d$  and  $R_o$  and the corresponding system restrictions shall conform to Table 4.1.8.9. and the requirements of this Subsection.

(2) When a particular value of  $R_d$  is required by this Article, the corresponding  $R_o$  shall be used.

(3) For combinations of different types of SFRS acting in the same direction in the same *storey*,  $R_d R_o$  shall be taken as the lowest value of  $R_d R_o$  corresponding to these systems.

(4) For vertical variations of  $R_d R_o$ , excluding rooftop structures not exceeding two *storeys* in height whose weight is less than the greater of 10% of  $W$  and 30% of  $W_i$  of the level below, the value of  $R_d R_o$  used in the design of any *storey* shall be less than or equal to the lowest value of  $R_d R_o$  used in the given direction for the *storeys* above, and the requirements of Sentence 4.1.8.15.(5) must be satisfied.

(5) If it can be demonstrated through testing, research and analysis that the seismic performance of a structural system is at least equivalent to one of the types of SFRS mentioned in Table 4.1.8.9., then such a structural system will qualify for values of  $R_d$  and  $R_o$  corresponding to the equivalent type in that Table.

**Table 4.1.8.9.**  
**SFRS Ductility-Related Force Modification Factors,  $R_d$ , Overstrength-Related Force Modification Factors,  $R_o$ , and General Restrictions<sup>(1)</sup>**

Forming Part of Sentences 4.1.8.9.(1) and (5)

| Item | Column 1                                                                           | Column 2 | Column 3 | Column 4                       | Column 5      | Column 6       | Column 7 | Column 8                       |
|------|------------------------------------------------------------------------------------|----------|----------|--------------------------------|---------------|----------------|----------|--------------------------------|
|      | Type of SFRS                                                                       | $R_d$    | $R_o$    | Restrictions <sup>(2)</sup>    |               |                |          |                                |
|      |                                                                                    |          |          | Cases Where $I_E F_a S_a(0.2)$ |               |                |          | Cases Where $I_E F_v S_a(1.0)$ |
|      |                                                                                    |          |          | <0.2                           | ≥0.2 to <0.35 | ≥0.35 to ≤0.75 | >0.75    | >0.3                           |
| 1.   | Steel Structures Designed and Detailed According to CSA S16 <sup>(3)</sup>         |          |          |                                |               |                |          |                                |
|      | Ductile moment-resisting frames                                                    | 5.0      | 1.5      | NL                             | NL            | NL             | NL       | NL                             |
|      | Moderately ductile moment-resisting frames                                         | 3.5      | 1.5      | NL                             | NL            | NL             | NL       | NL                             |
|      | Limited ductility moment-resisting frames                                          | 2.0      | 1.3      | NL                             | NL            | 60             | 30       | 30                             |
|      | Moderately ductile concentrically braced frames                                    |          |          |                                |               |                |          |                                |
|      | Tension-compression braces                                                         | 3.0      | 1.3      | NL                             | NL            | 40             | 40       | 40                             |
|      | Tension only braces                                                                | 3.0      | 1.3      | NL                             | NL            | 20             | 20       | 20                             |
|      | Limited ductility concentrically braced frames                                     |          |          |                                |               |                |          |                                |
|      | Tension-compression braces                                                         | 2.0      | 1.3      | NL                             | NL            | 60             | 60       | 60                             |
|      | Tension only braces                                                                | 2.0      | 1.3      | NL                             | NL            | 40             | 40       | 40                             |
|      | Ductile buckling-restrained braced frames                                          | 4.0      | 1.2      | NL                             | NL            | 40             | 40       | 40                             |
|      | Ductile eccentrically braced frames                                                | 4.0      | 1.5      | NL                             | NL            | NL             | NL       | NL                             |
|      | Ductile plate walls                                                                | 5.0      | 1.6      | NL                             | NL            | NL             | NL       | NL                             |
|      | Limited ductility plate walls                                                      | 2.0      | 1.5      | NL                             | NL            | 60             | 60       | 60                             |
|      | Conventional construction of moment-resisting frames, braced frames or plate walls |          |          |                                |               |                |          |                                |
|      | <i>Assembly occupancies</i>                                                        | 1.5      | 1.3      | NL                             | NL            | 15             | 15       | 15                             |
|      | <i>Other occupancies</i>                                                           | 1.5      | 1.3      | NL                             | NL            | 60             | 40       | 40                             |
|      | Other steel SFRS(s) not defined above                                              | 1.0      | 1.0      | 15                             | 15            | NP             | NP       | NP                             |
| 2.   | Concrete Structures Designed and Detailed According to CSA A23.3                   |          |          |                                |               |                |          |                                |
|      | Ductile moment-resisting frames                                                    | 4.0      | 1.7      | NL                             | NL            | NL             | NL       | NL                             |
|      | Moderately ductile moment-resisting frames                                         | 2.5      | 1.4      | NL                             | NL            | 60             | 40       | 40                             |
|      | Ductile coupled walls                                                              | 4.0      | 1.7      | NL                             | NL            | NL             | NL       | NL                             |
|      | Moderately ductile coupled walls                                                   | 2.5      | 1.4      | NL                             | NL            | NL             | 60       | 60                             |

| Item | Column 1                                                                  | Column 2 | Column 3 | Column 4                       | Column 5      | Column 6       | Column 7 | Column 8                       |
|------|---------------------------------------------------------------------------|----------|----------|--------------------------------|---------------|----------------|----------|--------------------------------|
|      | Type of SFRS                                                              | $R_d$    | $R_o$    | Restrictions <sup>(2)</sup>    |               |                |          |                                |
|      |                                                                           |          |          | Cases Where $I_E F_a S_a(0.2)$ |               |                |          | Cases Where $I_E F_v S_a(1.0)$ |
|      |                                                                           |          |          | <0.2                           | ≥0.2 to <0.35 | ≥0.35 to ≤0.75 | >0.75    | >0.3                           |
|      | Ductile partially coupled walls                                           | 3.5      | 1.7      | NL                             | NL            | NL             | NL       | NL                             |
|      | Moderately ductile partially coupled walls                                | 2.0      | 1.4      | NL                             | NL            | NL             | 60       | 60                             |
|      | Ductile shear walls                                                       | 3.5      | 1.6      | NL                             | NL            | NL             | NL       | NL                             |
|      | Moderately ductile shear walls                                            | 2.0      | 1.4      | NL                             | NL            | NL             | 60       | 60                             |
|      | Conventional construction                                                 |          |          |                                |               |                |          |                                |
|      | Moment-resisting frames                                                   | 1.5      | 1.3      | NL                             | NL            | 20             | 15       | 10 <sup>(4)</sup>              |
|      | Shear walls                                                               | 1.5      | 1.3      | NL                             | NL            | 40             | 30       | 30                             |
|      | Two-way slabs without beams                                               | 1.3      | 1.3      | 20                             | 15            | NP             | NP       | NP                             |
|      | Tilt-up Construction                                                      |          |          |                                |               |                |          |                                |
|      | Moderately ductile walls and frames                                       | 2.0      | 1.3      | 30                             | 25            | 25             | 25       | 25                             |
|      | Limited ductility walls and frames                                        | 1.5      | 1.3      | 30                             | 25            | 20             | 20       | 20 <sup>(5)</sup>              |
|      | Conventional walls and frames                                             | 1.3      | 1.3      | 25                             | 20            | NP             | NP       | NP                             |
|      | Other concrete SFRS(s) not listed above                                   | 1.0      | 1.0      | 15                             | 15            | NP             | NP       | NP                             |
| 3.   | Timber Structures Designed and Detailed According to CSA O86              |          |          |                                |               |                |          |                                |
|      | Shear walls                                                               |          |          |                                |               |                |          |                                |
|      | Nailed shear walls: wood-based panel                                      | 3.0      | 1.7      | NL                             | NL            | 30             | 20       | 20                             |
|      | Shear walls: wood-based and gypsum panels in combination                  | 2.0      | 1.7      | NL                             | NL            | 20             | 20       | 20                             |
|      | Braced or moment-resisting frames with ductile connections                |          |          |                                |               |                |          |                                |
|      | Moderately ductile                                                        | 2.0      | 1.5      | NL                             | NL            | 20             | 20       | 20                             |
|      | Limited ductility                                                         | 1.5      | 1.5      | NL                             | NL            | 15             | 15       | 15                             |
|      | Other wood-or gypsum-based SFRS(s) not listed above                       | 1.0      | 1.0      | 15                             | 15            | NP             | NP       | NP                             |
| 4.   | Masonry Structures Designed and Detailed According to CSA S304            |          |          |                                |               |                |          |                                |
|      | Moderately ductile shear walls                                            | 2.0      | 1.5      | NL                             | NL            | 60             | 40       | 40                             |
|      | Ductile shear walls                                                       | 3.0      | 1.5      | NL                             | NL            | 60             | 40       | 40                             |
|      | Conventional construction                                                 |          |          |                                |               |                |          |                                |
|      | Shear walls                                                               | 1.5      | 1.5      | NL                             | 60            | 30             | 15       | 15                             |
|      | Moment-resisting frames                                                   | 1.5      | 1.5      | NL                             | 30            | NP             | NP       | NP                             |
|      | Unreinforced masonry                                                      | 1.0      | 1.0      | 30                             | 15            | NP             | NP       | NP                             |
|      | Other masonry SFRS(s) not listed above                                    | 1.0      | 1.0      | 15                             | NP            | NP             | NP       | NP                             |
| 5.   | Cold-Formed Steel Structures Designed and Detailed According to CSA S136  |          |          |                                |               |                |          |                                |
|      | Shear walls                                                               |          |          |                                |               |                |          |                                |
|      | Screw-connected shear walls - wood-based panel                            | 2.5      | 1.7      | 20                             | 20            | 20             | 20       | 20                             |
|      | Screw-connected shear walls - wood-based and gypsum panels in combination | 1.5      | 1.7      | 20                             | 20            | 20             | 20       | 20                             |
|      | Diagonal strap concentrically braced walls                                |          |          |                                |               |                |          |                                |
|      | Limited ductility                                                         | 1.9      | 1.3      | 20                             | 20            | 20             | 20       | 20                             |
|      | Conventional construction                                                 | 1.2      | 1.3      | 15                             | 15            | NP             | NP       | NP                             |
|      | Other cold-formed SFRS(s) not listed above                                | 1.0      | 1.0      | 15                             | 15            | NP             | NP       | NP                             |

Notes to Table 4.1.8.9.:

<sup>(1)</sup> See Article 4.1.8.10.

<sup>(2)</sup> NP = system is not permitted.

NL = system is permitted and not limited in height as an SFRS; height may be limited in other Parts of this Code.

Numbers in Columns 4 to 8 are maximum height limits above *grade* in m.

The most stringent requirement governs.

(3) Higher design force levels are prescribed in CSA S16 for some heights of *buildings*.

(4) Frames limited to a maximum of 2 *storeys*.

(5) Frames limited to a maximum of 3 *storeys*.

#### 4.1.8.10. Additional System Restrictions

(1) Except as required by Clause (2)(b), structures with a Type 6 irregularity, Discontinuity in Capacity – Weak Storey, as described in Table 4.1.8.6., are not permitted unless  $I_E F_a S_a(0.2)$  is less than 0.2 and the forces used for design of the SFRS are multiplied by  $R_d R_o$ .

(2) *Post-disaster buildings* shall,

(a) not have any irregularities conforming to Types 1, 3, 4, 5 and 7 as described in Table 4.1.8.6., in cases where  $I_E F_a S_a(0.2)$  is equal to or greater than 0.35,

(b) not have a Type 6 irregularity as described in Table 4.1.8.6.,

(c) have an SFRS with an  $R_d$  of 2.0 or greater, and

(d) have no *storey* with a lateral stiffness that is less than that of the *storey* above it.

(3) For *buildings* having fundamental lateral periods,  $T_a$ , of 1.0 s or greater and where  $I_E F_v S_a(1.0)$  is greater than 0.25, shear walls that are other than wood-based and form part of the SFRS shall be continuous from their top to the *foundation* and shall not have irregularities of Type 4 or 5 as described in Table 4.1.8.6.

(4) For *buildings* constructed with more than 4 *storeys* of continuous wood construction and where  $I_E F_a S_a(0.2)$  is equal to or greater than 0.35, timber SFRS of shear walls with wood-based panels, braced frames or moment-resisting frames as defined in Table 4.1.8.9. within the continuous wood construction shall not have irregularities of Type 4 or 5 as described in Table 4.1.8.6.

(5) The ratio,  $\alpha$ , for Type 9 irregularity as described in Table 4.1.8.6. shall be determined independently for each orthogonal direction using the following equation:

$$\alpha = Q_G / Q_y$$

where,

$Q_G$  = gravity-induced lateral demand on the SFRS at the critical level of the yielding system, and

$Q_y$  = the resistance of the yielding mechanism required to resist the minimum earthquake loads, which need not be taken less than  $R_o$  multiplied by the minimum lateral earthquake force as determined in Article 4.1.8.11. or 4.1.8.12, as appropriate.

(6) For *buildings* with a Type 9 irregularity as described in Table 4.1.8.6. and where  $I_E F_a S_a(0.2)$  is equal to or greater than 0.5, deflections determined in accordance with Article 4.1.8.13. shall be multiplied by 1.2.

(7) Structures where the value of  $\alpha$ , as determined in accordance with Sentence (5), exceeds twice the limits in Table 4.1.8.6. for a Type 9 irregularity, and where  $I_E F_a S_a(0.2)$  is equal to or greater than 0.5 are not permitted unless determined to be acceptable based on non-linear dynamic analysis studies.

#### 4.1.8.11. Equivalent Static Force Procedure for Structures Satisfying the Conditions of Article 4.1.8.7.

(1) The static loading due to earthquake motion shall be determined according to the procedures given in this Article.

(2) Except as provided in Sentence (12), the minimum lateral earthquake force,  $V$ , shall be calculated using the following formula:

$$V = S(T_a) M_v I_E W / (R_d R_o)$$

except,

(a) for walls, coupled walls and wall-frame systems,  $V$  shall not be less than,

$$S(4.0) M_v I_E W / (R_d R_o)$$

(b) for moment-resisting frames, braced frames and other systems,  $V$  shall not be less than,

$$S(2.0) M_v I_E W / (R_d R_o)$$

(c) for *buildings* located on a site other than Class F and having an SFRS with an  $R_d$  equal to or greater than 1.5,  $V$  need not be greater than the larger of,

$$\frac{2}{3} S(0.2) I_E W / (R_d R_o)$$

and

$$S (0.5) I_E W / (R_d R_o)$$

(3) Except as provided in Sentence (4), the fundamental lateral period,  $T_a$ , in the direction under consideration in Sentence (2) shall be determined as,

- (a) for moment-resisting frames that resist 100% of the required lateral forces and where the frame is not enclosed by or adjoined by more rigid elements that would tend to prevent the frame from resisting lateral forces, and where  $h_n$  is in metres,
  - (i)  $0.085 (h_n)^{3/4}$  for steel moment frames,
  - (ii)  $0.075 (h_n)^{3/4}$  for concrete moment frames, or
  - (iii)  $0.1 N$  for other moment frames,
- (b)  $0.025 h_n$  for braced frames where  $h_n$  is in metres,
- (c)  $0.05 (h_n)^{3/4}$  for shear wall and other structures where  $h_n$  is in metres, or
- (d) other established methods of mechanics using a structural model that complies with the requirements of Sentence 4.1.8.3.(8), except that,
  - (i) for moment-resisting frames,  $T_a$  shall not be taken greater than 1.5 times that determined in Clause (a),
  - (ii) for braced frames,  $T_a$  shall not be taken greater than 2.0 times that determined in Clause (b),
  - (iii) for shear wall structures,  $T_a$  shall not be taken greater than 2.0 times that determined in Clause (c),
  - (iv) for other structures,  $T_a$  shall not be taken greater than that determined in Clause (c), and
  - (v) for the purpose of calculating the deflections, the period without the upper limit specified in Subclauses (d)(i) to (iv) may be used, except that, for walls, coupled walls and wall-frame systems,  $T_a$  shall not exceed 4.0 s, and for moment-resisting frames, braced frames, and other systems,  $T_a$  shall not exceed 2.0 s.

(4) For single-storey buildings with steel deck or wood roof diaphragms, the fundamental lateral period,  $T_a$ , in the direction under consideration is permitted to be taken as,

- (a)  $0.05 (h_n)^{3/4} + 0.004 L$  for shear walls,
- (b)  $0.035 h_n + 0.004 L$  for steel moment frames and steel braced frames, or
- (c) the value obtained from methods of mechanics using a structural model that complies with the requirements of Sentence 4.1.8.3.(8), except that  $T_a$  shall not be greater than 1.5 times the value determined in Clause (a) or (b), as applicable,

where  $L$  is the shortest length of the diaphragm, in m, between adjacent vertical elements of the SFRS in the direction perpendicular to the direction under consideration.

(5) The weight,  $W$ , of the building shall be calculated using the formula,

$$W = \sum_{i=1}^n W_i$$

(6) The higher mode factor,  $M_v$ , and its associated base overturning moment reduction factor,  $J$ , shall conform to Tables 4.1.8.11.A. to 4.1.8.11.E.

**Table 4.1.8.11.A.**  
**Higher Mode Factor,  $M_v$ , and Base Overturning Reduction Factor,  $J^{(1)(2)(3)(4)}$  for Moment-Resisting Frames**

Forming Part of Sentence 4.1.8.11.(6)

| Item | Column 1<br>$S_a(0.2)/S_a(5.0)$ | Column 2<br>$M_v$ For $T_a \leq 0.5$ | Column 3<br>$M_v$ For $T_a = 1.0$ | Column 4<br>$M_v$ For $T_a = 2.0$ | Column 5<br>$M_v$ For $T_a \geq 5.0$ | Column 6<br>$J$ For $T_a \leq 0.5$ | Column 7<br>$J$ For $T_a = 1.0$ | Column 8<br>$J$ For $T_a = 2.0$ | Column 9<br>$J$ For $T_a \geq 5.0$ |
|------|---------------------------------|--------------------------------------|-----------------------------------|-----------------------------------|--------------------------------------|------------------------------------|---------------------------------|---------------------------------|------------------------------------|
| 1.   | 5                               | 1                                    | 1                                 | 1                                 | <sup>(5)</sup>                       | 1                                  | 0.97                            | 0.92                            | <sup>(5)</sup>                     |
| 2.   | 20                              | 1                                    | 1                                 | 1                                 | <sup>(5)</sup>                       | 1                                  | 0.93                            | 0.85                            | <sup>(5)</sup>                     |
| 3.   | 40                              | 1                                    | 1                                 | 1                                 | <sup>(5)</sup>                       | 1                                  | 0.87                            | 0.78                            | <sup>(5)</sup>                     |
| 4.   | 65                              | 1                                    | 1                                 | 1.03                              | <sup>(5)</sup>                       | 1                                  | 0.80                            | 0.70                            | <sup>(5)</sup>                     |

Notes to Table 4.1.8.11.A.:

<sup>(1)</sup> For intermediate values of the spectral ratio  $S(0.2)/S(0.5)$ ,  $M_v$  and  $J$  shall be obtained by linear interpolation.

- (2) For intermediate values of the fundamental lateral period,  $T_a$ ,  $S(T_a)M_v$  shall be obtained by linear interpolation using the values of  $M_v$  obtained in accordance with Note (1).
- (3) For intermediate values of the fundamental lateral period,  $T_a$ ,  $J$  shall be obtained by linear interpolation using the values of  $J$  obtained in accordance with Note (1).
- (4) For a combination of different seismic force resisting systems (SFRS) not given in Table 4.1.8.11.A. that are in the same direction under consideration, use the highest  $M_v$  factor of all the SFRS and the corresponding value of  $J$ .
- (5) For fundamental lateral periods,  $T_a$ , greater than 2.0 s, use the 2.0 s values obtained in accordance with Note (1). See Clause 4.1.8.11.(2)(b).

**Table 4.1.8.11.B.**  
**Higher Mode Factor,  $M_v$ , and Base Overturning Reduction Factor,  $J^{(1)(2)(3)(4)}$  for Coupled Walls<sup>(5)</sup>**

Forming Part of Sentence 4.1.8.11.(6)

| Item | Column 1<br>$S_a(0.2)/S_a(5.0)$ | Column 2<br>$M_v$ For $T_a \leq 0.5$ | Column 3<br>$M_v$ For $T_a = 1.0$ | Column 4<br>$M_v$ For $T_a = 2.0$ | Column 5<br>$M_v$ For $T_a \geq 5.0$ | Column 6<br>$J$ For $T_a \leq 0.5$ | Column 7<br>$J$ For $T_a = 1.0$ | Column 8<br>$J$ For $T_a = 2.0$ | Column 9<br>$J$ For $T_a \geq 5.0$ |
|------|---------------------------------|--------------------------------------|-----------------------------------|-----------------------------------|--------------------------------------|------------------------------------|---------------------------------|---------------------------------|------------------------------------|
| 1.   | 5                               | 1                                    | 1                                 | 1                                 | 1                                    | 1                                  | 0.97                            | 0.92                            | 0.80 <sup>(7)</sup>                |
| 2.   | 20                              | 1                                    | 1                                 | 1                                 | 1.08 <sup>(6)</sup>                  | 1                                  | 0.93                            | 0.85                            | 0.65 <sup>(7)</sup>                |
| 3.   | 40                              | 1                                    | 1                                 | 1                                 | 1.30 <sup>(6)</sup>                  | 1                                  | 0.87                            | 0.78                            | 0.53 <sup>(7)</sup>                |
| 4.   | 65                              | 1                                    | 1                                 | 1.03                              | 1.49 <sup>(6)</sup>                  | 1                                  | 0.80                            | 0.70                            | 0.46 <sup>(7)</sup>                |

**Notes to Table 4.1.8.11.B.:**

- (1) For intermediate values of the spectral ratio  $S(0.2)/S(0.5)$ ,  $M_v$  and  $J$  shall be obtained by linear interpolation.
- (2) For intermediate values of the fundamental lateral period,  $T_a$ ,  $S(T_a)M_v$  shall be obtained by linear interpolation using the values of  $M_v$  obtained in accordance with Note (1).
- (3) For intermediate values of the fundamental lateral period,  $T_a$ ,  $J$  shall be obtained by linear interpolation using the values of  $J$  obtained in accordance with Note (1).
- (4) For a combination of different seismic force resisting systems (SFRS) not given in Table 4.1.8.11.B. that are in the same direction under consideration, use the highest  $M_v$  factor of all the SFRS and the corresponding value of  $J$ .
- (5) A “coupled” wall is a wall system with coupling beams, where at least 66% of the base overturning moment resisted by the wall system is carried by the axial tension and compression forces resulting from shear in the coupling beams.
- (6) For fundamental lateral periods,  $T_a$ , greater than 4.0 s, use the 4.0 s values of  $S(T_a)M_v$  obtained by interpolation between 2.0 s and 5.0 s using the value of  $M_v$  obtained in accordance with Note (1). See Clause 4.1.8.11.(2)(a).
- (7) For fundamental lateral periods,  $T_a$ , greater than 4.0 s, use the 4.0 s values of  $J$  obtained by interpolation between 2.0 s and 5.0 s using the value of  $J$  obtained in accordance with Note (1). See Clause 4.1.8.11.(2)(a).

**Table 4.1.8.11.C.**  
**Higher Mode Factor,  $M_v$ , and Base Overturning Reduction Factor,  $J^{(1)(2)(3)(4)}$  for Braced Frames**

Forming Part of Sentence 4.1.8.11.(5)

| Item | Column 1<br>$S_a(0.2)/S_a(5.0)$ | Column 2<br>$M_v$ For $T_a \leq 0.5$ | Column 3<br>$M_v$ For $T_a = 1.0$ | Column 4<br>$M_v$ For $T_a = 2.0$ | Column 5<br>$M_v$ For $T_a \geq 5.0$ | Column 6<br>$J$ For $T_a \leq 0.5$ | Column 7<br>$J$ For $T_a = 1.0$ | Column 8<br>$J$ For $T_a = 2.0$ | Column 9<br>$J$ For $T_a \geq 5.0$ |
|------|---------------------------------|--------------------------------------|-----------------------------------|-----------------------------------|--------------------------------------|------------------------------------|---------------------------------|---------------------------------|------------------------------------|
| 1.   | 5                               | 1                                    | 1                                 | 1                                 | <sup>(5)</sup>                       | 1                                  | 0.95                            | 0.89                            | <sup>(5)</sup>                     |
| 2.   | 20                              | 1                                    | 1                                 | 1                                 | <sup>(5)</sup>                       | 1                                  | 0.85                            | 0.78                            | <sup>(5)</sup>                     |
| 3.   | 40                              | 1                                    | 1                                 | 1                                 | <sup>(5)</sup>                       | 1                                  | 0.79                            | 0.70                            | <sup>(5)</sup>                     |
| 4.   | 65                              | 1                                    | 1.04                              | 1.07                              | <sup>(5)</sup>                       | 1                                  | 0.71                            | 0.66                            | <sup>(5)</sup>                     |

**Notes to Table 4.1.8.11.C.:**

- (1) For intermediate values of the spectral ratio  $S(0.2)/S(0.5)$ ,  $M_v$  and  $J$  shall be obtained by linear interpolation.
- (2) For intermediate values of the fundamental lateral period,  $T_a$ ,  $S(T_a)M_v$  shall be obtained by linear interpolation using the values of  $M_v$  obtained in accordance with Note (1).
- (3) For intermediate values of the fundamental lateral period,  $T_a$ ,  $J$  shall be obtained by linear interpolation using the values of  $J$  obtained in accordance with Note (1).

(4) For a combination of different seismic force resisting systems (SFRS) not given in Table 4.1.8.11.C. that are in the same direction under consideration, use the highest  $M_v$  factor of all the SFRS and the corresponding value of J.

(5) For fundamental lateral periods,  $T_a$ , greater than 2.0 s, use the 2.0 s values obtained in accordance with Note (1). See Clause 4.1.8.11.(2)(b).

**Table 4.1.8.11.D.**  
**Higher Mode Factor,  $M_v$ , and Base Overturning Reduction Factor,  $J^{(1)(2)(3)(4)}$  for Walls, Wall Frame Systems**

Forming Part of Sentence 4.1.8.11.(5)

| Item | Column 1<br>$S_a(0.2)/S_a(5.0)$ | Column 2<br>$M_v$ For $T_a \leq 0.5$ | Column 3<br>$M_v$ For $T_a = 1.0$ | Column 4<br>$M_v$ For $T_a = 2.0$ | Column 5<br>$M_v$ For $T_a \geq 5.0$ | Column 6<br>$J$ For $T_a \leq 0.5$ | Column 7<br>$J$ For $T_a = 1.0$ | Column 8<br>$J$ For $T_a = 2.0$ | Column 9<br>$J$ For $T_a \geq 5.0$ |
|------|---------------------------------|--------------------------------------|-----------------------------------|-----------------------------------|--------------------------------------|------------------------------------|---------------------------------|---------------------------------|------------------------------------|
| 1.   | 5                               | 1                                    | 1                                 | 1                                 | 1.25 <sup>(5)</sup>                  | 1                                  | 0.97                            | 0.85                            | 0.55 <sup>(6)</sup>                |
| 2.   | 20                              | 1                                    | 1                                 | 1.18                              | 2.30 <sup>(5)</sup>                  | 1                                  | 0.80                            | 0.60                            | 0.35 <sup>(6)</sup>                |
| 3.   | 40                              | 1                                    | 1.19                              | 1.75                              | 3.70 <sup>(5)</sup>                  | 1                                  | 0.63                            | 0.46                            | 0.28 <sup>(6)</sup>                |
| 4.   | 65                              | 1                                    | 1.55                              | 2.25                              | 4.65 <sup>(5)</sup>                  | 1                                  | 0.51                            | 0.39                            | 0.23 <sup>(6)</sup>                |

**Notes to Table 4.1.8.11.D.:**

(1) For intermediate values of the spectral ratio  $S(0.2)/S(0.5)$ ,  $M_v$  and J shall be obtained by linear interpolation.

(2) For intermediate values of the fundamental lateral period,  $T_a$ ,  $S(T_a)M_v$  shall be obtained by linear interpolation using the values of  $M_v$  obtained in accordance with Note (1).

(3) For intermediate values of the fundamental lateral period,  $T_a$ , J shall be obtained by linear interpolation using the values of J obtained in accordance with Note (1).

(4) For a combination of different seismic force resisting systems (SFRS) not given in Table 4.1.8.11.D. that are in the same direction under consideration, use the highest  $M_v$  factor of all the SFRS and the corresponding value of J.

(5) For fundamental lateral periods,  $T_a$ , greater than 4.0 s, use the 4.0 s values of  $S(T_a)M_v$  obtained by interpolation between 2.0 s and 5.0 s using the value of  $M_v$  obtained in accordance with Note (1). See Clause 4.1.8.11.(2)(a).

(6) For fundamental lateral periods,  $T_a$ , greater than 4.0 s, use the 4.0 s values of J obtained by interpolation between 2.0 s and 5.0 s using the value of J obtained in accordance with Note (1). See Clause 4.1.8.11.(2)(a).

**Table 4.1.8.11.E.**  
**Higher Mode Factor,  $M_v$ , and Base Overturning Reduction Factor,  $J^{(1)(2)(3)(4)}$  for Other Systems**

Forming Part of Sentence 4.1.8.11.(5)

| Item | Column 1<br>$S_a(0.2)/S_a(5.0)$ | Column 2<br>$M_v$ For $T_a \leq 0.5$ | Column 3<br>$M_v$ For $T_a = 1.0$ | Column 4<br>$M_v$ For $T_a = 2.0$ | Column 5<br>$M_v$ For $T_a \geq 5.0$ | Column 6<br>$J$ For $T_a \leq 0.5$ | Column 7<br>$J$ For $T_a = 1.0$ | Column 8<br>$J$ For $T_a = 2.0$ | Column 9<br>$J$ For $T_a \geq 5.0$ |
|------|---------------------------------|--------------------------------------|-----------------------------------|-----------------------------------|--------------------------------------|------------------------------------|---------------------------------|---------------------------------|------------------------------------|
| 1.   | 5                               | 1                                    | 1                                 | 1                                 | <sup>(5)</sup>                       | 1                                  | 0.97                            | 0.85                            | <sup>(5)</sup>                     |
| 2.   | 20                              | 1                                    | 1                                 | 1.18                              | <sup>(5)</sup>                       | 1                                  | 0.80                            | 0.60                            | <sup>(5)</sup>                     |
| 3.   | 40                              | 1                                    | 1.19                              | 1.75                              | <sup>(5)</sup>                       | 1                                  | 0.63                            | 0.46                            | <sup>(5)</sup>                     |
| 4.   | 65                              | 1                                    | 1.55                              | 2.25                              | <sup>(5)</sup>                       | 1                                  | 0.51                            | 0.39                            | <sup>(5)</sup>                     |

**Notes to Table 4.1.8.11.E.:**

(1) For intermediate values of the spectral ratio  $S(0.2)/S(0.5)$ ,  $M_v$  and J shall be obtained by linear interpolation.

(2) For intermediate values of the fundamental lateral period,  $T_a$ ,  $S(T_a)M_v$  shall be obtained by linear interpolation using the values of  $M_v$  obtained in accordance with Note (1).

(3) For intermediate values of the fundamental lateral period,  $T_a$ , J shall be obtained by linear interpolation using the values of J obtained in accordance with Note (1).

(4) For a combination of different seismic force resisting systems (SFRS) not given in Table 4.1.8.11.E. that are in the same direction under consideration, use the highest  $M_v$  factor of all the SFRS and the corresponding value of J.

(5) For fundamental lateral periods,  $T_a$ , greater than 2.0 s, use the 2.0 s values obtained in accordance with Note (1). See Clause 4.1.8.11.(2)(b).

(7) The total lateral seismic force, V, shall be distributed such that a portion,  $F_t$ , shall be assumed to be concentrated at the top of the *building*, where  $F_t$  is equal to  $0.07 T_a V$  but need not exceed  $0.25 V$  and may be considered as zero, where the fundamental lateral period,  $T_a$ , does not exceed 0.7 s; the remainder,  $V - F_t$ , shall be distributed along the height of the *building*, including the top level, in accordance with the formula,

$$F_x = (V - F_t) W_x h_x / \left( \sum_{i=1}^n W_i h_i \right)$$

(8) The structure shall be designed to resist overturning effects caused by the earthquake forces determined in Sentence (7) and the overturning moment at level  $x$ ,  $M_x$ , shall be determined using the formula,

$$M_x = J_x \sum_{i=x}^n F_i (h_i - h_x)$$

where,

$$J_x = 1.0 \text{ for } h_x \geq 0.6h_n, \text{ and}$$

$$J_x = J + (1 - J)(h_x / 0.6h_n) \text{ for } h_x < 0.6h_n$$

where,

$J$  = base overturning moment reduction factor conforming to Table 4.1.8.11.

(9) Torsional effects that are concurrent with the effects of the forces mentioned in Sentence (7) and are caused by the simultaneous actions of the following torsional moments shall be considered in the design of the structure according to Sentence (11):

- (a) torsional moments introduced by eccentricity between the centres of mass and resistance and their dynamic amplification, and
- (b) torsional moments due to accidental eccentricities.

(10) Torsional sensitivity shall be determined by calculating the ratio  $B_x$  for each level  $x$  according to the following equation for each orthogonal direction determined independently:

$$B_x = \delta_{\max} / \delta_{\text{ave}}$$

where,

$B$  = maximum of all values of  $B_x$  in both orthogonal directions, except that the  $B_x$  for one-storey penthouses with a weight less than 10% of the level below need not be considered,

$\delta_{\max}$  = maximum storey displacement at the extreme points of the structure, at level  $x$  in the direction of the earthquake induced by the equivalent static forces acting at distances  $\pm 0.10 D_{nx}$  from the centres of mass at each floor, and

$\delta_{\text{ave}}$  = average of the displacements at the extreme points of the structure at level  $x$  produced by the above-mentioned forces.

(11) Torsional effects shall be accounted for as follows:

- (a) for a *building* with  $B \leq 1.7$  or where  $I_E F_a S_a(0.2)$  is less than 0.35, by applying torsional moments about a vertical axis at each level throughout the *building*, derived for each of the following load cases considered separately,
  - (i)  $T_x = F_x(e_x + 0.10 D_{nx})$ , and
  - (ii)  $T_x = F_x(e_x - 0.10 D_{nx})$

where  $F_x$  is the lateral force at each level determined according to Sentence (6) and where each element of the *building* is designed for the most severe effect of the above load cases, or

- (b) for a *building* with  $B > 1.7$ , in cases where  $I_E F_a S_a(0.2)$  is equal to or greater than 0.35, by a Dynamic Analysis Procedure as specified in Article 4.1.8.12.

(12) Where the fundamental lateral period,  $T_a$ , is determined in accordance with Clause (3)(d) and the *building* is constructed with more than 4 storeys of continuous wood construction and has a timber SFRS consisting of shear walls with wood-based panels, braced frames or moment-resisting frames as defined in Table 4.1.8.9., the lateral earthquake force,  $V$ , as determined in accordance with Sentence (2) shall be multiplied by 1.2 but need not exceed the value determined by using Clause (2)(c).

#### 4.1.8.12. Dynamic Analysis Procedure

(1) Except as provided in Articles 4.1.8.19. and 4.1.8.21., the Dynamic Analysis Procedure shall be in accordance with one of the following methods:

- (a) Linear Dynamic Analysis by either the Modal Response Spectrum Method or the Numerical Integration Linear Time History Method using a structural model that complies with the requirements of Sentence 4.1.8.3.(8), or
- (b) Non-linear Dynamic Analysis, in which case a special study shall be performed.

(2) The spectral acceleration values used in the Modal Response Spectrum Method shall be the design spectral acceleration values,  $S(T)$ , defined in Sentence 4.1.8.4.(7).

(3) The ground motion histories used in the Numerical Integration Linear Time History Method shall be compatible with a response spectrum constructed from the design spectral acceleration values,  $S(T)$ , defined in Sentence 4.1.8.4.(7).

(4) The effects of accidental torsional moments acting concurrently with the lateral earthquake forces that cause them shall be accounted for by the following methods:

(a) the static effects of torsional moments due to  $(\pm 0.10 D_{nx})F_x$  at each level  $x$ , where  $F_x$  is either determined from the elastic dynamic analysis or determined from Sentence 4.1.8.11.(7) multiplied by  $R_d R_o / I_E$ , shall be combined with the effects determined by dynamic analysis, or

(b) if  $B$ , as defined in Sentence 4.1.8.11.(10), is less than 1.7, it is permitted to use a three-dimensional dynamic analysis with the centres of mass shifted by a distance of  $-0.05 D_{nx}$  and  $+0.05 D_{nx}$ .

(5) Except as provided in Sentence (6), the design elastic base shear,  $V_{ed}$ , is equal to the elastic base shear,  $V_e$ , obtained from a Linear Dynamic Analysis.

(6) For structures located on sites other than Class F that have an SFRS with  $R_d$  equal to or greater than 1.5, the elastic base shear obtained from a Linear Dynamic Analysis may be multiplied by the larger of the following factors to obtain the design elastic base shear,  $V_{ed}$ :

$$2S(0.2)/3S(T_a) \leq 1.0$$

and

$$S(0.5) / S(T_a) \leq 1.0$$

(7) The design elastic base shear,  $V_{ed}$ , shall be multiplied by the importance factor,  $I_E$ , as determined in Article 4.1.8.5., and shall be divided by  $R_d R_o$ , as determined in Article 4.1.8.9., to obtain the design base shear,  $V_d$ .

(8) Except as required by Sentence (9) or (12), if the base shear,  $V_d$ , obtained in Sentence (7) is less than 80% of the lateral earthquake design force,  $V$ , of Article 4.1.8.11.,  $V_d$  shall be taken as 0.8  $V$ .

(9) For irregular structures requiring dynamic analysis in accordance with Article 4.1.8.7.,  $V_d$  shall be taken as the larger of the  $V_d$  determined in Sentence (7) and 100% of  $V$ .

(10) Except as required by Sentence (11), the values of elastic *storey* shears, *storey* forces, member forces, and deflections obtained from the Linear Dynamic Analysis, including the effect of accidental torsion determined in Sentence (4), shall be multiplied by  $V_d / V_e$  to determine their design values, where  $V_d$  is the base shear.

(11) For the purpose of calculating deflections, it is permitted to use a value for  $V$  based on the value for  $T_a$  determined in Clause 4.1.8.11.(3)(d) to obtain  $V_d$  in Sentences (8) and (9).

(12) For *buildings* constructed with more than 4 *storeys* of continuous wood construction, having a timber SFRS consisting of shear walls with wood-based panels, braced frames or moment-resisting frames as defined in Table 4.1.8.9., and whose fundamental lateral period,  $T_a$ , is determined in accordance with Clause 4.1.8.11.(3)(d), the design base shear,  $V_d$ , shall be taken as the larger value of  $V_d$  determined in accordance with Sentence (7) and 100% of  $V$ .

#### 4.1.8.13. Deflections and Drift Limits

(1) Except as provided in Sentences (5) and (6), lateral deflections of a structure shall be calculated in accordance with the loads and requirements defined in this Subsection.

(2) Lateral deflections obtained from a linear elastic analysis using the methods given in Articles 4.1.8.11. and 4.1.8.12. and incorporating the effects of torsion, including accidental torsional moments, shall be multiplied by  $R_d R_o / I_E$  and increased as required by Sentences 4.1.8.10.(6) and 4.1.8.16.(1) to give realistic values of anticipated deflections.

(3) Based on the lateral deflections calculated in Sentences (2), (5) and (6), the largest interstorey deflection at any level shall be limited to 0.01  $h_s$  for *post-disaster buildings*, 0.02  $h_s$  for High Importance Category *buildings*, and 0.025  $h_s$  for all other *buildings*.

(4) The deflections calculated in Sentence (2) shall be used to account for sway effects as required by Sentence 4.1.3.2.(12).

(5) The lateral deflections of a seismically isolated structure shall be calculated in accordance with Article 4.1.8.20.

(6) The lateral deflections of a structure with supplemental energy dissipation shall be calculated in accordance with Article 4.1.8.22.

#### 4.1.8.14. Structural Separation

(1) Adjacent structures shall be,

(a) separated by a distance equal to at least the square root of the sum of the squares of their individual deflections calculated in Sentence 4.1.8.13.(2), or

(b) connected to each other.

(2) The method of connection required in Sentence (1) shall take into account the mass, stiffness, strength, ductility and anticipated motion of the connected *buildings* and the character of the connection.

(3) Rigidly connected *buildings* shall be assumed to have the lowest  $R_d R_o$  value of the *buildings* connected.

(4) *Buildings* with non-rigid or energy-dissipating connections require special studies.

#### 4.1.8.15. Design Provisions

(1) Except as provided in Sentences (2) and (3), diaphragms, collectors, chords, struts and connections shall be designed so as not to yield, and the design shall account for the shape of the diaphragm, including openings, and for the forces generated in the diaphragm due to the following cases, whichever one governs:

(a) forces due to loads determined in Article 4.1.8.11. or 4.1.8.12. applied to the diaphragm are increased to reflect the lateral load capacity of the SFRS, plus forces in the diaphragm due to the transfer of forces between elements of the SFRS associated with the lateral load capacity of such elements and accounting for discontinuities and changes in stiffness in these elements, or

(b) a minimum force corresponding to the design-based shear divided by N for the diaphragm at level x.

(2) Steel deck roof diaphragms in *buildings* of less than 4 *storeys* or wood diaphragms that are designed and detailed according to the applicable referenced design standards to exhibit ductile behaviour shall meet the requirements of Sentence (1), except that they may yield and the forces shall be,

(a) for wood diaphragms acting in combination with vertical wood shear walls, equal to the lateral earthquake design force,

(b) for wood diaphragms acting in combination with other SFRS, not less than the force corresponding to  $R_d R_o = 2.0$ , and

(c) for steel deck roof diaphragms, not less than the force corresponding to  $R_d R_o = 2.0$ .

(3) Where diaphragms are designed in accordance with Sentence (2), the struts shall be designed in accordance with Clause (1)(a) and the collectors, chords and connections between the diaphragms and the vertical elements of the SFRS shall be designed for forces corresponding to the capacity of the diaphragms in accordance with the applicable CSA standards.

(4) For single-storey *buildings* with steel deck or wood roof diaphragms designed with a value of  $R_d$  greater than 1.5 and where the calculated maximum relative deflection,  $\Delta_D$ , of the diaphragm under lateral loads exceeds 50% of the average storey drift,  $\Delta_B$ , of the adjoining vertical elements of the SFRS, dynamic magnification of the inelastic response due to the in-plane diaphragm deformations shall be accounted for in the design as follows:

(a) the vertical elements of the SFRS shall be designed and detailed to any one of the following:

(i) to accommodate the anticipated magnified lateral deformations taken as  $R_o R_d (\Delta_B + \Delta_D) - R_o \Delta_D$ ,

(ii) to resist the forces magnified by  $R_d (1 + \Delta_D / \Delta_B) / (R_d + \Delta_D / \Delta_B)$ , or

(iii) by a special study, and

(b) the roof diaphragm and chords shall be designed for in-plane shears and moments determined while taking into consideration the inelastic higher mode response of the structure.

(5) In cases where  $I_E F_a S_a(0.2)$  is equal to or greater than 0.35, the elements supporting any discontinuous wall, column or braced frame shall be designed for the lateral load capacity of the components of the SFRS they support.

(6) Where structures have vertical variations of  $R_d R_o$  satisfying Sentence 4.1.8.9.(4), the elements of the SFRS below the level where the change in  $R_d R_o$  occurs shall be designed for the forces associated with the lateral load capacity of the SFRS above that level.

(7) Where earthquake effects can produce forces in a column or wall due to lateral loading along both orthogonal axes, account shall be taken of the effects of potential concurrent yielding of other elements framing into the column or wall from all directions at the level under consideration and as appropriate at other levels.

(8) The design forces associated with the lateral capacity of the SFRS need not exceed the forces determined in accordance with Sentence 4.1.8.7.(1) with  $R_d R_o$  taken as 1.0, unless otherwise provided by the applicable referenced design standards for elements, in which case the design forces associated with the lateral capacity of the SFRS need not exceed the forces determined in accordance with Sentence 4.1.8.7.(1) with  $R_d R_o$  taken as less than or equal to 1.3.

(9) *Foundations* need not be designed to resist the lateral load overturning capacity of the SFRS, provided the design and the  $R_d$  and  $R_o$  for the type of SFRS used conform to Table 4.1.8.9. and the *foundation* is designed in accordance with Sentence 4.1.8.16.(4).

(10) *Foundation* displacements and rotations shall be considered as required by Sentence 4.1.8.16.(1).

#### 4.1.8.16. Foundation Provisions

(1) The increased displacements of the structure resulting from *foundation* movement shall be shown to be within acceptable limits for both the SFRS and the structural framing elements not considered to be part of the SFRS.

(2) Except as provided in Sentences (3) and (4), *foundations* shall be designed to have factored shear and overturning resistances greater than the lateral load capacity of the SFRS.

(3) The shear and overturning resistances of the *foundation* determined using a bearing stress equal to 1.5 times the factored bearing strength of the *soil* or *rock* and all other resistances equal to 1.3 times the factored resistances need not exceed the design forces determined in Sentence 4.1.8.7.(1) using  $R_d R_o = 1.0$  except that the factor of 1.3 shall not apply to the portion of the resistance to uplift or overturning resulting from gravity loads.

(4) A *foundation* is permitted to have a factored overturning resistance less than the lateral load overturning capacity of the supported SFRS, provided the following requirements are met:

- (a) neither the *foundation* nor the supported SFRS are constrained against rotation, and
- (b) the design overturning moment of the *foundation* is,
  - (i) not less than 75% of the overturning capacity of the supported SFRS, and
  - (ii) not less than that determined in Sentence 4.1.8.7.(1) using  $R_d R_o = 2.0$ .

(5) The design of *foundations* shall be such that they are capable of transferring earthquake loads and effects between the *building* and the ground without exceeding the capacities of the *soil* and *rock*.

(6) In cases where  $I_E F_a S_a(0.2)$  is equal to or greater than 0.35, the following requirements shall be satisfied:

- (a) *piles* or *pile* caps, drilled piers, and caissons shall be interconnected by continuous ties in no fewer than two directions,
- (b) *piles*, drilled piers, and caissons shall be embedded a minimum of 100 mm into the *pile* cap or structure, and
- (c) *piles*, drilled piers, and caissons, other than wood *piles*, shall be connected to the *pile* cap or structure for a minimum tension force equal to 0.15 times the factored compression load on the *pile*.

(7) At sites where  $I_E F_a S_a(0.2)$  is equal to or greater than 0.35, *basement* walls shall be designed to resist earthquake lateral pressures from backfill or natural ground.

(8) At sites where  $I_E F_a S_a(0.2)$  is greater than 0.75, the following requirements shall be satisfied:

- (a) *piles*, drilled piers, or caissons shall be designed and detailed to accommodate cyclic inelastic behaviour when the design moment in the element due to earthquake effects is greater than 75% of its moment capacity, and
- (b) spread footings founded on *soil* defined as Site Class E or F shall be interconnected by continuous ties in no fewer than two directions.

(9) Each segment of a tie between elements that is required by Clause (6)(a) or (8)(b) shall be designed to carry by tension or compression a horizontal force at least equal to the greatest factored *pile* cap or column vertical load in the elements it connects, multiplied by a factor of 0.10  $I_E F_a S_a(0.2)$ , unless it can be demonstrated that equivalent restraints can be provided by other means.

(10) The potential for liquefaction of the *soil* and its consequences, such as significant ground displacement and loss of *soil* strength and stiffness, shall be evaluated based on the ground motion parameters referenced in Subsection 1.1.2., as modified by Article 4.1.8.4., and shall be taken into account in the design of the structure and its *foundations*.

#### 4.1.8.17. Site Stability

(1) The potential for slope instability and its consequences, such as slope displacement, shall be evaluated based on site-specific material properties and ground motion parameters referenced in Subsection 1.1.2., as modified by Article 4.1.8.4., and shall be taken into account in the design of the structure and its *foundations*.

#### 4.1.8.18. Elements of Structures, Non-structural Components and Equipment

(1) Except as provided in Sentences (2), (7) and (16), elements and components of *buildings* described in Table 4.1.8.18. and their connections to the structure shall be designed to accommodate the *building* deflections calculated in accordance with Article 4.1.8.13. and the element or component deflections calculated in accordance with Sentence (9), and shall be designed for a lateral force,  $V_p$ , applied through the centre of mass of the element or component that is equal to:

$$V_p = 0.3 F_a S_a(0.2) I_E S_p W_p$$

where,

$F_a$  = as defined in Sentence 4.1.8.4.(7),

$S_a(0.2)$  = spectral response acceleration value at 0.2 s, as defined in Sentence 4.1.8.4.(1),

$I_E$  = importance factor for the *building*, as defined in Article 4.1.8.5.,

$S_p = C_p A_r A_x / R_p$  (the maximum value of  $S_p$  shall be taken as 4.0 and the minimum value of  $S_p$  shall be taken as 0.7), where,

$C_p$  = element or component factor from Table 4.1.8.18.,

$A_r$  = element or component force amplification factor from Table 4.1.8.18.,

$A_x$  = height factor  $(1 + 2 h_x / h_n)$ ,

$R_p$  = element or component response modification factor from Table 4.1.8.18., and

$W_p$  = weight of the component or element.

(2) For *buildings* other than *post-disaster buildings*, seismically isolated *buildings* and *buildings* with supplemental energy dissipation systems, where  $I_E F_a S_a(0.2)$  is less than 0.35, the requirements of Sentence (1) need not apply to Categories 6 through 22 of Table 4.1.8.18.

(3) For the purpose of applying Sentence (1) for Categories 11 and 12 of Table 4.1.8.18., elements or components shall be assumed to be flexible or flexibly connected unless it can be shown that the fundamental period of the element or component and its connection is less than or equal to 0.06 s, in which case the element or component is classified as being rigid or rigidly connected.

(4) The weight of access floors shall include the *dead load* of the access floor and the weight of permanent equipment, which shall not be taken as less than 25% of the floor *live load*.

(5) When the mass of a tank plus its contents or the mass of a flexible or flexibly connected piece of machinery, fixture or equipment is greater than 10% of the mass of the supporting floor, the lateral forces shall be determined by rational analysis.

(6) Forces shall be applied in the horizontal direction that results in the most critical loading for design, except for Category 6 of Table 4.1.8.18., where the forces shall be applied up and down vertically.

(7) Connections to the structure of elements and components listed in Table 4.1.8.18. shall be designed to support the component or element for gravity loads, shall conform to the requirements of Sentence (1), and shall also satisfy these additional requirements:

- (a) friction due to gravity loads shall not be considered to provide resistance to seismic forces,
- (b)  $R_p$  for non-ductile connections, such as adhesives or power actuated fasteners, shall be taken as 1.0,
- (c)  $R_p$  for anchorage using shallow expansion, chemical, epoxy or cast-in place anchors shall be 1.5, where shallow anchors are those with a ratio of embedment length to diameter of less than 8,
- (d) power-actuated fasteners and drop-in anchors shall not be used for tension loads,
- (e) connections for non-structural elements or components of Category 1, 2 or 3 of Table 4.1.8.18. attached to the side of a *building* and above the first level above *grade* shall satisfy the following requirements:
  - (i) for connections where the body of the connection is ductile, the body shall be designed for values of  $C_p$ ,  $A_r$  and  $R_p$  given in Table 4.1.8.18., and all of the other parts of the connection, such as anchors, welds, bolts and inserts, shall be capable of developing 2.0 times the nominal yield resistance of the body of the connection, and
  - (ii) connections where the body of the connection is not ductile shall be designed for values of  $C_p=2.0$ ,  $R_p=1.0$  and  $A_r$  given in Table 4.1.8.18., and
- (f) a ductile connection is one where the body of the connection is capable of dissipating energy through cyclic inelastic behaviour.

(8) Floors and roofs acting as diaphragms shall satisfy the requirements for diaphragms stated in Article 4.1.8.15.

(9) Lateral deflections of elements or components shall be based on the loads defined in Sentence (1) and lateral deflections obtained from an elastic analysis shall be multiplied by  $R_p/I_E$  to give realistic values of the anticipated deflections.

(10) The elements or components shall be designed so as not to transfer to the structure any forces unaccounted for in the design, and rigid elements such as walls or panels shall satisfy the requirements of Sentence 4.1.8.3.(6).

(11) Seismic restraint for suspended equipment, pipes, ducts, electrical cable trays, etc. shall be designed to meet the force and displacement requirements of this Article and be constructed in a manner that will not subject hanger rods to bending.

(12) Isolated suspended equipment and components, such as pendant lights, may be designed as a pendulum system provided that adequate chains or cables capable of supporting 2.0 times the weight of the suspended component are provided and the deflection requirements of Sentence (11) are satisfied.

(13) Free-standing steel pallet storage racks are permitted to be designed to resist earthquake effects using rational analysis, provided the design achieves the minimum performance level required by this Subsection.

(14) Except as provided in Sentence (15), the relative displacement of glass in glazing systems,  $D_{\text{fallout}}$ , shall be equal to the greater of,

- (a) 13 mm, or
- (b)  $D_{\text{fallout}} \geq 1.25 I_E D_p$ ,

where,

$D_{\text{fallout}}$  = relative displacement at which glass fallout occurs, and

$D_p$  = relative earthquake displacement that the component must be designed to accommodate, calculated in accordance with Article 4.1.8.13. and applied over the height of the glass component.

(15) Glass need not comply with Sentence (14), provided at least one of the following conditions is met:

- (a)  $I_E F_a S_a(0.2) < 0.35$ ,
- (b) the glass has sufficient clearance from its frame such that  $D_{\text{clear}} \geq 1.25 D_p$  calculated as follows:

$$D_{\text{clear}} = 2C_1(1 + h_p C_2 / (b_p C_1))$$

where,

$D_{\text{clear}}$  = relative horizontal displacement measured over the height of the glass panel, which causes initial glass-to-frame contact,

$C_1$  = average of the clearances on both sides between the vertical glass edges and the frame,

$h_p$  = height of the rectangular glass panel,

$C_2$  = average of the top and bottom clearances between the horizontal glass edges and the frame, and

$b_p$  = width of the rectangular glass panel,

- (c) the glass is fully tempered, monolithic, installed in a *building* that is not a *post-disaster building*, and no part of the glass is located more than 3 m above a walking surface, or
- (d) the glass is annealed or heat-strengthened laminated glass in a single thickness with an interlayer no less than 0.76 mm and captured mechanically in a wall system glazing pocket with the perimeter secured to the frame by a wet, glazed, gunable, curing, elastomeric sealant perimeter bead of 13 mm minimum glass contact width.

(16) For a structure with supplemental energy dissipation, the following criteria shall apply:

- (a) the value of  $S_a(0.2)$  used in Sentence (1) shall be determined from the mean 5% damped floor spectral acceleration values at 0.2 s by averaging the individual 5% damped floor spectra at the base of the structure determined using Non-Linear Dynamic Analysis, and
- (b) the value of  $F_a$  used in Sentence (1) shall be 1.

**Table 4.1.8.18.**  
**Elements of Structures and Non-structural Components and Equipment**

Forming Part of Sentences 4.1.8.18.(1), (2), (3), (6) and (7)

| Item | Column 1<br>Category | Column 2<br>Part or portion of <i>Building</i>                                                              | Column 3<br>$C_p$ | Column 4<br>$A_r$ | Column 5<br>$R_p$ |
|------|----------------------|-------------------------------------------------------------------------------------------------------------|-------------------|-------------------|-------------------|
| 1.   | 1                    | All exterior and interior walls except those in Category 2 or 3                                             | 1.00              | 1.00              | 2.50              |
| 2.   | 2                    | Cantilever parapet and other cantilever walls except retaining walls                                        | 1.00              | 2.50              | 2.50              |
| 3.   | 3                    | Exterior and interior ornamentations and appendages                                                         | 1.00              | 2.50              | 2.50              |
| 4.   | 4                    | Floors and roofs acting as diaphragms <sup>(1)</sup>                                                        | ---               | ---               | ---               |
| 5.   | 5                    | Towers, <i>chimneys</i> , smokestacks and penthouses when connected to or forming part of a <i>building</i> | 1.00              | 2.50              | 2.50              |
| 6.   | 6                    | Horizontally cantilevered floors, balconies, beams, etc.                                                    | 1.00              | 1.00              | 2.50              |
| 7.   | 7                    | Suspended ceilings, light fixtures and other attachments to ceilings with independent vertical support      | 1.00              | 1.00              | 2.50              |
| 8.   | 8                    | Masonry veneer connections                                                                                  | 1.00              | 1.00              | 1.50              |
| 9.   | 9                    | Access floors                                                                                               | 1.00              | 1.00              | 2.50              |
| 10.  | 10                   | Masonry or concrete fences more than 1.8 m tall                                                             | 1.00              | 1.00              | 2.50              |

| Item | Column 1<br>Category | Column 2<br>Part or portion of <i>Building</i>                                                                                                                                                                                         | Column 3<br>$C_p$ | Column 4<br>$A_r$ | Column 5<br>$R_p$ |
|------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------|-------------------|
| 11.  | 11                   | Machinery, fixtures, equipment and tanks (including contents) - that are rigid and rigidly connected                                                                                                                                   | 1.00              | 1.00              | 1.25              |
| 12.  | 11                   | Machinery, fixtures, equipment and tanks (including contents) - that are flexible or flexibly connected                                                                                                                                | 1.00              | 2.50              | 2.50              |
| 13.  | 12                   | Machinery, fixtures, equipment and tanks (including contents) containing toxic or explosive materials, materials having a <i>flash point</i> below 38°C or firefighting fluids - that are rigid and rigidly connected                  | 1.50              | 1.00              | 1.25              |
| 14.  | 12                   | Machinery, fixtures, equipment and tanks (including contents) containing toxic or explosive materials, materials having a <i>flash point</i> below 38°C or firefighting fluids - that are flexible or flexibly connected               | 1.50              | 2.50              | 2.50              |
| 15.  | 13                   | Flat bottom tanks (including contents) attached directly to a floor at or below <i>grade</i> within a <i>building</i>                                                                                                                  | 0.70              | 1.00              | 2.50              |
| 16.  | 14                   | Flat bottom tanks (including contents) attached directly to a floor at or below <i>grade</i> within a <i>building</i> containing toxic or explosive materials, materials having a <i>flash point</i> below 38°C or firefighting fluids | 1.00              | 1.00              | 2.50              |
| 17.  | 15                   | Pipes, ducts (including contents)                                                                                                                                                                                                      | 1.00              | 1.00              | 3.00              |
| 18.  | 16                   | Pipes, ducts (including contents) containing toxic or explosive materials                                                                                                                                                              | 1.50              | 1.00              | 3.00              |
| 19.  | 17                   | Electrical cable trays, bus ducts, conduits                                                                                                                                                                                            | 1.00              | 2.50              | 5.00              |
| 20.  | 18                   | Rigid components with ductile material and connections                                                                                                                                                                                 | 1.00              | 1.00              | 2.50              |
| 21.  | 19                   | Rigid components with non-ductile material or connections                                                                                                                                                                              | 1.00              | 1.00              | 1.00              |
| 22.  | 20                   | Flexible components with ductile material and connections                                                                                                                                                                              | 1.00              | 2.50              | 2.50              |
| 23.  | 21                   | Flexible components with non-ductile material or connections                                                                                                                                                                           | 1.00              | 2.50              | 1.00              |
| 24.  | 22                   | Elevators and Escalators <sup>(2)</sup> – Machinery and equipment, rigid and rigidly connected                                                                                                                                         | 1.00              | 1.00              | 1.25              |
| 25.  | 22                   | Elevators and Escalators <sup>(2)</sup> – Machinery and equipment, flexible or flexibly connected                                                                                                                                      | 1.00              | 2.50              | 2.50              |
| 26.  | 22                   | Elevators and Escalators <sup>(2)</sup> – Elevator rails                                                                                                                                                                               | 1.00              | 1.00              | 2.50              |
| 27.  | 23                   | Floor-mounted steel pallet storage racks <sup>(3)</sup>                                                                                                                                                                                | 1.00              | 2.50              | 2.50              |
| 28.  | 24                   | Floor-mounted steel pallet storage racks on which are stored toxic or explosive materials or materials having a flash point below 38°C <sup>(3)</sup>                                                                                  | 1.50              | 2.50              | 2.50              |

**Notes to Table 4.1.8.18.:**

<sup>(1)</sup> See Sentence 4.1.8.18.(8).

<sup>(2)</sup> See also ASME A17.1 / CSA B44, “Safety Code for Elevators and Escalators”.

<sup>(3)</sup> See Sentence 4.1.8.18.(13).

**4.1.8.19. Seismic Isolation**

(1) For the purposes of this Article and Article 4.1.8.20., the following terms shall have the meaning stated herein:

- (a) “seismic isolation” is an alternative seismic design concept that consists of installing an isolation system with low horizontal stiffness, thereby substantially increasing the fundamental period of the structure,
- (b) “isolation system” is a collection of structural elements at the level of the isolation interface that includes all individual isolator units, all structural elements that transfer force between elements of the isolation system, all connections to other structural elements, and may also include a wind-restraint system, energy-dissipation devices, and a displacement restraint system,
- (c) “seismically isolated structure” includes the upper portion of the structure above the isolation system, the isolation system, and the portion of the structure below the isolation system,
- (d) “isolator unit” is a structural element of the isolation system that permits large lateral deformations under lateral earthquake design forces and is characterized by vertical-load-carrying capability combined with increased horizontal flexibility and high vertical stiffness, energy dissipation (hysteretic or viscous), self-centering capability, and lateral restraint (sufficient elastic stiffness) under non-seismic service lateral loads,
- (e) “isolation interface” is the boundary between the isolated upper portion of the structure above the isolation system and the lower portion of the structure below the isolation system, and
- (f) “wind-restraint system” is the collection of structural elements of the isolation system that provides restraint of the seismically isolated structure for wind loads and is permitted to be either an integral part of the isolator units or a separate device.

(2) Every seismically isolated structure and every portion thereof shall be analyzed and designed in accordance with,

- (a) the loads and requirements prescribed in this Article and Article 4.1.8.20.,
- (b) other applicable requirements of this Subsection, and
- (c) appropriate engineering principles and current engineering practice.
- (3) For the analysis and modeling of the seismically isolated structure, the following criteria shall apply:
  - (a) three dimensional Non-linear Dynamic Analysis of the structure shall be performed in accordance with Article 4.1.8.12,
  - (b) unless verified from rational analysis, the inherent equivalent viscous damping — excluding the hysteretic damping provided by the isolation system or supplemental energy dissipation devices — used in the analysis shall not be taken as more than 2.5% of the critical damping at the significant modes of vibration,
  - (c) all individual isolator units shall be modeled with sufficient detail to account for their non-linear force-deformation characteristics, including effects of the relevant loads, and with consideration of variations in material properties over the design life of the structure, and
  - (d) except for elements of the isolation system, other components of the seismically isolated structure shall be modeled using elastic material properties in accordance with Sentence 4.1.8.3.(8).
- (4) The ground motion histories used in Sentence (3) shall be,
  - (a) appropriately selected and scaled following good engineering practice,
  - (b) compatible with,
    - (i) a response spectrum derived from the design spectral acceleration values,  $S(T)$ , defined in Sentence 4.1.8.4.(9) for ground conditions of Site Classes A, B and C, and
    - (ii) a 5% damped response spectrum based on a site-specific evaluation for ground conditions of Site Classes D, E and F, and
  - (c) amplitude-scaled in an appropriate manner over the period range of  $0.2 T_1$  to  $1.5 T_1$ , where  $T_1$  is the period of the isolated structure determined using the post-yield stiffness of the isolation system in the horizontal direction under consideration, or the period specified in Sentence 4.1.8.20.(1) if the post-yield stiffness of the isolation system is not well defined.

#### 4.1.8.20. Seismic Isolation Design Provisions

(1) The period of the isolated structure, determined using the post-yield stiffness of the isolation system in the horizontal direction under consideration, shall be greater than three times the period of the structure above the isolation interface calculated as a fixed base.

(2) The isolation system shall be configured to produce a restoring force such that the lateral force at the TDD at the centre of mass of the isolated structure above the isolation interface is at least  $0.025W_b$  greater than the lateral force at 50% of the TDD at the same location, in each horizontal direction, where  $W_b$  is the portion of  $W$  above the isolation interface.

(3) The values of *storey* shears, *storey* forces, member forces, and deflections used in the design of all structural framing elements and components of the isolation system shall be obtained from analysis conforming to Sentence 4.1.8.19.(3) using one of the following values, whichever produces the most critical effect:

- (a) mean plus  $I_E$  times the standard deviation of the results of all Non-linear Dynamic Analyses, or
- (b)  $\sqrt{I_E}$  times the mean of the results of all Non-linear Dynamic Analyses.

(4) The force-deformation and damping characteristics of the isolation system used in the analysis and design of the seismically isolated structures shall be validated by testing at least two full-size specimens of each predominant type and size of isolator unit of the isolation system, which shall include,

- (a) the individual isolator units,
- (b) separate supplemental damping devices, if used, and
- (c) separate sacrificial wind-restraint systems, if used.

(5) The force-deformation characteristics and damping value of a representative sample of the isolator units installed in the *building* shall be validated by tests prior to their installation.

(6) A diaphragm or horizontal structural elements shall provide continuity immediately above the isolation interface to transmit forces due to non-uniform ground motions from one part of the structure to another.

- (7) All structural framing elements shall be designed for the forces described in Sentence (3) with  $R_d R_o = 1.0$ , except,

- (a) for structures with  $I_E < 1.5$ , all the SFRS shall be detailed in accordance with the requirements for  $R_d \geq 1.5$  and the applicable referenced design standards, and
- (b) for structures with  $I_E = 1.5$ , all the SFRS shall be detailed in accordance with the requirements for  $R_d \geq 2.0$  and the applicable referenced design standards.
- (8) The height restrictions noted in Table 4.1.8.9. need not apply to seismically isolated structures.
- (9) All isolator units shall be,
  - (a) designed for the forces described in Sentence (3), and
  - (b) able to accommodate the TDD determined at the specific location of each isolator unit.
- (10) The isolation system, including a separate wind-restraint system if used, shall limit lateral displacement due to wind loads across the isolation interface to a value equal to that required for the least *storey* height in accordance with Sentence 4.1.3.5.(3).

#### 4.1.8.21. Supplemental Energy Dissipation

- (1) For the purposes of this Article and Article 4.1.8.22., the following terms shall have the meaning stated herein:
  - (a) “supplemental energy dissipation device” is a dedicated structural element of the supplemental energy dissipation system that dissipates energy due to relative motion of each of its ends or by alternative means, and includes all pins, bolts, gusset plates, brace extensions and other components required to connect it to the other elements of the structure; a device may be classified as either displacement-dependent or velocity-dependent, or a combination thereof, and may be configured to act in either a linear or non-linear manner, and
  - (b) “supplemental energy dissipation system” is a collection of energy dissipation devices installed in a structure that supplement the energy dissipation of the SFRS.
- (2) Every structure with a supplemental energy dissipation system and every portion thereof shall be designed and constructed in accordance with,
  - (a) the loads and requirements prescribed in this Article and Article 4.1.8.22.,
  - (b) other applicable requirements of this Subsection, and
  - (c) appropriate engineering principles and current engineering practice.
- (3) Where supplemental energy dissipation devices are used across the isolation interface of a seismically isolated structure, displacements, velocities, and accelerations shall be determined in accordance with Article 4.1.8.20.
- (4) For the analysis and modeling of structures with supplemental energy dissipation devices, the following criteria shall apply:
  - (a) a three-dimensional Non-linear Dynamic Analysis of the structure shall be performed in accordance with Article 4.1.8.12.,
  - (b) for SFRS with  $R_d > 1.0$ , the non-linear hysteretic behaviour of the SFRS shall be explicitly — with sufficient detail — accounted for in the modeling and analysis of the structure,
  - (c) unless verified from rational analysis, the inherent equivalent viscous damping — excluding the damping provided by the supplemental energy dissipation devices — used in the analysis shall not be taken as more than 2.5% of the critical damping at the significant modes of vibration,
  - (d) all supplemental energy dissipation devices shall be modeled with sufficient detail to account for their non-linear force deformation characteristics, including effects of the relevant loads, and with consideration of variations in their properties over the design life of the structure, and
  - (e) except for the SFRS and elements of the supplemental energy dissipation system, other components of the structure shall be modeled using elastic material properties in accordance with Sentence 4.1.8.3.(8).
- (5) The ground motion histories used in Sentence (4) shall be,
  - (a) appropriately selected and scaled following good engineering practice,
  - (b) compatible with a 5% damped response spectrum derived from the design spectral acceleration values,  $S(T)$ , defined in Sentence 4.1.8.4.(9), and
  - (c) amplitude-scaled in an appropriate manner over the period range of  $0.2 T_1$  to  $1.5 T_1$ , where  $T_1$  is the fundamental lateral period of the structure with the supplemental energy dissipation system.

**4.1.8.22. Supplemental Energy Dissipation Design Considerations**

(1) The values of *storey* shears, *storey* forces, member forces, and deflections for the design of all structural framing elements and all supplemental energy dissipation devices shall be obtained from analysis conforming to Sentence 4.1.8.21.(4) using one of the following values, whichever produces the most critical effect:

(a) mean plus  $I_E$  times the standard deviation of the results of all Non-linear Dynamic Analyses, or

(b)  $\sqrt{I_E}$  times the mean of the results of all Non-linear Dynamic Analyses.

(2) The largest interstorey deflection at any level of the structure as determined in accordance with Sentence (1) shall conform to the limits stated in Sentence 4.1.8.13.(3).

(3) The force-deformation and force-velocity characteristics of the supplemental energy dissipation devices used in the analysis and design of structures with supplemental energy dissipation systems shall be validated by testing at least two full-size specimens of each type of supplemental energy dissipation device.

(4) The force-deformation and force-velocity characteristics and damping values of a representative sample of the supplemental energy dissipation devices installed in the *building* shall be validated by tests prior to their installation.

(5) Elements of the supplemental energy dissipation system, except the supplemental energy dissipation devices themselves, shall be designed to remain elastic for the design loads.

(6) All structural framing elements shall be designed,

(a) for an SFRS with  $R_d = 1.0$ , using the forces referred to in Sentence (1) with  $R_d R_o = 1.0$ , except that the SFRS shall be detailed in accordance with the requirements for  $R_d \geq 1.5$  and the applicable referenced design standards, or

(b) for an SFRS with  $R_d > 1.0$ , using the forces referred to in Sentence (1) with  $R_d R_o = 1.0$ , except that the SFRS shall be detailed in accordance with the requirements for the selected  $R_d$  and the applicable referenced design standards.

(7) Supplemental energy dissipation devices and other components of the supplemental energy dissipation system shall be designed in accordance with Sentence (1) with consideration of the following:

(a) low-cycle, large-displacement degradation due to seismic loads,

(b) high-cycle, small-displacement degradation due to wind, thermal, or other cyclic loads,

(c) forces or displacements due to gravity loads,

(d) adhesion of device parts due to corrosion or abrasion, biodegradation, moisture, or chemical exposure,

(e) exposure to environmental conditions, including, but not limited to, temperature, humidity, moisture, radiation (e.g., ultraviolet light), and reactive or corrosive substances (e.g., salt water),

(f) devices subject to failure due to low-cycle fatigue must resist wind forces without slip, movement, or inelastic cycling,

(g) the range of thermal conditions, device wear, manufacturing tolerances, and other effects that cause device properties to vary during the design life of the device, and

(h) connection points of devices must provide sufficient articulation to accommodate simultaneous longitudinal, lateral, and vertical displacements of the supplemental energy dissipation system.

(8) Means of access for inspection and removal for replacement of all supplemental energy dissipation devices shall be provided.

**113. Clause 4.2.3.2.(1)(c) of Division B of the Regulation is revoked and the following substituted:**

(c) CSA O80.15, "Preservative Treatment of Wood for Building Foundation Systems, Basements, and Crawl Spaces by Pressure Processes".

**114. Clause 4.2.3.8.(1)(e) of Division B of the Regulation is revoked and the following substituted:**

(e) CSA G40.21, "Structural Quality Steel".

**115. Sentence 4.3.2.1.(1) of Division B of the Regulation is amended by striking out "CSA S304.1" and substituting "CSA S304".**

**116. Sentence 4.3.3.1.(1) of Division B of the Regulation is amended by striking out "CAN/CSA-A23.3" and substituting "CSA A23.3".**

**117. Sentence 4.3.4.2.(1) of Division B of the Regulation is amended by striking out "CAN/CSA-S136" and substituting "CSA S136".**

**118. Sentence 4.3.6.1.(1) of Division B of the Regulation is revoked and the following substituted:**

(1) Glass used in *buildings* shall be designed in conformance with,

- (a) CAN/CGSB-12.20-M, “Structural Design of Glass for Buildings”, using an adjustment factor on the wind load,  $W$ , of not less than 0.75, or
- (b) ASTM E1300, “Determining Load Resistance of Glass in Buildings”, using an adjustment factor on the wind load,  $W$ , of not less than 1.0.

**119. Sentence 4.4.1.1.(1) of Division B of the Regulation is amended by striking out “Frame-Membrane Supported Structures” and substituting “Frame-Supported Membrane Structures”.**

**120. Article 4.4.2.1. of Division B of the Regulation is revoked and the following substituted:**

**4.4.2.1. Design Basis for Storage Garages and Repair Garages**

- (1) *Storage garages* and *repair garages* shall be designed in conformance with CSA S413, “Parking Structures”.

**121. Sentence 4.4.4.1.(4) of Division B of the Regulation is amended by striking out “Galvanising” and substituting “Galvanizing”.**

**122. Article 5.1.4.1. of Division B of the Regulation is amended by adding the following Sentence:**

(1.1) Where *building* materials, components or assemblies perform more than one function, they shall satisfy the requirements of all of those functions.

**123. Article 5.2.2.2. of Division B of the Regulation is amended by adding the following Sentences:**

(4) Except as provided in Sentence (5), the wind uplift resistance of membrane roofing assemblies shall be determined in accordance with the requirements of CSA A123.21, “Dynamic Wind Uplift Resistance of Membrane-Roofing Systems”.

(5) Membrane roofing assemblies with proven past performance for the anticipated wind loads need not comply with Sentence (4).

**124. Sentence 5.3.1.3.(3) of Division B of the Regulation is revoked.**

**125. Clause 5.4.1.2.(1)(a) of Division B of the Regulation is revoked and the following substituted:**

- (a) have an air leakage characteristic not greater than  $0.02 \text{ L}/(\text{s}\cdot\text{m}^2)$  measured at an air pressure difference of 75 Pa when tested in accordance with ASTM E2178, “Air Permeance of Building Materials”, or

**126. (1) Sentences 5.6.1.2.(1) and (2) of Division B of the Regulation are revoked and the following substituted:**

- (1) Reserved
- (2) Reserved

**(2) Article 5.6.1.2. of Division B of the Regulation is amended by adding the following Sentence:**

(4) Where protective materials described in Sentence (3) are part of a vegetative roofing system, they shall be resistant to root and rhizome penetration when tested in accordance with ANSI/GRHC/SPRI VR-1, “Procedure for Investigating Resistance to Root Penetration on Vegetative Roofs”.

**127. Sections 5.7., 5.8. and 5.9. of Division B of the Regulation are revoked and the following substituted:**

**Section 5.7. Surface and Ground Water**

**5.7.1. Protection from Surface Water**

**5.7.1.1. Application**

(1) This Subsection applies to the location of *buildings*, the grading of *building* sites, the directing of surface water away from *building* assemblies and the provision of means for drainage.

**5.7.1.2. Required Protection**

(1) The *building* shall be located, the *building* site shall be graded or surface water shall be directed away from *building* assemblies so as to,

- (a) minimize the accumulation of surface water against the *building* in a manner that does not adversely affect adjacent *buildings* or properties, or
- (b) accommodate the accumulation of surface water on the property in a manner that does not adversely affect the *building* or adjacent *buildings* or properties.

(2) Drainage shall be provided to direct surface water away from *building* assemblies separating interior space from the ground, except,

- (a) where the *building* assembly is designed in accordance with Subsection 5.7.2. to withstand continuous hydrostatic pressure, or

- (b) where it can be shown that the lack of drainage will not adversely affect any of,
  - (i) the health or safety of *building* users,
  - (ii) the intended use of the *building*, or
  - (iii) the operation of *building* services.

### **5.7.2. Protection from Hydrostatic Pressure**

#### **5.7.2.1. Application**

(1) This Subsection applies to waterproofing materials, components, assemblies and systems applied to *building* assemblies that separate dissimilar environments and are subjected to hydrostatic pressure.

#### **5.7.2.2. Design of Building Elements under Hydrostatic Loads**

(1) Waterproofing materials, components, assemblies and systems described in Article 5.7.2.1. shall be designed in accordance with Subsection 5.1.4.

(2) The hydrostatic design loads shall be determined in accordance with Subsection 5.2.2.

#### **5.7.2.3. Required Protection**

(1) Waterproofing materials, components, assemblies and systems described in Article 5.7.2.1. shall comply with Article 5.7.3.2.

### **5.7.3. Protection from Ground Water**

#### **5.7.3.1. Application**

(1) This Subsection applies to the protection of *building* assemblies that separate interior space from the ground.

#### **5.7.3.2. Required Protection**

(1) Except as provided in Sentence (2) and Article 5.7.3.4., *building* assemblies described in Article 5.7.3.1. shall be protected by waterproofing in accordance with Article 5.7.3.3. so as to minimize the ingress of ground water into the *building* or the accumulation of ground water against the *building*.

(2) Waterproofing is not required where it can be shown that,

- (a) a *building* is designed to accommodate the ingress or accumulation of ground water, or
- (b) the ingress or accumulation of ground water will not adversely affect any of,
  - (i) the health or safety of *building* users,
  - (ii) the intended use of the *building*, or
  - (iii) the operation of *building* services.

#### **5.7.3.3. Waterproofing**

(1) Waterproofing materials, components, assemblies or systems installed to provide the required protection shall form a continuous and impervious barrier to the ingress of ground water and be capable of accommodating,

- (a) imperfections, construction joints, control joints and expansion joints,
- (b) junctions between different *building* assemblies, and
- (c) elements penetrating *building* assemblies.

#### **5.7.3.4. Where Dampproofing is Permitted**

(1) Vertical *building* assemblies that separate interior space from the ground are permitted to be dampproofed where,

- (a) the *building* assemblies are not subjected to hydrostatic pressure,
- (b) the substrate is cast-in-place concrete, and
- (c) a drainage layer is installed between the *building* assembly and the *soil*.

(2) Joints, junctions and penetrations shall be designed and constructed to maintain the continuity of the dampproofing.

## **Section 5.8. Sound Transmission**

### **5.8.1. Protection from Airborne Noise**

**5.8.1.1. Required Protection**

(1) Except as provided in Sentence (2), a *dwelling unit* shall be separated from every other space in a *building* in which noise may be generated by,

- (a) a separating assembly and adjoining construction, which, together, provide an *apparent sound transmission class* rating not less than 47, or
- (b) a separating assembly that provides a *sound transmission class* rating not less than 50 and adjoining construction that conforms to Article 9.11.1.4.

(2) Construction separating a *dwelling unit* from an elevator shaft or a refuse chute shall have an *STC* rating not less than 55.

**5.8.1.2. Determination of Sound Transmission Ratings**

(1) The *STC* ratings of separating assemblies shall be determined in accordance with ASTM E413, "Classification for Rating Sound Insulation", using the results from measurements carried out in accordance with ASTM E90, "Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements".

(2) The *ASTC* ratings of separating assemblies and adjoining construction shall be,

- (a) determined in accordance with ASTM E413, "Classification for Rating Sound Insulation", using the results from measurements carried out in accordance with ASTM E336, "Measurement of Airborne Sound Attenuation Between Rooms in Buildings", or
- (b) calculated in accordance with,
  - (i) the detailed method described in Article 5.8.1.4., or
  - (ii) the simplified method described in Article 5.8.1.5.

**5.8.1.3. Compliance with Required Ratings**

(1) Compliance with the required *STC* ratings shall be demonstrated through,

- (a) measurements carried out in accordance with Sentence 5.8.1.2.(1), or
- (b) the construction of separating assemblies conforming to Table 1 or 2 of MMAH Supplementary Standard SB-3, "Fire and Sound Resistance of Building Assemblies", as applicable.

(2) Compliance with the required *ASTC* ratings shall be demonstrated through,

- (a) measurements or calculations carried out in accordance with Sentence 5.8.1.2.(2), or
- (b) the construction of separating assemblies conforming to Table 1 or 2 of MMAH Supplementary Standard SB-3, "Fire and Sound Resistance of Building Assemblies", as applicable, that have an *STC* rating not less than 50 in conjunction with flanking assemblies constructed in accordance with Article 9.11.1.4.

**5.8.1.4. Detailed Method for Calculating ASTC**

(1) This Article sets out the detailed method for calculating the *ASTC* ratings of separating assemblies and adjoining construction referred to in Subclause 5.8.1.2.(2)(b)(i).

(2) The sound transmission loss measured in accordance with ASTM E90, "Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements", shall be used in lieu of the sound reduction index required in ISO 15712-1, "Building Acoustics - Estimation of Acoustic Performance of Buildings From the Performance of Elements - Part 1: Airborne Sound Insulation Between Rooms".

(3) The vibration reduction index for the junctions between separating assemblies shall be,

- (a) determined using the equations presented in Annex E of ISO 15712-1, "Building Acoustics - Estimation of Acoustic Performance of Buildings From the Performance of Elements - Part 1: Airborne Sound Insulation Between Rooms", or
- (b) measured in accordance with Parts 1 to 4 of ISO 10848, "Acoustics - Laboratory Measurement of the Flanking Transmission of Airborne and Impact Sound Between Adjoining Rooms".

(4) The normalized flanking level difference shall be measured in accordance with Parts 1 to 4 of ISO 10848, "Acoustics - Laboratory Measurement of the Flanking Transmission of Airborne and Impact Sound Between Adjoining Rooms".

(5) The direct sound reduction index for the separating assembly in situ shall be determined from sound transmission loss in accordance with Clause (a) or (b), depending on the type of construction:

- (a) for a lightweight separating wall or floor assembly with wood or steel framing, the index shall be taken as equal to the sound transmission loss, without correction,

- (b) for a heavyweight separating wall or floor assembly of concrete or masonry, the index shall be determined in accordance with the detailed method for structure-borne transmission presented in ISO 15712-1, "Building Acoustics - Estimation of Acoustic Performance of Buildings From the Performance of Elements - Part 1: Airborne Sound Insulation Between Rooms".
- (6) The flanking sound reduction index for each flanking path at each edge of the separating assembly shall be determined in accordance with Clause (a), (b) or (c), depending on the type of construction:
  - (a) for a lightweight separating wall or floor assembly with wood or steel framing and connected lightweight flanking assemblies with wood or steel framing, the index shall be taken as equal to the normalized flanking level difference re-normalized for the *ASTC* field situation in accordance with Annex F of ISO 15712-1, "Building Acoustics - Estimation of Acoustic Performance of Buildings From the Performance of Elements - Part 1: Airborne Sound Insulation Between Rooms",
  - (b) for a heavyweight separating wall or floor assembly of concrete or masonry and connected flanking assemblies of concrete or masonry, the index shall be determined in accordance with the detailed method for structure-borne transmission presented in ISO 15712-1, "Building Acoustics - Estimation of Acoustic Performance of Buildings From the Performance of Elements - Part 1: Airborne Sound Insulation Between Rooms",
  - (c) for a mixture of lightweight framed assemblies and heavyweight concrete or masonry assemblies, the index shall be determined in accordance with Clause (a) or (b).
- (7) Once the pertinent indices and measurements referred to in Sentences (2) to (6) have been determined based on the type of construction, the apparent sound reduction index shall then be determined in accordance with ISO 15712-1, "Building Acoustics - Estimation of Acoustic Performance of Buildings From the Performance of Elements - Part 1: Airborne Sound Insulation Between Rooms".
- (8) The *ASTC* rating shall be calculated in accordance with ASTM E413, "Classification for Rating Sound Insulation", using the apparent sound reduction index determined in Sentence (7), which shall be treated as equivalent to the values of apparent sound transmission loss measured in accordance with ASTM E336, "Measurement of Airborne Sound Attenuation between Rooms in Buildings".

#### 5.8.1.5. Simplified Method for Calculating *ASTC*

- (1) This Article sets out the simplified method for calculating the *ASTC* ratings of separating assemblies and adjoining construction referred to in Subclause 5.8.1.2.(2)(b)(ii).
- (2) The *STC* rating shall be used in lieu of the weighted sound reduction index required in ISO 15712-1, "Building Acoustics - Estimation of Acoustic Performance of Buildings From the Performance of Elements - Part 1: Airborne Sound Insulation Between Rooms".
- (3) The vibration reduction index for the junctions between separating assemblies shall be,
  - (a) determined using the equations presented in Annex E of ISO 15712-1, "Building Acoustics - Estimation of Acoustic Performance of Buildings From the Performance of Elements - Part 1: Airborne Sound Insulation Between Rooms", or
  - (b) measured in accordance with Parts 1 to 4 of ISO 10848, "Acoustics - Laboratory Measurement of the Flanking Transmission of Airborne and Impact Sound Between Adjoining Rooms".
- (4) The weighted normalized flanking level difference shall be determined in accordance with ASTM E413, "Classification for Rating Sound Insulation", using the results from measurements carried out in accordance with Parts 1 to 4 of ISO 10848, "Acoustics - Laboratory Measurement of the Flanking Transmission of Airborne and Impact Sound Between Adjoining Rooms".
- (5) The direct weighted sound reduction index for the separating assembly shall be taken as equal to the *STC* rating, without correction.
- (6) The weighted flanking sound reduction index for each flanking path at each edge of the separating assembly shall be determined in accordance with Clause (a) or (b), depending on the type of construction:
  - (a) for a lightweight separating wall or floor assembly with wood or steel framing and connected lightweight flanking assemblies with wood or steel framing, the index shall be taken as equal to the weighted normalized flanking level difference re-normalized for the *ASTC* field situation in accordance with Annex F of ISO 15712-1, "Building Acoustics - Estimation of Acoustic Performance of Buildings From the Performance of Elements - Part 1: Airborne Sound Insulation Between Rooms",
  - (b) for a heavyweight separating wall or floor assembly of concrete or masonry and connected flanking assemblies of concrete or masonry, the index shall be determined in accordance with the simplified method for structure-borne transmission presented in ISO 15712-1, "Building Acoustics - Estimation of Acoustic Performance of Buildings From the Performance of Elements - Part 1: Airborne Sound Insulation Between Rooms".

(7) Once the pertinent indices and measurements referred to in Sentences (2) to (6) have been determined based on the type of construction, the *ASTC* rating shall then be calculated in accordance with ISO 15712-1, "Building Acoustics - Estimation of Acoustic Performance of Buildings From the Performance of Elements - Part 1: Airborne Sound Insulation Between Rooms".

#### Section 5.9. Reserved

128. (1) Table 5.10.1.1. of Division B of the Regulation is revoked and the following substituted:

**Table 5.10.1.1.  
Standards Applicable to Environmental Separators and Assemblies Exposed to the Exterior**

Forming Part of Sentence 5.10.1.1.(1)

| Item | Column 1<br>Issuing Agency | Column 2<br>Document Number   | Column 3<br>Title of Document                                                                                                       |
|------|----------------------------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| 1.   | ASME                       | ANSI/ASME B18.6.1             | Wood Screws (Inch Series)                                                                                                           |
| 2.   | ASTM                       | A123 / A123M                  | Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products                                                                       |
| 3.   | ASTM                       | A153 / A153M                  | Zinc Coating (Hot-Dip) on Iron and Steel Hardware                                                                                   |
| 4.   | ASTM                       | A653 / A653M                  | Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process                               |
| 5.   | ASTM                       | C4                            | Clay Drain Tile and Perforated Clay Drain Tile                                                                                      |
| 6.   | ASTM                       | C73                           | Calcium Silicate Brick (Sand-Lime Brick)                                                                                            |
| 7.   | ASTM                       | C126                          | Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units                                                   |
| 8.   | ASTM                       | C212                          | Structural Clay Facing Tile                                                                                                         |
| 9.   | ASTM                       | C412M                         | Concrete Drain Tile (Metric)                                                                                                        |
| 10.  | ASTM                       | C444M                         | Perforated Concrete Pipe (Metric)                                                                                                   |
| 11.  | ASTM                       | C553                          | Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications                                                 |
| 12.  | ASTM                       | C612                          | Mineral Fiber Block and Board Thermal Insulation                                                                                    |
| 13.  | ASTM                       | C700                          | Vitrified Clay Pipe, Extra Strength, Standard Strength and Perforated                                                               |
| 14.  | ASTM                       | C726                          | Mineral Wood Roof Insulation Board                                                                                                  |
| 15.  | ASTM                       | C834                          | Latex Sealants                                                                                                                      |
| 16.  | ASTM                       | C840                          | Application and Finishing of Gypsum Board                                                                                           |
| 17.  | ASTM                       | C920                          | Elastomeric Joint Sealants                                                                                                          |
| 18.  | ASTM                       | C991                          | Flexible Fibrous Glass Insulation for Metal Buildings                                                                               |
| 19.  | ASTM                       | C1002                         | Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs |
| 20.  | ASTM                       | C1177 / C1177M                | Glass Mat Gypsum Substrate for Use as Sheathing                                                                                     |
| 21.  | ASTM                       | C1178 / C1178M                | Coated Glass Mat Water-Resistant Gypsum Board Backing Panel                                                                         |
| 22.  | ASTM                       | C1184                         | Structural Silicone Sealants                                                                                                        |
| 23.  | ASTM                       | C1311                         | Solvent Release Sealants                                                                                                            |
| 24.  | ASTM                       | C1330                         | Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants                                                               |
| 25.  | ASTM                       | C1396 / C1396M <sup>(1)</sup> | Gypsum Board                                                                                                                        |
| 26.  | ASTM                       | C1658 / C1658M <sup>(2)</sup> | Glass Mat Gypsum Panels                                                                                                             |
| 27.  | ASTM                       | D1227                         | Emulsified Asphalt Used as a Protective Coating for Roofing                                                                         |
| 28.  | ASTM                       | D2178                         | Asphalt Glass Felt Used in Roofing and Waterproofing                                                                                |
| 29.  | ASTM                       | D3019 <sup>(3)</sup>          | Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos-Fibered, and Non-Asbestos-Fibered                                  |
| 30.  | ASTM                       | D4479 / D4479M                | Asphalt Roof Coating - Asbestos-Free                                                                                                |
| 31.  | ASTM                       | D4637 / D4637M                | EPDM Sheet Used in Single-Ply Roof Membrane                                                                                         |
| 32.  | ASTM                       | D4811 / D4811M                | Nonvulcanized (Uncured) Rubber Sheet Used as Roof Flashing                                                                          |
| 33.  | ASTM                       | D6878 / D6878M                | Thermoplastic Polyolefin Based Sheet Roofing                                                                                        |
| 34.  | ASTM                       | E2190                         | Insulating Glass Unit Performance and Evaluation                                                                                    |
| 35.  | BNQ                        | BNQ3624-115                   | Polyethylene (PE) Pipe and Fittings - Flexible Pipes for Drainage - Characteristics and Test Methods                                |
| 36.  | CGSB                       | CAN/CGSB-11.3-M               | Hardboard                                                                                                                           |
| 37.  | CGSB                       | CAN/CGSB-11.5-M               | Hardboard, Precoated, Factory Finished, for Exterior Cladding                                                                       |
| 38.  | CGSB                       | CAN/CGSB-12.1-M               | Tempered or Laminated Safety Glass                                                                                                  |
| 39.  | CGSB                       | CAN/CGSB-12.2-M               | Flat, Clear Sheet Glass                                                                                                             |
| 40.  | CGSB                       | CAN/CGSB-12.3-M               | Flat, Clear Float Glass                                                                                                             |
| 41.  | CGSB                       | CAN/CGSB-12.4-M               | Heat Absorbing Glass                                                                                                                |
| 42.  | CGSB                       | CAN/CGSB-12.8                 | Insulating Glass Units                                                                                                              |
| 43.  | CGSB                       | CAN/CGSB-12.10-M              | Glass, Light and Heat Reflecting                                                                                                    |

| Item | Column 1<br>Issuing Agency | Column 2<br>Document Number | Column 3<br>Title of Document                                                                                                                         |
|------|----------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 44.  | CGSB                       | CAN/CGSB-12.11-M            | Wired Safety Glass                                                                                                                                    |
| 45.  | CGSB                       | 37-GP-9Ma                   | Primer, Asphalt, Unfilled, for Asphalt Roofing, Dampproofing and Waterproofing                                                                        |
| 46.  | CGSB                       | CAN/CGSB-37.50-M            | Hot Applied, Rubberized Asphalt for Roofing and Waterproofing                                                                                         |
| 47.  | CGSB                       | CAN/CGSB-37.54              | Polyvinyl Chloride Roofing and Waterproofing Membrane                                                                                                 |
| 48.  | CGSB                       | 37-GP-56M                   | Membrane, Modified, Bituminous, Prefabricated, and Reinforced for Roofing                                                                             |
| 49.  | CGSB                       | CAN/CGSB-37.58-M            | Membrane, Elastomeric, Cold-Applied Liquid, for Non-Exposed Use in Roofing and Waterproofing                                                          |
| 50.  | CGSB                       | CAN/CGSB-41.24              | Rigid Vinyl Siding, Soffits and Fascia                                                                                                                |
| 51.  | CGSB                       | CAN/CGSB-51.32-M            | Sheathing, Membrane, Breather Type                                                                                                                    |
| 52.  | CGSB                       | CAN/CGSB-51.33-M            | Vapour Barrier, Sheet, Excluding Polyethylene, for Use in Building Construction                                                                       |
| 53.  | CGSB                       | CAN/CGSB-51.34-M            | Vapour Barrier, Polyethylene Sheet for Use in Building Construction                                                                                   |
| 54.  | CGSB                       | CAN/CGSB-93.1-M             | Sheet, Aluminum Alloy, Prefinished Residential                                                                                                        |
| 55.  | CGSB                       | CAN/CGSB-93.2-M             | Prefinished Aluminum Siding, Soffits and Fascia for Residential Use                                                                                   |
| 56.  | CGSB                       | CAN/CGSB-93.3-M             | Prefinished Galvanized and Aluminum-Zinc Alloy Steel Sheet for Residential Use                                                                        |
| 57.  | CGSB                       | CAN/CGSB-93.4               | Galvanized Steel and Aluminum-Zinc Alloy Coated Steel Siding, Soffits and Fascia, Prefinished, Residential                                            |
| 58.  | CSA                        | A23.1                       | Concrete Materials and Methods of Concrete Construction                                                                                               |
| 59.  | CSA                        | CAN/CSA-A82                 | Fire Masonry Brick Made from Clay or Shale                                                                                                            |
| 60.  | CSA                        | CAN3-A93-M                  | Natural Airflow Ventilators for Buildings                                                                                                             |
| 61.  | CSA                        | A123.1 / 123.5              | Asphalt Shingles Made from Organic Felt and Surfaced with Mineral Granules / Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules |
| 62.  | CSA                        | CAN/CSA-A123.2              | Asphalt Coated Roofing Sheets                                                                                                                         |
| 63.  | CSA                        | A123.3                      | Asphalt Saturated Organic Roofing Felt                                                                                                                |
| 64.  | CSA                        | CAN/CSA-A123.4              | Asphalt for Constructing Built-Up Roof Coverings and Waterproofing Systems                                                                            |
| 65.  | CSA                        | A123.17                     | Asphalt Glass Felt Used in Roofing and Waterproofing                                                                                                  |
| 66.  | CSA                        | CAN3-A123.51-M              | Asphalt Shingle Application on Roof Slopes 1:3 and Steeper                                                                                            |
| 67.  | CSA                        | CAN3-A123.52-M              | Asphalt Shingle Application on Roof Slopes 1:6 to Less than 1:3                                                                                       |
| 68.  | CSA                        | A165.1                      | Concrete Block Masonry Units                                                                                                                          |
| 69.  | CSA                        | A165.2                      | Concrete Brick Masonry Units                                                                                                                          |
| 70.  | CSA                        | A165.3                      | Prefaced Concrete Masonry Units                                                                                                                       |
| 71.  | CSA                        | A179                        | Mortar and Grout for Unit Masonry                                                                                                                     |
| 72.  | CSA                        | CAN/CSA-A220 Series         | Concrete Roof Tiles                                                                                                                                   |
| 73.  | CSA                        | A371                        | Masonry Construction for Buildings                                                                                                                    |
| 74.  | CSA                        | A3001                       | Cementitious Materials for Use in Concrete                                                                                                            |
| 75.  | CSA                        | CAN/CSA-B182.1              | Plastic Drain and Sewer Pipe and Pipe Fittings                                                                                                        |
| 76.  | CSA                        | G40.21                      | Structural Quality Steel                                                                                                                              |
| 77.  | CSA                        | CAN/CSA-G401                | Corrugated Steel Pipe Products                                                                                                                        |
| 78.  | CSA                        | CAN/CSA-O80 Series          | Wood Preservation                                                                                                                                     |
| 79.  | CSA                        | O118.1                      | Western Cedars Shakes and Shingles                                                                                                                    |
| 80.  | CSA                        | O118.2                      | Eastern White Cedar Shingles                                                                                                                          |
| 81.  | CSA                        | O121                        | Douglas Fir Plywood                                                                                                                                   |
| 82.  | CSA                        | O141                        | Softwood Lumber                                                                                                                                       |
| 83.  | CSA                        | O151                        | Canadian Softwood Plywood                                                                                                                             |
| 84.  | CSA                        | O153                        | Poplar Plywood                                                                                                                                        |
| 85.  | CSA                        | O325                        | Construction Sheathing                                                                                                                                |
| 86.  | CSA                        | O437.0                      | OSB and Waferboard                                                                                                                                    |
| 87.  | HPVA                       | ANSI/HPVA HP-1              | Hardwood and Decorative Plywood                                                                                                                       |
| 88.  | ULC                        | CAN/ULC-S701                | Thermal Insulation, Polystyrene, Boards and Pipe Covering                                                                                             |
| 89.  | ULC                        | CAN/ULC-S702                | Mineral Fibre Thermal Insulation for Buildings                                                                                                        |
| 90.  | ULC                        | CAN/ULC-S703                | Cellulose Fibre Insulation for Buildings                                                                                                              |
| 91.  | ULC                        | CAN/ULC-S704                | Thermal Insulation, Polyurethane and Polyisocyanurate, Boards, Faced                                                                                  |
| 92.  | ULC                        | CAN/ULC-S705.1              | Thermal Insulation - Spray Applied Rigid Polyurethane Foam, Medium Density - Material - Specification                                                 |
| 93.  | ULC                        | CAN/ULC-S705.2              | Thermal Insulation - Spray Applied Rigid Polyurethane Foam, Medium Density - Application                                                              |
| 94.  | ULC                        | CAN/ULC-S706                | Wood Fibre Insulating Boards for Buildings                                                                                                            |
| 95.  | ULC                        | CAN/ULC-S710.1              | Thermal Insulation - Bead-Applied One Component Polyurethane Air Sealant Foam, Part 1: Material Specification                                         |
| 96.  | ULC                        | CAN/ULC-S711.1              | Thermal Insulation - Bead-Applied Two Component Polyurethane Air Sealant Foam, Part 1: Material Specification                                         |

**Notes to Table 5.10.1.1.:**

(1) The *flame-spread rating* of gypsum board shall be determined in accordance with CAN/ULC-S102, “Test for Surface Burning Characteristics of Building Materials and Assemblies”, in lieu of ASTM E84, “Surface Burning Characteristics of Building Materials”, as indicated in ASTM C1396 / C1396M, “Gypsum Board”.

(2) The *flame-spread rating* of glass mat gypsum panels shall be determined in accordance with CAN/ULC-S102, “Test for Surface Burning Characteristics of Building Materials and Assemblies”, in lieu of ASTM E84, “Surface Burning Characteristics of Building Materials”, as indicated in ASTM C1658 / C1658M, “Glass Mat Gypsum Panels”.

(3) For the purpose of compliance with Part 5, ASTM D3019, “Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos-Fibered, and Non-Asbestos-Fibered”, applies only with respect to non-fibered and non-asbestos-fibered (Types I and III) asphalt roll roofing.

**(2) Section 5.10. of Division B of the Regulation is amended by adding the following Subsection:**

**5.10.4. Other Fenestration Assemblies**

**5.10.4.1. Definition**

(1) In this Subsection,

*Other fenestration assemblies* means curtain walls, window walls, storefronts and glazed architectural structures.

**5.10.4.2. Structural and Environmental Loads**

(1) *Other fenestration assemblies* and their components shall be designed and constructed in accordance with Article 5.1.4.1.

**5.10.4.3. Heat Transfer**

(1) *Other fenestration assemblies* and their components shall meet the heat transfer performance requirements set out in Section 5.3.

(2) *Other fenestration assemblies* that are metal-framed and separate interior *conditioned space* from interior unconditioned space or exterior space shall incorporate a thermal break to minimize condensation.

**5.10.4.4. Air Leakage**

(1) *Other fenestration assemblies* and their components shall be designed and constructed in accordance with Section 5.4.

(2) Except as provided in Sentence (3), *other fenestration assemblies* and their components shall have an air leakage characteristic, measured at an air pressure difference of 75 Pa and tested in accordance with ASTM E283, “Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen”, that is not greater than,

- (a)  $0.2 \text{ L}/(\text{s}\cdot\text{m}^2)$  for fixed portions, including any opaque portions, and
- (b)  $1.5 \text{ L}/(\text{s}\cdot\text{m}^2)$  for operable portions.

(3) The following need not comply with Sentence (2):

- (a) interior windows and interior doors that do not serve as environmental separators,
- (b) vehicular access doors, including garage doors,
- (c) storm windows and storm doors,
- (d) commercial entrance systems,
- (e) revolving doors,
- (f) smoke and relief air vents,
- (g) site-built door systems, and
- (h) commercial steel doors.

**5.10.4.5. Water Penetration**

(1) *Other fenestration assemblies* and their components shall be designed and constructed in accordance with Section 5.6.

(2) Except as provided in Sentence (4), *other fenestration assemblies* and their components shall resist water penetration when tested in accordance with,

- (a) ASTM E331, “Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference”, or

- (b) ASTM E547, “Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference”.

(3) Testing described in Sentence (2) shall be carried out at the driving rain wind pressure as calculated in accordance with CSA A440S1, “Canadian Supplement to AAMA/WDMA/CSA 101/I.S.2/A440-11, NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights”.

(4) The following need not comply with Sentence (2):

- (a) interior windows and interior doors,
- (b) vehicular access doors, including garage doors,
- (c) storm windows and storm doors,
- (d) commercial entrance systems,
- (e) revolving doors,
- (f) smoke and relief air vents,
- (g) site-built door systems, and
- (h) commercial steel doors.

**129. (1) Clause 6.2.1.1.(1)(j) of Division B of the Regulation is revoked and the following substituted:**

- (j) Reserved

**(2) Clause 6.2.1.1.(1)(k) of Division B of the Regulation is amended by striking out “NRCC 54435” and substituting “NRCC 56191”.**

**130. (1) Clause 6.2.1.4.(6)(a) of Division B of the Regulation is amended by striking out “CAN/CSA-B214” at the beginning and substituting “CSA B214”.**

**(2) Clause 6.2.1.4.(7)(b) of Division B of the Regulation is amended by striking out “November 1, 2013” at the end and substituting “March 16, 2015”.**

**131. Sentence 6.2.1.6.(2) of Division B of the Regulation is revoked and the following substituted:**

(2) Where *electric space heating*, other than forced-air electric heating system, is provided in *buildings of residential occupancy* within the scope of Part 9, the mechanical ventilation system shall include heat recovery ventilators designed to provide a minimum 55% sensible heat recovery efficiency when tested to the low temperature thermal and ventilation performance test method set out in CAN/CSA-C439, “Rating the Performance of Heat/Energy-Recovery Ventilators”, at a Station 1 test temperature of -25°C at an air flow not less than 30 L/s.

**132. Sentence 6.2.1.10.(1) of Division B of the Regulation is revoked and the following substituted:**

- (1) Asbestos shall not be used in heating, ventilating or *air-conditioning* systems or equipment.

**133. (1) Sentence 6.2.2.4.(1) of Division B of the Regulation is amended by striking out “in the ACGIH, “Industrial Ventilation Manual”” at the end and substituting “by good engineering practice appropriate to the circumstances such as that described in the publications listed in Article 6.2.1.1.”**

**(2) Sentence 6.2.2.4.(2) of Division B of the Regulation is amended by striking out “spreading” and substituting “the spread”.**

**(3) Sentence 6.2.2.4.(3) of Division B of the Regulation is revoked and the following substituted:**

(3) Heating, ventilating and *air-conditioning* systems shall be designed to minimize growth and spread of bio-contaminants.

**(4) Sentence 6.2.2.4.(4) of Division B of the Regulation is amended by striking out “CSA-B52” and substituting “CSA B52”.**

**134. Sentence 6.2.2.5.(1) of Division B of the Regulation is amended by striking out “NRCC 53303” and substituting “NRCC 56192”.**

**135. Sentence 6.2.2.6.(1) of Division B of the Regulation is revoked and the following substituted:**

(1) Except as provided in Article 3.6.3.5., all commercial cooking equipment shall be provided with ventilation systems designed, constructed and installed to conform to NFPA 96, “Ventilation Control and Fire Protection of Commercial Cooking Operations”.

**136. Subsection 6.2.3. of Division B of the Regulation is amended by adding the following Article:**

**6.2.3.1A. Drain Pans**

(1) Dehumidifying cooling coil assemblies and condensate-producing heat exchangers shall be equipped with drain pans beneath them that are,

- (a) designed in accordance with Section 5.11, Drain Pans, of ANSI/ASHRAE 62.1, “Ventilation for Acceptable Indoor Air Quality”,
- (b) provided with an outlet that is piped to the outside of the airstream in a location where condensate can be eliminated,
- (c) installed so that water drains freely from the pan, and
- (d) provided with a drain line that is *indirectly connected* to a *drainage system* in accordance with Article 7.4.2.1.

**137. Sentence 6.2.3.2.(1) of Division B of the Regulation is amended by striking out “clay, asbestos-cement or similar *noncombustible* material” at the end and substituting “clay or similar *noncombustible* material”.**

**138. Sentence 6.2.3.4.(5) of Division B of the Regulation is amended by striking out “Article 3.1.5.12.” at the end and substituting “Article 3.1.5.12A.”**

**139. Article 6.2.3.12. of Division B of the Regulation is amended by adding the following Sentence:**

(6) Outdoor air intakes shall be located so that they are separated a minimum distance from sources of contaminants in accordance with Table 6.2.3.12.

**Table 6.2.3.12.  
Minimum Separation Distances between Exhaust and Air Intake Openings**

Forming Part of Sentence 6.2.3.12.(6)

| Item | Column 1<br>Location                                                                                    | Column 2<br>Minimum Separation Distance, m |
|------|---------------------------------------------------------------------------------------------------------|--------------------------------------------|
| 1.   | Garage entry of a garage for 5 or more motor vehicles, automobile loading area and drive-in queue       | 4.5                                        |
| 2.   | Truck loading area or dock, and bus parking                                                             | 7.6                                        |
| 3.   | Driveway, parking space, lane, road and similar locations that carry a low volume of traffic            | 1.5                                        |
| 4.   | Thoroughfare, arterial road, freeway, highway and similar locations that carry a high volume of traffic | 7.6                                        |
| 5.   | Garbage storage/pick-up area and dumpsters                                                              | 4.5                                        |
| 6.   | Discharge from evaporative cooling tower, evaporative fluid cooler and evaporative condenser            | 7.6                                        |
| 7.   | Sanitary vent                                                                                           | 3.5                                        |
| 8.   | Kitchen exhaust outlet                                                                                  | 3.0                                        |
| 9.   | Vent for combustion products from solid fuel-burning <i>appliances</i>                                  | 3.0                                        |

**140. Sentence 6.2.3.13.(1) of Division B of the Regulation is amended by striking out “ULC-S111, “Fire Tests For Air Filter Units”” at the end and substituting “CAN/ULC-S111, “Fire Tests for Air Filter Units””.**

**141. Article 6.2.3.14. of Division B of the Regulation is revoked and the following substituted:**

**6.2.3.14. Evaporative Cooling Towers, Evaporative Fluid Coolers and Evaporative Condensers**

(1) Discharge from evaporative cooling towers to ventilation air intakes shall comply with CAN/CSA-Z317.2, “Special Requirements for Heating, Ventilation, and Air Conditioning (HVAC) Systems in Health Care Facilities”.

(2) The distance between the air intakes of evaporative cooling towers, evaporative fluid coolers and evaporative condensers in relation to kitchen exhaust outlets, vegetation or other sources of organic matter shall be not less than 4.6 m.

(3) Evaporative cooling towers, evaporative fluid coolers and evaporative condensers shall be provided with water treatment equipment for biological growth control in accordance with Subsection 7.6.2. of ASHRAE Guideline 12, “Minimizing the Risk of Legionellosis Associated with Building Water Systems”.

(4) Evaporative cooling towers, evaporative fluid coolers and evaporative condensers shall be provided with access ports, service platforms, fixed ladders and restraint connections to allow visual inspection, maintenance and testing.

(5) Evaporative cooling towers shall comply with the requirements of NFPA 214, “Water-Cooling Towers”.

**6.2.3.14A. Evaporative Cooling Sections, Evaporative Air Coolers, Misters, Atomizers, Air Washers and Humidifiers**

(1) The filter and water evaporation medium of every air washer and evaporative cooling section enclosed within a building shall be made of *noncombustible* material.

(2) Sumps for air washer and evaporative cooling sections shall be constructed and installed so that they can be flushed and drained.

(3) Evaporative air coolers, misters, atomizers, air washers and humidifiers shall be designed in accordance with Sections 8 and 9 of ASHRAE Guideline 12, "Minimizing the Risk of Legionellosis Associated with Building Water Systems".

(4) Evaporative cooling sections shall comply with the requirements of NFPA 214, "Water-Cooling Towers".

**142. (1) Article 6.2.4.8. of Division B of the Regulation is amended by adding the following Sentence:**

(0.1) Except as permitted in Sentences (1) and (1.1), foamed plastic insulation shall not be used as part of an air duct or for insulating an air duct.

**(2) Sentence 6.2.4.8.(1) of Division B of the Regulation is amended by striking out "Article 3.1.5.12." at the end and substituting "Article 3.1.5.12A."**

**(3) Article 6.2.4.8. of Division B of the Regulation is amended by adding the following Sentence:**

(1.1) Foamed plastic insulation conforming to Article 9.25.2.2. is permitted to be used to insulate a galvanized steel, stainless steel or aluminum air duct provided,

- (a) the foamed plastic insulation applied to the supply ductwork is not less than 3 m from the furnace bonnet,
- (b) the temperature within the ductwork where the insulation is installed is not greater than 50°C,
- (c) duct joints are taped with a product conforming to Sentence 6.2.4.9.(1),
- (d) return air *plenums* are separated from the foamed plastic insulation, and
- (e) the foamed plastic insulation is protected in accordance with Article 9.10.17.10.

**143. Sentence 6.2.4.14.(1) of Division B of the Regulation is amended by striking out "ULC-S111, "Fire Tests For Air Filter Units"" at the end and substituting "CAN/ULC-S111, "Fire Tests for Air Filter Units"".**

**144. Sentence 6.2.6.1.(1) of Division B of the Regulation is amended by striking out "Incinerators, Waste" and substituting "Incinerators and Waste".**

**145. Sentence 7.2.2.2.(8) of Division B of the Regulation is revoked and the following substituted:**

(8) Macerating toilet systems shall conform to ASME A112.3.4 / CSA B45.9, "Plumbing Fixtures with Pumped Waste and Macerating Toilet Systems".

**146. Article 7.2.3.2. of Division B of the Regulation is amended by adding the following Sentence:**

- (4) Grease *interceptors* shall be selected and installed in conformance with,
  - (a) CSA B481.0, "Material, Design, and Construction Requirements for Grease Interceptors", and
  - (b) CSA B481.3, "Sizing, Selection, Location, and Installation of Grease Interceptors".

**147. Article 7.2.5.1. of Division B of the Regulation is revoked and the following substituted:**

**7.2.5.1. Reserved**

**148. (1) Sentence 7.2.5.3.(2) of Division B of the Regulation is amended by striking out "CAN/CSA-B602" and substituting "CSA B602".**

**(2) Sentence 7.2.5.3.(5) of Division B of the Regulation is amended by striking out "CAN/CSA-A257.4" and substituting "CSA A257.4".**

**149. Sentence 7.2.5.5.(1) of Division B of the Regulation is amended by striking out "CAN/CSA-B137.1" and substituting "CSA B137.1".**

**150. Sentence 7.2.5.6.(1) of Division B of the Regulation is amended by striking out "(SDR-PR)" and substituting "(DR-PR)".**

**151. Sentence 7.2.5.7.(1) of Division B of the Regulation is amended by striking out "CAN/CSA-B137.5" and substituting "CSA B137.5".**

**152. Sentence 7.2.5.8.(1) of Division B of the Regulation is amended by,**

- (a) striking out "CAN/CSA-B137.3" and substituting "CSA B137.3"; and
- (b) striking out "CAN/CSA-B137.2" and substituting "CSA B137.2".

**153. (1) Sentence 7.2.5.9.(1) of Division B of the Regulation is amended by striking out "CAN/CSA-B137.6" and substituting "CSA B137.6".**

**(2) Sentence 7.2.5.9.(2) of Division B of the Regulation is revoked and the following substituted:**

- (2) The design temperature and design pressure of a CPVC piping system shall conform to Table 7.2.5.9.

**Table 7.2.5.9.  
Maximum Permitted Pressure for CPVC Piping at Various Temperatures**

Forming part of Sentence 7.2.5.9.(2)

| Item | Column 1<br>Maximum Temperature of Water, °C | Column 2<br>Maximum Permitted Pressures, kPa |
|------|----------------------------------------------|----------------------------------------------|
| 1.   | 10                                           | 3150                                         |
| 2.   | 20                                           | 2900                                         |
| 3.   | 30                                           | 2500                                         |
| 4.   | 40                                           | 2100                                         |
| 5.   | 50                                           | 1700                                         |
| 6.   | 60                                           | 1300                                         |
| 7.   | 70                                           | 1000                                         |
| 8.   | 82                                           | 690                                          |

**154. (1) Sentence 7.2.5.10.(1) of Division B of the Regulation is amended by adding the following Clause:**

- (g.1) CAN/CSA-B182.8, "Profile Polyethylene (PE) Storm Sewer and Drainage Pipe and Fittings", for Type 1 joints and non-perforated pipes,

**(2) Clause 7.2.5.10.(1)(h) of Division B of the Regulation is amended by striking out "CAN/CSA-B137.2" at the beginning and substituting "CSA B137.2".**

**(3) Clause 7.2.5.10.(1)(i) of Division B of the Regulation is amended by striking out "CAN/CSA-B137.3" at the beginning and substituting "CSA B137.3".**

**155. (1) Sentence 7.2.5.13.(1) of Division B of the Regulation is amended by striking out "CAN/CSA-B137.9" and substituting "CSA B137.9".**

**(2) Sentence 7.2.5.13.(4) of Division B of the Regulation is amended by striking out "CAN/CSA-B137.10" and substituting "CSA B137.10".**

**156. Sentence 7.2.5.14.(1) of Division B of the Regulation is amended by striking out "CAN/CSA-B137.10" and substituting "CSA B137.10".**

**157. Sentence 7.2.5.15.(1) of Division B of the Regulation is amended by striking out "CAN/CSA-B137.11" and substituting "CSA B137.11".**

**158. Article 7.2.6.1. of Division B of the Regulation is amended by adding the following Sentence:**

- (3) Cast iron frames and covers for maintenance holes and catch basins shall conform to CAN/CSA-B70.1, "Frames and Covers for Maintenance Holes and Catchbasins".**

**159. Article 7.2.6.2. of Division B of the Regulation is revoked and the following substituted:**

**7.2.6.2. Reserved**

**160. Subsection 7.2.6. of Division B of the Regulation is amended by adding the following Articles:**

**7.2.6.10. Stainless Steel Pipe**

- (1) Stainless steel pipe shall conform to,**
- (a) ASME B36.19M, "Stainless Steel Pipe", and**
  - (b) ASTM A312 / A312M, "Seamless, Welded, and Heavily Cold Worked Stainless Steel Pipes".**
- (2) Only grade 304/304L or 316/316L stainless steel pipe shall be used.**

**7.2.6.11. Stainless Steel Butt Weld Pipe Fittings**

- (1) Stainless steel butt weld pipe fittings shall conform to,**
- (a) ASME B16.9, "Factory-Made Wrought Buttwelding Fittings", and**
  - (b) ASTM A403 / A403M, "Wrought Austenitic Stainless Steel Piping Fittings".**
- (2) Stainless steel butt weld pipe fittings shall be made of a material that matches the grade of the pipe material used.**

**7.2.6.12. Stainless Steel Pipe Flanges**

- (1) Stainless steel pipe flanges shall,**

- (a) conform to ASME B16.5, “Pipe Flanges and Flanged Fittings: NPS ½ through NPS 24 Metric/Inch Standard”, and
  - (b) conform to ASTM A182 / A182M, “Forged or Rolled Alloy and Stainless Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service”, or AWWA C228, “Stainless-Steel Pipe Flanges For Water Service – Sizes 2 in. through 72 in. (50 mm through 1 800 mm)”.
- (2) Stainless steel pipe flanges shall be made of a material that matches the grade of the pipe material used.

#### 7.2.6.13. Stainless Steel Threaded Fittings

- (1) Stainless steel threaded fittings shall be Schedule 40 or greater and shall conform to,
  - (a) ASTM A182 / A182M, “Forged or Rolled Alloy and Stainless Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service”, or
  - (b) ASTM A351 / A351M, “Castings, Austenitic, for Pressure-Containing Parts”.
- (2) Stainless steel threaded fittings shall be made of a material that matches the grade of the pipe material used.

#### 7.2.6.14. Stainless Steel Tube

- (1) Stainless steel tube shall conform to,
  - (a) ASME B16.9, “Factory-Made Wrought Buttwelding Fittings”, and
  - (b) ASTM A269, “Seamless and Welded Austenitic Stainless Steel Tubing for General Service”.
- (2) Only grade 304/304L or 316/316L stainless steel tubes shall be used.

#### 7.2.6.15. Stainless Steel Pipe and Tube

- (1) The use of stainless steel pipe and tube shall conform to Table 7.2.6.15.

**Table 7.2.6.15.**  
**Permitted Use of Stainless Steel Tube and Pipe**

Forming Part of Sentence 7.2.6.15.(1)

| Item | Column 1<br>Stainless<br>Steel Tube<br>or Pipe | Column 2<br>Underground<br><i>Water Distribution</i><br>System | Column 3<br>Above-ground<br><i>Water Distribution</i><br>System | Column 4<br><i>Building</i><br>Sewer | Column 5<br>Underground<br><i>Drainage</i><br>System | Column 6<br>Above-ground<br><i>Drainage</i><br>System | Column 7<br>Underground<br><i>Venting</i><br>System | Column 8<br>Above-ground<br><i>Venting</i><br>System |
|------|------------------------------------------------|----------------------------------------------------------------|-----------------------------------------------------------------|--------------------------------------|------------------------------------------------------|-------------------------------------------------------|-----------------------------------------------------|------------------------------------------------------|
| 1.   | Stainless<br>steel pipe                        | P                                                              | P                                                               | P                                    | P                                                    | P                                                     | P                                                   | P                                                    |
| 2.   | Stainless<br>steel tube                        | P                                                              | P                                                               | N                                    | N                                                    | N                                                     | N                                                   | N                                                    |

Notes to Table 7.2.6.15.:

P — Permitted

N — Not Permitted

**161. (1) Table 7.2.7.4. of Division B of the Regulation is revoked and the following substituted:**

**Table 7.2.7.4.**  
**Permitted Use of Copper Tube and Pipe**

Forming Part of Sentence 7.2.7.4.(2)

| Item | Column 1<br>Type of<br>Copper Tube<br>or Pipe | Column 2<br>Underground<br><i>Water Distribution</i><br>System | Column 3<br>Above-ground<br><i>Water Distribution</i><br>System | Column 4<br><i>Building</i><br>Sewer | Column 5<br>Underground<br><i>Drainage</i><br>System | Column 6<br>Above-ground<br><i>Drainage</i><br>System | Column 7<br>Underground<br><i>Venting</i><br>System | Column 8<br>Above-ground<br><i>Venting</i><br>System |
|------|-----------------------------------------------|----------------------------------------------------------------|-----------------------------------------------------------------|--------------------------------------|------------------------------------------------------|-------------------------------------------------------|-----------------------------------------------------|------------------------------------------------------|
| 1.   | K & L hard                                    | N                                                              | P                                                               | P                                    | P                                                    | P                                                     | P                                                   | P                                                    |
| 2.   | K & L soft                                    | P                                                              | P                                                               | N                                    | N                                                    | N                                                     | N                                                   | N                                                    |
| 3.   | M hard                                        | N                                                              | P                                                               | N                                    | N                                                    | P                                                     | N                                                   | P                                                    |
| 4.   | M soft                                        | N                                                              | N                                                               | N                                    | N                                                    | N                                                     | N                                                   | N                                                    |
| 5.   | DWV                                           | N                                                              | N                                                               | N                                    | N                                                    | P                                                     | N                                                   | P                                                    |

Notes to Table 7.2.7.4.:

P — Permitted

N — Not Permitted

(2) Article 7.2.7.4. of Division B of the Regulation is amended by adding the following Sentence:

(5) Copper tube shall not be used for the *fixture drain* or the portion of the *vent pipe* below the *flood level rim* of manually flushing or waterless urinals.

162. Clause 7.2.8.1.(1)(b) of Division B of the Regulation is amended by striking out “Boronsilicate” and substituting “Borosilicate”.

163. Sentence 7.2.9.2.(4) of Division B of the Regulation is amended by striking out “Specification for Filler Metals for Brazing and Braze Welding” and substituting “Filler Metals for Brazing and Braze Welding”.

164. (1) Clause 7.2.10.2.(1)(a) of Division B of the Regulation is amended by striking out “water closet flange” at the end and substituting “floor flange”.

(2) Clause 7.2.10.2.(1)(b) of Division B of the Regulation is amended by striking out “water closet flange” and substituting “floor flange”.

165. Sentence 7.2.10.4.(2) of Division B of the Regulation is amended by striking out “CAN/CSA-B602” and substituting “CSA B602”.

166. Sentence 7.2.10.11.(1) of Division B of the Regulation is amended by striking out “ANSI Z21.22 / CSA 4.4-M” and substituting “ANSI Z21.22 / CSA 4.4”.

167. Sentence 7.2.10.13.(1) of Division B of the Regulation is amended by striking out “Packaged Solar Domestic Hot Water Systems (Liquid-to-Liquid Heat Transfer)” and substituting “Packaged Solar Domestic Hot Water Systems (Liquid-to-Liquid Heat Transfer) for All-Season Use”.

168. Table 7.2.11.2 of Division B of the Regulation is amended by striking out “CAN/CSA-B” wherever it appears and substituting in each case “CSA B”.

169. Subsection 7.3.2. of Division B of the Regulation is amended by adding the following Article:

#### 7.3.2.8. Stainless Steel Welded Joints

(1) Stainless steel welded joints shall conform to ASME B31.9, “Building Services Piping”.

(2) Butt weld pipe fittings shall be at least as thick as the wall of the pipe used.

170. (1) Sentence 7.3.3.8.(1) of Division B of the Regulation is amended by striking out “by a floor flange” and substituting “by a floor flange or other means of connection”.

(2) Sentence 7.3.3.8.(4) of Division B of the Regulation is revoked and the following substituted:

(4) Every floor flange and *fixture* shall be securely set on a firm base and fastened to the floor or *trap* flange of the *fixture*.

(4.1) Every joint in a floor flange or between a *fixture* and the *drainage system* shall be sealed with a resilient, watertight and gas-tight seal.

171. (1) Sentence 7.3.4.3.(1) of Division B of the Regulation is amended by striking out “from the pipe to prevent galvanic action” at the end and substituting “from the pipe or tube to prevent galvanic action”.

(2) Article 7.3.4.3. of Division B of the Regulation is amended by adding the following Sentence:

(2) Where a hanger or support for stainless steel pipe or tube is of a material other than stainless steel, it shall be suitably separated and electrically insulated from the pipe or tube.

172. (1) Clause 7.3.4.5.(2)(d) of Division B of the Regulation is revoked and the following substituted:

(d) Reserved

(2) Sentence 7.3.4.5.(2) of Division B of the Regulation is amended by striking out “and” at the end of Clause (k), by adding “and” at the end of Subclause (l)(iii) and by adding the following Clause:

(m) stainless steel pipe or tube is supported at intervals not exceeding,

(i) 3 000 mm if the pipe or tube *size* is 1 in. or more, and

(ii) 2 500 mm if the pipe or tube *size* is less than 1 in.

173. Sentence 7.3.5.2.(1) of Division B of the Regulation is amended by striking out “asbestos-cement drainage pipe or”.

174. Sentence 7.5.5.5.(2) of Division B of the Regulation is revoked and the following substituted:

(2) Except as required in Sentence 7.5.7.7.(2), where a *plumbing system* is installed in a *building*, every *storey* in which *plumbing* is or may be installed, including the *basement* of the *building*, shall have extended into it or passing through it a *vent pipe* that is at least 1 ½ in. in *size* for the provision of future connections.

175. Sentence 7.5.9.1.(1) of Division B of the Regulation is amended by striking out “*Individual vents may*” at the beginning and substituting “*Individual vents and dual vents are permitted to*”.

176. (1) Sentence 7.6.2.5.(3) of Division B of the Regulation is amended by striking out “Packaged Solar Domestic Hot Water Systems (Liquid-to-Liquid Heat Transfer)” at the end and substituting “Packaged Solar Domestic Hot Water Systems (Liquid-to-Liquid Heat Transfer) for All-Season Use”.

(2) Sentence 7.6.2.5.(4) of Division B of the Regulation is amended by striking out “Packaged Solar Domestic Hot Water Systems (Liquid-to-Liquid Heat Transfer)” and substituting “Packaged Solar Domestic Hot Water Systems (Liquid-to-Liquid Heat Transfer) for All-Season Use”.

177. Sentence 7.6.2.6.(3) of Division B of the Regulation is amended by striking out “CAN/CSA-B64.6, “Dual Check Valve Backflow Preventers (DuC)”” at the end and substituting “CSA B64.6, “Dual Check Valve (DuC) Backflow Preventers””.

178. (1) Sentence 7.6.2.10.(1) of Division B of the Regulation is amended by striking out “atmospheric *vacuum breaker* or pressure *vacuum breaker*” and substituting “atmospheric *vacuum breaker*, pressure *vacuum breaker* or spill-resistant pressure *vacuum breaker*”.

(2) Sentence 7.6.2.10.(4) of Division B of the Regulation is amended by striking out “A pressure *vacuum breaker*” at the beginning of the portion before Clause (a) and substituting “A pressure *vacuum breaker* or spill-resistant pressure *vacuum breaker*”.

179. (1) Table 7.6.4.1. of Division B of the Regulation is revoked and the following substituted:

**Table 7.6.4.1.  
Maximum Flow Rates for Water Supply Fittings**

Forming Part of Sentence 7.6.4.1.(1)

| Item | Column 1<br>Fitting                              | Column 2<br>Maximum Flow, L/min | Column 3<br>Test Pressure, kPa |
|------|--------------------------------------------------|---------------------------------|--------------------------------|
| 1.   | Lavatory Faucets in <i>Residential Occupancy</i> | 5.7                             | 413                            |
| 2.   | Lavatory Faucets in Other <i>Occupancies</i>     | 1.9                             | 413                            |
| 3.   | Kitchen Faucet                                   | 8.35                            | 413                            |
| 4.   | Shower Heads in <i>Residential Occupancy</i>     | 7.6                             | 550                            |
| 5.   | Shower Heads in Other <i>Occupancies</i>         | 9.5                             | 550                            |

(2) Article 7.6.4.1. of Division B of the Regulation is amended by adding the following Sentences:

(3) Each lavatory in a washroom with *fixtures* for *public use* shall be equipped with a device capable of automatically shutting off the flow of water when the lavatory is not in use.

(4) An automatic compensating valve serving an individual shower head shall have a manufacturer’s minimum-rated water flow rate equal to or less than the shower head it serves.

(5) Where multiple shower heads installed in a public showering facility are served by one temperature control, each shower head shall be equipped with a device capable of automatically shutting off the flow of water when the shower head is not in use.

180. (1) Table 7.6.4.2.A. of Division B of the Regulation is amended by revoking the Notes to the Table and by striking out “(1)” wherever it appears in Column 2 of the Table.

(2) Table 7.6.4.2.B. of Division B of the Regulation is amended by revoking Note 2 to the Table and by striking out “(2)” wherever it appears in Column 2 of the Table.

(3) Article 7.6.4.2. of Division B of the Regulation is amended by adding the following Sentence:

(5) Urinals shall be equipped with a device capable of preventing automatic flush cycles when not in use.

181. (1) Sentence 7.6.5.2.(2) of Division B of the Regulation is revoked and the following substituted:

(2) An individually pressure-balanced or thermostatic-mixing valve is not required for shower heads having a single tempered water supply that is controlled by an automatic compensating valve conforming to CSA B125.3, “Plumbing Fittings”.

(2) Sentence 7.6.5.2.(3) of Division B of the Regulation is amended by striking out “Sentence (1)” at the end and substituting “Sentences (1) and (4)”.

(3) Sentence 7.6.5.2.(4) of Division B of the Regulation is revoked and the following substituted:

(4) Pressure-balanced, thermostatic-mixing or combination pressure-balanced and thermostatic-mixing type valves shall be,

- (a) capable of limiting thermal shock, and
- (b) designed so that the outlet temperature does not exceed 49°C or equipped with high-limit stops which shall be adjusted to a maximum hot water setting of 49°C.

**182. Clause 8.7.3.2.(1)(d) of Division B of the Regulation is revoked and the following substituted:**

- (d) centred not less than,
  - (i) 1 600 mm apart where used in conjunction with,
    - (A) a *distribution pipe*,
    - (B) a Type I *leaching chamber*, or
    - (C) a Type II *leaching chamber* constructed in *leaching bed fill*, or
  - (ii) 2 400 mm apart where used in conjunction with a Type II *leaching chamber*, other than a Type II *leaching chamber* constructed in *leaching bed fill*,

**183. Sentence 9.3.1.1.(1) of Division B of the Regulation is revoked and the following substituted:**

(1) Except as provided in Sentence (2) and Articles 9.3.1.6. and 9.3.1.7., unreinforced and nominally reinforced concrete shall be designed, mixed, placed, cured and tested in accordance with the requirements for “R” class concrete stated in Section 9 of CSA A23.1, “Concrete Materials and Methods of Concrete Construction”.

**184. Sentence 9.3.1.2.(1) of Division B of the Regulation is amended by striking out “CAN/CSA-A3001” and substituting “CSA A3001”.**

**185. Sentence 9.3.1.6.(2) of Division B of the Regulation is revoked and the following substituted:**

(2) Site-batched concrete used for garage floors, carport floors and exterior flatwork shall have air entrainment of 5 to 8%.

**186. (1) Sentence 9.3.1.7.(1) of Division B of the Regulation is amended by striking out the portion before Clause (a) and substituting the following:**

(1) For pre-mixed concrete and for the site-batched concrete mixes described in Table 9.3.1.7., the maximum ratio of water to cementing materials measured by weight shall not exceed,

(2) Sentence 9.3.1.7.(2) of Division B of the Regulation is amended by adding “site-batched” after “unreinforced” in the portion before Clause (a).

**187. Clause 9.3.3.2.(1)(b) of Division B of the Regulation is amended by striking out “Hot Dip Process” and substituting “Hot-Dip Process”.**

**188. (1) Clause 9.5.2.3.(1)(b) of Division B of the Regulation is amended by striking out “Clause 3.8.3.13.(2)(f)” and substituting “Clause 3.8.3.13.(2)(g)”.**

(2) Clause 9.5.2.3.(1)(c) of Division B of the Regulation is amended by striking out “Clause 3.8.3.13.(4)(c)” at the end and substituting “Clause 3.8.3.13.(4)(e)”.

**189. Clause 9.6.1.2.(1)(d) of Division B of the Regulation is amended by striking out “Heat-Absorbing Glass” and substituting “Heat Absorbing Glass”.**

**190. Article 9.6.1.3. of Division B of the Regulation is revoked and the following substituted:**

#### **9.6.1.3. Structural Sufficiency of Glass**

(1) Except as provided in Sentence (2), glass shall be designed in conformance with Article 4.3.6.1.

(2) Where the *building* has an essentially uniform distribution of paths for air leakage, including operable openings, but no large openings that would permit wind gusts to rapidly enter the *building* and the *building* is not in an exceptionally exposed location such as a hilltop, the maximum area of individual panes of glass for windows is permitted to conform to,

- (a) Tables 9.6.1.3.A. to 9.6.1.3.C., where the *building* has a height from *grade* to the uppermost roof of 12 m or less and is located in a built-up area, no less than 120 m away from the boundary between this area and open terrain, or
- (b) Tables 9.6.1.3.D. to 9.6.1.3.F.

(3) The maximum area of individual panes of glass for doors shall conform to Table 9.6.1.3.G.

**Table 9.6.1.3.A.**  
**Maximum Glass Area for Areas for which the 1-in-50 Hourly Wind Pressure (HWP) is less than 0.55 kPa<sup>(1)</sup>**

Forming Part of Clause 9.6.1.3.(2)(a)

| Item | Column 1<br>Glass Thickness,<br>mm | Column 2<br>Maximum Glass<br>Area, m <sup>2</sup> , for<br>Annealed Glass | Column 3<br>Maximum Glass Area, m <sup>2</sup> , for<br>Factory-Sealed Insulated Glass<br>(IG) Units <sup>(2)</sup> | Column 4<br>Maximum Glass Area, m <sup>2</sup> , for<br>Heat-Strengthened or<br>Tempered Glass | Column 5<br>Maximum Glass<br>Area, m <sup>2</sup> , for<br>Wired Glass |
|------|------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| 1.   | 2.5                                | 0.58                                                                      | 1.02                                                                                                                | 1.24                                                                                           | 0.27                                                                   |
| 2.   | 3                                  | 0.96                                                                      | 1.71                                                                                                                | 1.93                                                                                           | 0.45                                                                   |
| 3.   | 4                                  | 1.47                                                                      | 2.68                                                                                                                | 2.60                                                                                           | 0.68                                                                   |
| 4.   | 5                                  | 2.04                                                                      | 3.74                                                                                                                | 3.18                                                                                           | 0.93                                                                   |
| 5.   | 6                                  | 2.84                                                                      | 5.24                                                                                                                | 3.99                                                                                           | 1.31                                                                   |
| 6.   | 8                                  | 4.74                                                                      | 7.93                                                                                                                | 5.55                                                                                           | 2.15                                                                   |
| 7.   | 10                                 | 6.65                                                                      | 9.92                                                                                                                | 6.99                                                                                           | 3.07                                                                   |
| 8.   | 12                                 | 9.74                                                                      | 13.92                                                                                                               | 9.74                                                                                           | 5.03                                                                   |

**Notes to Table 9.6.1.3.A.:**

<sup>(1)</sup> The maximum hourly wind pressure with one chance in fifty of being exceeded in any one year, as provided in MMAH Supplementary Standard SB-1, "Climatic and Seismic Data".

<sup>(2)</sup> Maximum glass area values apply to IG units of two identical lites (annealed, heat-strengthened or tempered) spaced at 12.7 mm.

**Table 9.6.1.3.B.**  
**Maximum Glass Area for Areas for which the 1-in-50 Hourly Wind Pressure (HWP) is less than 0.75 kPa<sup>(1)</sup>**

Forming Part of Clause 9.6.1.3.(2)(a)

| Item | Column 1<br>Glass Thickness,<br>mm | Column 2<br>Maximum Glass<br>Area, m <sup>2</sup> , for<br>Annealed Glass | Column 3<br>Maximum Glass Area, m <sup>2</sup> ,<br>for Factory-Sealed Insulated<br>Glass (IG) Units <sup>(2)</sup> | Column 4<br>Maximum Glass<br>Area, m <sup>2</sup> , for Heat-<br>Strengthened Glass | Column 5<br>Maximum Glass<br>Area, m <sup>2</sup> , for<br>Tempered Glass | Column 6<br>Maximum Glass<br>Area, m <sup>2</sup> , for<br>Wired Glass |
|------|------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------|
| 1.   | 2.5                                | 0.42                                                                      | 0.72                                                                                                                | 0.88                                                                                | 1.18                                                                      | 0.20                                                                   |
| 2.   | 3                                  | 0.68                                                                      | 1.19                                                                                                                | 1.46                                                                                | 1.64                                                                      | 0.32                                                                   |
| 3.   | 4                                  | 1.02                                                                      | 1.85                                                                                                                | 2.21                                                                                | 2.21                                                                      | 0.50                                                                   |
| 4.   | 5                                  | 1.42                                                                      | 2.56                                                                                                                | 2.71                                                                                | 2.71                                                                      | 0.68                                                                   |
| 5.   | 6                                  | 2.04                                                                      | 3.64                                                                                                                | 3.39                                                                                | 3.39                                                                      | 0.94                                                                   |
| 6.   | 8                                  | 3.34                                                                      | 6.01                                                                                                                | 4.73                                                                                | 4.73                                                                      | 1.55                                                                   |
| 7.   | 10                                 | 4.70                                                                      | 8.35                                                                                                                | 5.92                                                                                | 5.92                                                                      | 2.19                                                                   |
| 8.   | 12                                 | 7.65                                                                      | 11.83                                                                                                               | 8.29                                                                                | 8.29                                                                      | 3.60                                                                   |

**Notes to Table 9.6.1.3.B.:**

<sup>(1)</sup> The maximum hourly wind pressure with one chance in fifty of being exceeded in any one year, as provided in MMAH Supplementary Standard SB-1, "Climatic and Seismic Data".

<sup>(2)</sup> Maximum glass area values apply to IG units of two identical lites (annealed, heat-strengthened or tempered) spaced at 12.7 mm.

**Table 9.6.1.3.C.**  
**Maximum Glass Area for Areas for which the 1-in-50 Hourly Wind Pressure (HWP) is less than 1.00 kPa<sup>(1)</sup>**

Forming Part of Clause 9.6.1.3.(2)(a)

| Item | Column 1<br>Glass Thickness,<br>mm | Column 2<br>Maximum Glass<br>Area, m <sup>2</sup> , for<br>Annealed Glass | Column 3<br>Maximum Glass Area, m <sup>2</sup> ,<br>for Factory-Sealed Insulated<br>Glass (IG) Units <sup>(2)</sup> | Column 4<br>Maximum Glass<br>Area, m <sup>2</sup> , for Heat-<br>Strengthened Glass | Column 5<br>Maximum Glass<br>Area, m <sup>2</sup> , for<br>Tempered Glass | Column 6<br>Maximum Glass<br>Area, m <sup>2</sup> , for<br>Wired Glass |
|------|------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------|
| 1.   | 2.5                                | 0.30                                                                      | 0.52                                                                                                                | 0.65                                                                                | 1.01                                                                      | 0.16                                                                   |
| 2.   | 3                                  | 0.50                                                                      | 0.86                                                                                                                | 1.04                                                                                | 1.42                                                                      | 0.26                                                                   |
| 3.   | 4                                  | 0.77                                                                      | 1.31                                                                                                                | 1.63                                                                                | 1.90                                                                      | 0.38                                                                   |
| 4.   | 5                                  | 1.05                                                                      | 1.86                                                                                                                | 2.26                                                                                | 2.33                                                                      | 0.52                                                                   |
| 5.   | 6                                  | 1.45                                                                      | 2.57                                                                                                                | 2.92                                                                                | 2.92                                                                      | 0.71                                                                   |
| 6.   | 8                                  | 2.40                                                                      | 4.30                                                                                                                | 4.07                                                                                | 4.07                                                                      | 1.15                                                                   |

| Item | Column 1<br>Glass Thickness,<br>mm | Column 2<br>Maximum Glass<br>Area, m <sup>2</sup> , for<br>Annealed Glass | Column 3<br>Maximum Glass Area, m <sup>2</sup> ,<br>for Factory-Sealed Insulated<br>Glass (IG) Units <sup>(2)</sup> | Column 4<br>Maximum Glass<br>Area, m <sup>2</sup> , for Heat-<br>Strengthened Glass | Column 5<br>Maximum Glass<br>Area, m <sup>2</sup> , for<br>Tempered Glass | Column 6<br>Maximum Glass<br>Area, m <sup>2</sup> , for<br>Wired Glass |
|------|------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------|
| 7.   | 10                                 | 3.40                                                                      | 6.10                                                                                                                | 5.10                                                                                | 5.10                                                                      | 1.63                                                                   |
| 8.   | 12                                 | 5.62                                                                      | 9.89                                                                                                                | 7.14                                                                                | 7.14                                                                      | 2.69                                                                   |

Notes to Table 9.6.1.3.C.:

<sup>(1)</sup> The maximum hourly wind pressure with one chance in fifty of being exceeded in any one year, as provided in MMAH Supplementary Standard SB-1, "Climatic and Seismic Data".

<sup>(2)</sup> Maximum glass area values apply to IG units of two identical lites (annealed, heat-strengthened or tempered) spaced at 12.7 mm.

**Table 9.6.1.3.D.**

**Maximum Glass Area for Areas for which the 1-in-50 Hourly Wind Pressure (HWP) is less than 0.55 kPa – Open Terrain<sup>(1)</sup>**

Forming Part of Clause 9.6.1.3.(2)(b)

| Item | Column 1<br>Glass Thickness,<br>mm | Column 2<br>Maximum Glass<br>Area, m <sup>2</sup> , for<br>Annealed Glass | Column 3<br>Maximum Glass Area, m <sup>2</sup> ,<br>for Factory-Sealed Insulated<br>Glass (IG) Units <sup>(2)</sup> | Column 4<br>Maximum Glass<br>Area, m <sup>2</sup> , for Heat-<br>Strengthened Glass | Column 5<br>Maximum Glass<br>Area, m <sup>2</sup> , for<br>Tempered Glass | Column 6<br>Maximum Glass<br>Area, m <sup>2</sup> , for<br>Wired Glass |
|------|------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------|
| 1.   | 2.5                                | 0.46                                                                      | 0.80                                                                                                                | 0.98                                                                                | 1.25                                                                      | 0.22                                                                   |
| 2.   | 3                                  | 0.75                                                                      | 1.34                                                                                                                | 1.74                                                                                | 1.74                                                                      | 0.36                                                                   |
| 3.   | 4                                  | 1.16                                                                      | 2.11                                                                                                                | 2.33                                                                                | 2.33                                                                      | 0.55                                                                   |
| 4.   | 5                                  | 1.60                                                                      | 2.93                                                                                                                | 2.86                                                                                | 2.86                                                                      | 0.76                                                                   |
| 5.   | 6                                  | 2.25                                                                      | 4.10                                                                                                                | 3.59                                                                                | 3.59                                                                      | 1.05                                                                   |
| 6.   | 8                                  | 3.76                                                                      | 6.90                                                                                                                | 5.00                                                                                | 5.00                                                                      | 1.75                                                                   |
| 7.   | 10                                 | 5.32                                                                      | 9.66                                                                                                                | 6.26                                                                                | 6.26                                                                      | 2.47                                                                   |
| 8.   | 12                                 | 8.70                                                                      | 12.53                                                                                                               | 8.78                                                                                | 8.78                                                                      | 4.09                                                                   |

Notes to Table 9.6.1.3.D.:

<sup>(1)</sup> The maximum hourly wind pressure with one chance in fifty of being exceeded in any one year, as provided in MMAH Supplementary Standard SB-1, "Climatic and Seismic Data".

<sup>(2)</sup> Maximum glass area values apply to IG units of two identical lites (annealed, heat-strengthened or tempered) spaced at 12.7 mm.

**Table 9.6.1.3.E.**

**Maximum Glass Area for Areas for which the 1-in-50 Hourly Wind Pressure (HWP) is less than 0.75 kPa – Open Terrain<sup>(1)</sup>**

Forming Part of Clause 9.6.1.3.(2)(b)

| Item | Column 1<br>Glass Thickness,<br>mm | Column 2<br>Maximum Glass<br>Area, m <sup>2</sup> , for<br>Annealed Glass | Column 3<br>Maximum Glass Area, m <sup>2</sup> ,<br>for Factory-Sealed Insulated<br>Glass (IG) Units <sup>(2)</sup> | Column 4<br>Maximum Glass<br>Area, m <sup>2</sup> , for Heat-<br>Strengthened Glass | Column 5<br>Maximum Glass<br>Area, m <sup>2</sup> , for<br>Tempered Glass | Column 6<br>Maximum Glass<br>Area, m <sup>2</sup> , for<br>Wired Glass |
|------|------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------|
| 1.   | 2.5                                | 0.33                                                                      | 0.57                                                                                                                | 0.70                                                                                | 1.06                                                                      | 0.16                                                                   |
| 2.   | 3                                  | 0.54                                                                      | 0.94                                                                                                                | 1.15                                                                                | 1.48                                                                      | 0.26                                                                   |
| 3.   | 4                                  | 0.83                                                                      | 1.47                                                                                                                | 1.79                                                                                | 1.99                                                                      | 0.40                                                                   |
| 4.   | 5                                  | 1.14                                                                      | 2.04                                                                                                                | 2.44                                                                                | 2.44                                                                      | 0.55                                                                   |
| 5.   | 6                                  | 1.61                                                                      | 2.85                                                                                                                | 3.06                                                                                | 3.06                                                                      | 0.76                                                                   |
| 6.   | 8                                  | 2.67                                                                      | 4.75                                                                                                                | 4.36                                                                                | 4.36                                                                      | 1.24                                                                   |
| 7.   | 10                                 | 3.75                                                                      | 6.72                                                                                                                | 5.34                                                                                | 5.34                                                                      | 1.77                                                                   |
| 8.   | 12                                 | 6.14                                                                      | 10.97                                                                                                               | 7.47                                                                                | 7.47                                                                      | 2.93                                                                   |

Notes to Table 9.6.1.3.E.:

<sup>(1)</sup> The maximum hourly wind pressure with one chance in fifty of being exceeded in any one year, as provided in MMAH Supplementary Standard SB-1, "Climatic and Seismic Data".

<sup>(2)</sup> Maximum glass area values apply to IG units of two identical lites (annealed, heat-strengthened or tempered) spaced at 12.7 mm.

**Table 9.6.1.3.F.**  
**Maximum Glass Area for Areas for which the 1-in-50 Hourly Wind Pressure (HWP) is less than 1.00 kPa – Open Terrain<sup>(1)</sup>**

Forming Part of Clause 9.6.1.3.(2)(b)

| Item | Column 1<br>Glass Thickness,<br>mm | Column 2<br>Maximum Glass<br>Area, m <sup>2</sup> , for<br>Annealed Glass | Column 3<br>Maximum Glass Area, m <sup>2</sup> ,<br>for Factory-Sealed Insulated<br>Glass (IG) Units <sup>(2)</sup> | Column 4<br>Maximum Glass<br>Area, m <sup>2</sup> , for Heat-<br>Strengthened Glass | Column 5<br>Maximum Glass<br>Area, m <sup>2</sup> , for<br>Tempered Glass | Column 6<br>Maximum Glass<br>Area, m <sup>2</sup> , for<br>Wired Glass |
|------|------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------|
| 1.   | 2.5                                | 0.25                                                                      | 0.42                                                                                                                | 0.51                                                                                | 0.92                                                                      | 0.12                                                                   |
| 2.   | 3                                  | 0.40                                                                      | 0.68                                                                                                                | 0.84                                                                                | 1.28                                                                      | 0.20                                                                   |
| 3.   | 4                                  | 0.62                                                                      | 1.04                                                                                                                | 1.30                                                                                | 1.72                                                                      | 0.30                                                                   |
| 4.   | 5                                  | 0.84                                                                      | 1.46                                                                                                                | 1.79                                                                                | 2.10                                                                      | 0.41                                                                   |
| 5.   | 6                                  | 1.17                                                                      | 2.05                                                                                                                | 2.52                                                                                | 2.63                                                                      | 0.57                                                                   |
| 6.   | 8                                  | 1.94                                                                      | 3.41                                                                                                                | 3.69                                                                                | 3.69                                                                      | 0.94                                                                   |
| 7.   | 10                                 | 2.75                                                                      | 4.87                                                                                                                | 4.60                                                                                | 4.60                                                                      | 1.31                                                                   |
| 8.   | 12                                 | 4.50                                                                      | 7.92                                                                                                                | 6.44                                                                                | 6.44                                                                      | 2.18                                                                   |

**Notes to Table 9.6.1.3.F.:**

<sup>(1)</sup> The maximum hourly wind pressure with one chance in fifty of being exceeded in any one year, as provided in MMAH Supplementary Standard SB-1, "Climatic and Seismic Data".

<sup>(2)</sup> Maximum glass area values apply to IG units of two identical lites (annealed, heat-strengthened or tempered) spaced at 12.7 mm.

**Table 9.6.1.3.G.**  
**Maximum Glass Area for Doors**

Forming Part of Sentence 9.6.1.3.(3)

| Item | Column 1<br>Glass<br>Thickness,<br>mm | Column 2<br>Maximum Glass<br>Area, m <sup>2</sup> , for<br>Annealed Glass | Column 3<br>Maximum Glass<br>Area, m <sup>2</sup> , for<br>Annealed,<br>Multiple-Glazed,<br>Factory-Sealed<br>Units | Column 4<br>Maximum<br>Glass Area,<br>m <sup>2</sup> , for<br>Laminated<br>Glass | Column 5<br>Maximum<br>Glass Area,<br>m <sup>2</sup> , for<br>Wired<br>Glass | Column 6<br>Maximum<br>Glass Area,<br>m <sup>2</sup> , for Heat-<br>Strengthened<br>Glass | Column 7<br>Maximum<br>Glass Area,<br>m <sup>2</sup> , for Fully<br>Tempered<br>Glass | Column 8<br>Maximum Glass<br>Area, m <sup>2</sup> , for<br>Fully Tempered,<br>Multiple-Glazed,<br>Factory-Sealed<br>Units |
|------|---------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| 1.   | 3                                     | 0.50                                                                      | 0.70                                                                                                                | <sup>(1)</sup>                                                                   | <sup>(1)</sup>                                                               | 1.00                                                                                      | 1.00                                                                                  | 2.00                                                                                                                      |
| 2.   | 4                                     | 1.00                                                                      | 1.50                                                                                                                | <sup>(1)</sup>                                                                   | <sup>(1)</sup>                                                               | 1.50                                                                                      | 4.00                                                                                  | 4.00                                                                                                                      |
| 3.   | 5                                     | 1.50                                                                      | 1.50                                                                                                                | <sup>(1)</sup>                                                                   | <sup>(1)</sup>                                                               | 1.50                                                                                      | No limit                                                                              | No limit                                                                                                                  |
| 4.   | 6                                     | 1.50                                                                      | 1.50                                                                                                                | 1.20                                                                             | 1.00                                                                         | 1.50                                                                                      | No limit                                                                              | No limit                                                                                                                  |

**Notes to Table 9.6.1.3.G.:**

<sup>(1)</sup> Not generally available.

191. Note (1) to Table 9.7.3.3. of Division B of the Regulation is amended by striking out "CSA A440.2/A440.3, "Fenestration Energy Performance/User Guide to CSA A440.2-09"" and substituting "CSA A440.2 / A440.3, "Fenestration Energy Performance / User Guide to CSA A440.2-14"".

192. Clause 9.7.4.2.(1)(b) of Division B of the Regulation is amended by striking out "101/I.S.2/A440" and substituting "101/I.S.2/A440-11".

193. Sentence 9.7.4.3.(1) of Division B of the Regulation is amended by striking out "101/I.S.2/A440" and substituting "101/I.S.2/A440-11".

194. Sentence 9.7.6.1.(1) of Division B of the Regulation is amended by striking out "Window, Door and Skylight Installation" in the portion before Clause (a) and substituting "Window, Door, and Skylight Installation".

195. Sentence 9.8.1.1.(1) of Division B of the Regulation is amended by adding "landings" after "ramps".

196. Subsection 9.8.2. of Division B of the Regulation is revoked and the following substituted:

## 9.8.2. Stair Dimensions

### 9.8.2.1. Stair Width

(1) Except as provided in Sentence (2) and Article 9.8.4.5A., required *exit* stairs and public stairs serving *buildings* of *residential occupancy* shall have a width, measured between wall faces or *guards*, of not less than 900 mm.

(2) Required *exit* stairs serving a *house* or an individual *dwelling unit* shall have a width of not less than 860 mm.

(3) Except as provided in Article 9.8.4.5A., required *exit* stairs and public stairs serving *buildings* of other than *residential occupancy* shall have a width of not less than the greater of,

(a) 900 mm, or

(b) 8 mm per person based on the *occupant load* limits specified in Table 3.1.17.1.

(4) Except as provided in Article 9.8.4.5A., at least one stair between each floor level within a *dwelling unit* and exterior stairs serving a *house* or an individual *dwelling unit* shall have a width of not less than 860 mm.

#### 9.8.2.2. Height over Stairs

(1) The clear height over stairs shall be measured vertically, over the clear width of the stair, from a straight line tangent to the tread and landing nosings to the lowest point above.

(2) Except as provided in Sentence (3) and Article 9.8.4.5A., the clear height over stairs shall not be less than 2 050 mm.

(3) Except as provided in Article 9.8.4.5A., the clear height over stairs serving a *house* or an individual *dwelling unit* shall not be less than 1 950 mm.

**197. Article 9.8.3.1. of Division B of the Regulation is revoked and the following substituted:**

#### 9.8.3.1. Straight and Curved Runs in Stairs

(1) Except as permitted in Sentence (2), stairs shall consist of,

(a) straight *flights*,

(b) curved *flights*, or

(c) spiral stairs.

(2) Stairs within *houses* and individual *dwelling units* may consist of,

(a) *flights* with rectangular treads and winders provided winders as described in Article 9.8.4.5. are installed between floor levels, or

(b) *flights* with a mix of rectangular and *tapered treads* provided all *tapered treads* within a *flight* turn in the same direction.

(3) Curved *flights* in *exits* shall comply with Sentence 3.4.6.9.(2).

(4) Spiral stairs shall comply with Article 9.8.4.5A.

**198. Sentence 9.8.3.2.(1) of Division B of the Regulation is amended by striking out “interior flights” at the end and substituting “interior flights”.**

**199. Article 9.8.3.3. of Division B of the Regulation is revoked and the following substituted:**

#### 9.8.3.3. Maximum Height of Flights

(1) The vertical height of a *flight* shall not exceed 3.7 m.

**200. (1) Sentence 9.8.4.1.(1) of Division B of the Regulation is amended by adding “Except as provided in Article 9.8.4.5A.” at the beginning.**

**(2) Table 9.8.4.1. of Division B of the Regulation is revoked and the following substituted:**

**Table 9.8.4.1.  
Rise for Rectangular Treads, Tapered Treads and Winders and Run for Rectangular Treads**

Forming Part of Sentences 9.8.4.1.(1) and 9.8.4.2.(1)

| Item | Column 1<br>Stair Type                                                                            | Column 2<br>Max. Rise, mm,<br>for All Steps | Column 3<br>Min. Rise, mm,<br>for All Steps | Column 4<br>Max. Run, mm,<br>for Rectangular<br>Treads | Column 5<br>Min. Run, mm,<br>for Rectangular<br>Treads |
|------|---------------------------------------------------------------------------------------------------|---------------------------------------------|---------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|
| 1.   | Private stairs <sup>(1)</sup>                                                                     | 200                                         | 125                                         | 355                                                    | 255                                                    |
| 2.   | Public stairs <sup>(2)</sup>                                                                      | 180                                         | 125                                         | no limit                                               | 280                                                    |
| 3.   | Service stairs <sup>(3)</sup>                                                                     | no limit                                    | 125                                         | 355                                                    | no limit                                               |
| 4.   | Stairs to unoccupied attic space <sup>(4)</sup>                                                   | no limit                                    | 125                                         | 355                                                    | no limit                                               |
| 5.   | Stairs to crawl spaces                                                                            | no limit                                    | 125                                         | 355                                                    | no limit                                               |
| 6.   | Stairs that serve <i>mezzanines</i> not exceeding 20 m <sup>2</sup> within <i>live/work units</i> | no limit                                    | 125                                         | 355                                                    | no limit                                               |

**Notes to Table 9.8.4.1.:**

(1) Private stairs are:

- (a) interior stairs within a *house* or an individual *dwelling unit*,
- (b) exterior stairs serving a *house* or an individual *dwelling unit*, and
- (c) exterior stairs serving a garage that serves a *house* or an individual *dwelling unit*.

(2) Public stairs are all stairs not described as service stairs or private stairs.

(3) Service stairs are stairs that serve areas used only as *service rooms* or *service spaces*.

(4) Stairs to unoccupied attic space are stairs that serve attics containing no storage or living space.

**201. Articles 9.8.4.2. and 9.8.4.3. of Division B of the Regulation are revoked and the following substituted:**

**9.8.4.2. Dimensions for Runs and Rectangular Treads**

(1) The *run* for rectangular treads shall conform to Table 9.8.4.1.

(2) The depth of a rectangular tread shall be not less than its *run* and not more than its *run* plus 25 mm.

**9.8.4.3. Dimensions for Tapered Treads**

(1) Except as provided in Sentence (2) and Articles 9.8.4.5. and 9.8.4.5A., *tapered treads* shall have a *run* that,

- (a) is not less than 150 mm at the narrow end of the tread, and
- (b) complies with the dimensions for rectangular treads specified in Table 9.8.4.1. when measured at a point 300 mm from the centre line of the inside handrail.

(2) *Tapered treads* in required *exit* stairs shall conform to the requirements in Article 3.4.6.9.

(3) The depth of a *tapered tread* shall be not less than its *run* at any point and not more than its *run* at any point plus 25 mm.

**202. (1) Sentence 9.8.4.4.(1) of Division B of the Regulation is revoked and the following substituted:**

(1) Except as provided in Sentence (2), risers shall be of uniform height in any one *flight* with a maximum tolerance of,

- (a) 5 mm between adjacent treads or landings, and
- (b) 10 mm between the tallest and shortest risers in a *flight*.

**(2) Sentences 9.8.4.4.(3) and (4) of Division B of the Regulation are revoked and the following substituted:**

(3) Rectangular treads shall have uniform *run* with a maximum tolerance of,

- (a) 5 mm between adjacent treads, and
- (b) 10 mm between the deepest and shallowest treads in a *flight*.

(4) *Tapered treads* in a *flight* shall have a uniform *run* in accordance with the tolerances described in Sentence (3) when measured at a point 300 mm from the centre line of the inside handrail.

**203. Subsection 9.8.4. of Division B of the Regulation is amended by adding the following Articles:**

**9.8.4.4A. Uniformity of Runs in Flights with Mixed Treads within a House or Dwelling Unit**

(1) Except as provided in Sentence (2) and Article 9.8.4.5., where a *flight* within a *house* or individual *dwelling unit* consists of both *tapered treads* and rectangular treads, all the treads shall have a uniform *run* when measured at a point 300 mm from the centre line of the inside handrail.

(2) Where *tapered treads* are located at the bottom of a mixed-tread *flight* described in Sentence (1), the *run* of the *tapered treads* when measured at a point 300 mm from the centre line of the inside handrail is permitted to exceed the *run* of the rectangular treads.

. . . . .

**9.8.4.5A. Spiral Stairs**

(1) Spiral stairs shall have,

- (a) handrails on both sides, the outer handrail being not less than 1 070 mm high,
- (b) a clear width not less than 660 mm between handrails,
- (c) risers that are not more than 240 mm high,
- (d) treads that,

- (i) are a minimum of 190 mm deep at a point 300 mm from the centre line of the inside handrail,
- (ii) have a consistent angle and uniform dimension, and
- (iii) turn in the same direction, and

(e) a clear height not less than 1 980 mm.

(2) Spiral stairs conforming to Sentence (1) are permitted to be used as the only *means of egress* where they serve not more than 3 persons.

(3) Except as permitted by Sentence (2), spiral stairs shall not serve as an *exit*.

**204. Article 9.8.5.2. of Division B of the Regulation is revoked and the following substituted:**

**9.8.5.2. Ramp Width**

(1) Except as provided in Sentence (2), ramps shall not be less than 1 100 mm wide.

(2) Ramps serving a *house* or an individual *dwelling unit* shall not be less than 860 mm wide.

**205. Clause 9.8.5.4.(1)(c) of Division B of the Regulation is amended by striking out “mercantile or”.**

**206. Clause 9.8.6.2.(1)(a) of Division B of the Regulation is amended by striking out “flight” and substituting “flight”.**

**207. Article 9.8.6.3. of Division B of the Regulation is revoked and the following substituted:**

**9.8.6.3. Dimensions of Landings**

(1) Except as provided in Sentences (2) to (7), landings shall be,

- (a) at least as wide as the width of the stair or ramp in which they occur, and
- (b) at least as long as the width of the stair or ramp in which they occur.

(2) Where the landing in a stair or ramp does not turn or turns less than 90°, the length of the landing shall not be less than the lesser of,

- (a) the required width of the stair or ramp, or
- (b) 1 100 mm.

(3) The length of a landing described in Sentence (2) shall be measured perpendicular to the nosings of adjacent treads or to the end of the ramp, at a distance equal to half the length required by Sentence (2) from the narrow edge of the landing.

(4) Where *flights* or ramps of different widths adjoin a single landing, the minimum width of the landing shall be,

- (a) not less than the greater required stair or ramp width, where one or more of the stair or ramp widths do not exceed their respective required widths, or
- (b) not less than the lesser actual stair or ramp width, where all of the widths of the stairs or ramps exceed their respective required widths.

(5) Where a door swings toward a stair, the full arc of the swing shall be over the landing.

(6) The slope of landings shall not exceed 1 in 50.

(7) Where a doorway or stair opens onto the side of a ramp, the landing shall extend for a distance of not less than 300 mm on either side of the doorway or stair, except on a side abutting an end wall.

**208. (1) Sentence 9.8.7.1.(1) of Division B of the Regulation is amended by striking out “(2) to (4)” and substituting “(2) to (5)”.**

**(2) Article 9.8.7.1. of Division B of the Regulation is amended by adding the following Sentence:**

(5) Except for stairs with winders, where a *flight* of stairs within a *house* or an individual *dwelling unit* consists of *tapered treads*, or a mix of *tapered treads* and rectangular treads, one handrail shall be installed along the narrow end of the treads.

**209. Sentence 9.8.7.2.(1) of Division B of the Regulation is revoked and the following substituted:**

(1) Except for stairs or ramps serving a *house* or an individual *dwelling unit*, at least one required handrail shall be continuous throughout the length of the stair or ramp, including at the landings, except where interrupted by doorways.

**210. Sentence 9.8.7.3.(2) of Division B of the Regulation is amended by striking out “each stair or ramp” at the end and substituting “each *flight* or ramp”.**

**211. Sentences 9.8.7.4.(2) to (4) of Division B of the Regulation are revoked and the following substituted:**

(2) Except as provided in Sentence (3), Clause 3.8.3.4.(1)(e) and Sentence 9.8.4.5A.(1), handrails shall be 865 mm to 1 070 mm high.

(3) Handrails installed in addition to required handrails need not comply with Sentence (2).

**212. Article 9.8.7.5. of Division B of the Regulation is revoked and the following substituted:**

**9.8.7.5. Ergonomic Design**

(1) The clearance between a handrail and any surface behind it shall be not less than,

- (a) 60 mm, if the surface behind the handrail is rough or abrasive, or
- (b) 50 mm, in all other cases.

(2) All handrails shall be constructed so as to be continually graspable along their entire length with no obstruction on or above them to break a handhold.

**213. Article 9.8.7.7. of Division B of the Regulation is revoked and the following substituted:**

**9.8.7.7. Design and Attachment of Handrails**

(1) Handrails and their supports shall be designed and constructed to withstand the following loads, which need not be considered to act simultaneously:

- (a) a concentrated load of not less than 0.9 kN applied at any point and in any direction for all handrails, and
- (b) for handrails other than those serving a *house* or an individual *dwelling unit*, a uniform load of not less than 0.7 kN/m.

(2) Where exterior or interior handrails serving a *house* or an individual *dwelling unit* are attached to wood studs or blocking, the attachment shall be deemed to comply with Sentence (1), where,

- (a) the attachment points are spaced not more than 1.2 m apart measured on the horizontal plane,
- (b) the first attachment point at either end is located not more than 300 mm from the end of the handrail, and
- (c) the fasteners consist of no fewer than two No. 8 wood screws at each point, penetrating not less than 32 mm into solid wood.

**214. (1) Sentence 9.8.8.1.(1) of Division B of the Regulation is amended by striking out “Except as provided in Sentences (2) and (3), every surface to which access is provided for other than maintenance purposes, including but not limited to flights of steps and ramps” in the portion before Clause (a) and substituting “Except as provided in Sentence (2), every surface to which access is provided, including but not limited to *flights*, ramps”.**

**(2) Sentence 9.8.8.1.(3) of Division B of the Regulation is revoked and the following substituted:**

(3) Reserved

**215. (1) Sentence 9.8.8.2.(1) of Division B of the Regulation is amended by striking out “Sentence (5)” and substituting “Sentences (2), (4) and (5)”.**

**(2) Table 9.8.8.2. of Division B of the Regulation is revoked and the following substituted:**

**Table 9.8.8.2.  
Specified Loads for Guards**

Forming Part of Sentence 9.8.8.2.(1)

| Item | Column 1<br>Location of <i>Guard</i>                                                                                        | Column 2<br>Minimum Specified Loads<br>Horizontal Load Applied<br>Inward or Outward at any<br>Point at the Minimum<br>Required Height of the <i>Guard</i> | Column 3<br>Minimum Specified Loads<br>Horizontal Load Applied<br>Outward on Elements Within<br>the <i>Guard</i> , Including Solid<br>Panels and Pickets        | Column 4<br>Minimum Specified<br>Loads<br>Evenly Distributed<br>Vertical Load Applied at<br>the Top of the <i>Guard</i> |
|------|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| 1.   | <i>Guards</i> within <i>dwelling units</i> and exterior <i>guards</i> serving not more than 2 <i>dwelling units</i>         | 0.5 kN/m or concentrated load of 1.0 kN applied at any point <sup>(1)</sup>                                                                               | 0.5 kN applied over a maximum width of 300 mm and a height of 300 mm <sup>(2)</sup>                                                                             | 1.5 kN/m                                                                                                                |
| 2.   | <i>Guards</i> serving access ways to equipment platforms and similar areas where the gathering of many people is improbable | Concentrated load of 1.0 kN applied at any point                                                                                                          | Concentrated load of 0.5 kN applied over any area of 100 mm by 100 mm located at any point on the element or elements so as to produce the most critical effect | 1.5 kN/m                                                                                                                |

| Item | Column 1<br>Location of <i>Guard</i> | Column 2<br>Minimum Specified Loads<br>Horizontal Load Applied<br>Inward or Outward at any<br>Point at the Minimum<br>Required Height of the <i>Guard</i> | Column 3<br>Minimum Specified Loads<br>Horizontal Load Applied<br>Outward on Elements Within<br>the <i>Guard</i> , Including Solid<br>Panels and Pickets                       | Column 4<br>Minimum Specified<br>Loads<br>Evenly Distributed<br>Vertical Load Applied at<br>the Top of the <i>Guard</i> |
|------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| 3.   | All other <i>guards</i>              | 0.75 kN/m or concentrated<br>load of 1.0 kN applied at any<br>point <sup>(1)</sup>                                                                        | Concentrated load of 0.5 kN<br>applied over any area of 100<br>mm by 100 mm located at any<br>point on the element or<br>elements so as to produce the<br>most critical effect | 1.5 kN/m                                                                                                                |

Notes to Table 9.8.8.2.:

<sup>(1)</sup> The load that creates the most critical condition shall apply.

<sup>(2)</sup> See Sentence (2).

**(3) Sentence 9.8.8.2.(2) of Division B of the Regulation is revoked and the following substituted:**

(2) For *guards* within *dwelling units* and in exterior *guards* serving not more than 2 *dwelling units*, where the width and spacing of pickets are such that three pickets can be engaged by a load imposed over a 300 mm width, the load shall be imposed so as to engage three pickets.

**216. (1) Sentence 9.8.8.3.(1) of Division B of the Regulation is amended by striking out “Sentences (2) to (6)” and substituting “Sentences (2), (3), (4) and (6)”.**

**(2) Sentence 9.8.8.3.(2) of Division B of the Regulation is revoked and the following substituted:**

(2) All *guards* within *dwelling units*, other than *guards* serving spiral stairs, shall be not less than 900 mm high.

**(3) Sentence 9.8.8.3.(4) of Division B of the Regulation is amended by striking out “*Guards* for flights of steps” at the beginning and substituting “*Guards* for *flights*”.**

**(4) Sentence 9.8.8.3.(5) of Division B of the Regulation is revoked and the following substituted:**

(5) Reserved

**(5) Sentence 9.8.8.3.(7) of Division B of the Regulation is revoked and the following substituted:**

(7) The height of *guards* for *flights* shall be measured vertically from the top of the *guard* to a straight line tangent to tread nosings served by the *guard*.

**217. (1) Clause 9.8.8.4.(1)(a) of Division B of the Regulation is amended by striking out “150 mm” and substituting “140 mm”.**

**(2) Sentence 9.8.8.4.(2) of Division B of the Regulation is revoked and the following substituted:**

(2) Vehicle guardrails shall be designed and constructed to withstand the loading values specified in Sentence 4.1.5.15.(1).

**218. Article 9.8.8.5. of Division B of the Regulation is revoked and the following substituted:**

#### **9.8.8.5. Openings in Guards**

(1) Except as permitted in Sentences (2) and (3), openings through *guards* shall be of a size that prevents the passage of a spherical object having a diameter of 100 mm.

(2) Except where they serve *storage garages*, *guards* in *industrial occupancies* are permitted to consist of,

(a) a top railing, and

(b) one or more horizontal intermediate rails spaced such that the size of the openings through the *guard* prevents the passage of a spherical object having a diameter of 535 mm.

(3) Openings through any *guard* that is not required by Article 9.8.8.1. and that serves an *occupancy* other than *industrial occupancy*, shall be of a size that,

(a) prevents the passage of a spherical object having a diameter of 100 mm, or

(b) permits the passage of a spherical object having a diameter of 200 mm.

**219. Clause 9.9.6.7.(1)(b) of Division B of the Regulation is amended by striking out “in the case of *exit doors*” at the beginning.**

**220. Article 9.9.11.2. of Division B of the Regulation is amended by adding the following Sentence:**

(2) Where an *exit* door leading directly to the outside is subject to being obstructed by a parked vehicle or storage because of its location, a visible sign prohibiting such obstructions shall be permanently mounted on the exterior side of the door.

**221. (1) Clause 9.9.11.3.(2)(b) of Division B of the Regulation is amended by striking out “except as provided in Sentence (3)” at the beginning.**

**(2) Clause 9.9.11.3.(2)(c) of Division B of the Regulation is amended by striking out the portion before Subclause (i) and substituting the following:**

- (c) conform to ISO 7010, “Graphical Symbols – Safety Colours and Safety Signs – Registered Safety Signs”, for the following symbols:

**(3) Clause 9.9.11.3.(3)(a) of Division B of the Regulation is amended by striking out “CSA 22.2” and substituting “CSA C22.2”.**

**(4) Subclause 9.9.11.3.(3)(b)(i) of Division B of the Regulation is amended by striking out “Self-Luminous Signs” and substituting “Self-Luminous Exit Signs”.**

**222. Sentence 9.10.4.4.(1) of Division B of the Regulation is amended by striking out “stairways and *service rooms*” and substituting “stairways or *service rooms*”.**

**223. Sentence 9.10.5.1.(4) of Division B of the Regulation is amended by adding “Sentence 9.10.13.14.(1) and” after “conform to”.**

**224. Sentence 9.10.9.6.(11) of Division B of the Regulation is amended by striking out “Installation of Sprinklers” and substituting “Installation of Sprinkler Systems”.**

**225. Sentence 9.10.10.5.(2) of Division B of the Regulation is amended by striking out “Incinerators, Waste and Linen Handling Systems and Equipment” and substituting “Incinerators and Waste and Linen Handling Systems and Equipment”.**

**226. Sentence 9.10.13.14.(1) of Division B of the Regulation is revoked and the following substituted:**

**(1) *Fire stop flaps* in ceiling membranes referred to in Sentence 9.10.5.1.(4) shall,**

- (a) conform to CAN/ULC-S112.2, “Fire Test of Ceiling Firestop Flap Assemblies”, and
- (b) activate at a temperature approximately 30°C above the normal maximum temperature that occurs in the ducts, whether the air duct system is operating or shut down.

**227. Sentences 9.10.16.1.(3), (4) and (5) of Division B of the Regulation are revoked and the following substituted:**

**(3) *Fire blocks* shall be provided at the top and bottom of each stair where the stair passes through a floor containing concealed space in which the exposed construction materials within the space have a surface *flame-spread rating* greater than 25.**

**(4) Unsprinklered concealed spaces of *combustible construction* created by a ceiling, roof space or unoccupied attic space shall be separated by *fire blocks* into,**

- (a) compartments having no dimension greater than 60 m, if such space contains exposed construction materials having a surface *flame-spread rating* of 25 or less, and
  - (b) compartments of not more than 300 m<sup>2</sup> in area, if such space contains exposed construction materials having a surface *flame-spread rating* greater than 25.
- (5) No dimension of the compartment described in Clause (4)(b) shall exceed 20 m.**

**228. Article 9.10.17.10. of Division B of the Regulation is revoked and the following substituted:**

**9.10.17.10. Protection of Foamed Plastics**

**(1) Except as provided in Sentences (2) and (4), foamed plastics that form part of a wall or ceiling assembly shall be protected from adjacent space in the *building*, other than adjacent concealed spaces within *attic or roof spaces*, crawl spaces, wall assemblies and ceiling assemblies, by any of the following:**

- (a) one of the finishes described in Subsections 9.29.4. to 9.29.9.,
- (b) provided the *building* does not contain a Group C *major occupancy*, sheet metal that,
  - (i) is mechanically fastened to the supporting assembly independent of the insulation,
  - (ii) is not less than 0.38 mm thick, and
  - (iii) has a melting point not less than 650°C, or
- (c) any thermal barrier that meets the requirements of Sentence 3.1.5.15.(2).

(2) A walk-in cooler or freezer consisting of factory-assembled wall, floor or ceiling panels containing foamed plastics is permitted to be used, provided the panels,

- (a) are protected on both sides by sheet metal not less than 0.38 mm thick having a melting point not less than 650°C,
- (b) do not contain an air space, and
- (c) have a *flame-spread rating* that is not more than that permitted for the room or space in which they are located or that they bound.

(3) The *flame-spread rating* of panels required in Clause (2)(c) shall be determined by subjecting a sample panel with an assembled joint typical of field installation to the applicable test described in Subsection 3.1.12.

(4) Thermosetting foamed plastic insulation having a *flame-spread rating* of not more than 200 is permitted to be used in factory-assembled doors in *storage garages* serving *buildings of residential occupancy* provided that,

- (a) the insulation is covered on the interior with a metallic foil,
- (b) the assembly has a surface *flame-spread rating* of not more than 200, and
- (c) the assembly incorporates no air spaces.

**229. Sentence 9.10.18.10.(1) of Division B of the Regulation is revoked and the following substituted:**

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

**230. (1) Sentence 9.10.19.1.(1) of Division B of the Regulation is revoked and the following substituted:**

(1) Except as permitted in Article 9.10.19.8., *smoke alarms* conforming to CAN/ULC-S531, "Smoke Alarms", shall be installed in,

- (a) each *dwelling unit*,
- (b) each sleeping room not within a *dwelling unit*, and
- (c) each interior shared *means of egress* and common area in a *house*.

(2) Clause 9.10.19.1.(3)(c) of Division B of the Regulation is amended by striking out "a *dwelling unit*" at the end and substituting "a *house* or an individual *dwelling unit*".

231. (1) Sentence 9.10.19.3.(1) of Division B of the Regulation is amended by striking out "Within" at the beginning of the portion before Clause (a) and substituting "Except as permitted in Article 9.10.19.8., within".

(2) Sentence 9.10.19.3.(2) of Division B of the Regulation is amended by striking out "Within" at the beginning and substituting "Except as permitted in Article 9.10.19.8., within".

**232. Subsection 9.10.19. of Division B of the Regulation is amended by adding the following Article:**

**9.10.19.8. Residential Fire Warning Systems**

(1) Except where a fire alarm system is installed or required in a *building*, *smoke detectors* forming part of a residential fire warning system installed in conformance with CAN/ULC-S540 "Residential Fire and Life Safety Warning Systems: Installation, Inspection, Testing and Maintenance", are permitted to be installed in lieu of all *smoke alarms* required by Articles 9.10.19.1. and 9.10.19.3., provided that the fire warning system,

- (a) is capable of sounding audible signals in accordance with Articles 9.10.19.2. and 9.10.19.5.,
- (b) is powered in accordance with Article 9.10.19.4., and
- (c) is equipped with a silencing device conforming to Article 9.10.19.6.

**233. Clause 9.10.22.2.(2)(b) of Division B of the Regulation is revoked and the following substituted:**

- (b) are protected by a metal hood with a 125 mm projection beyond the framing, finishes and cabinets.

**234. Section 9.11. of Division B of the Regulation is revoked and the following substituted:**

**Section 9.11. Sound Transmission**

**9.11.1. Protection from Airborne Noise**

**9.11.1.1. Required Protection**

(1) Except as provided in Sentence (2), a *dwelling unit* and a *suite* in *hotels* shall be separated from every other space in a *building* in which noise may be generated by,

- (a) a separating assembly and adjoining construction, which, together, provide an *apparent sound transmission class* rating of not less than 47, or
  - (b) a separating assembly that provides a *sound transmission class* rating of at least 50 and adjoining construction that conforms to Article 9.11.1.4.
- (2) Construction separating a *dwelling unit* or *suite* in a *hotel* from an elevator shaft or refuse chute shall have an *STC* rating of at least 55.

#### 9.11.1.2. Determination of Sound Transmission Ratings

(1) The *STC* ratings shall be determined in accordance with ASTM E413, "Classification for Rating Sound Insulation", using the results from measurements carried out in accordance with ASTM E90, "Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements".

- (2) The *ASTC* ratings shall be,
  - (a) determined in accordance with ASTM E413, "Classification for Rating Sound Insulation", using the results from measurements carried out in accordance with ASTM E336, "Measurement of Airborne Sound Attenuation between Rooms in Buildings", or
  - (b) calculated in accordance with Article 5.8.1.4. or Article 5.8.1.5.

#### 9.11.1.3. Compliance with Required Ratings

- (1) Compliance with the required *STC* ratings shall be demonstrated through,
  - (a) measurements carried out in accordance with Sentence 9.11.1.2.(1), or
  - (b) the construction of separating assemblies conforming to Table 1 or 2 of MMAH Supplementary Standard SB-3, "Fire and Sound Resistance of Building Assemblies", as applicable.
- (2) Compliance with the required *ASTC* ratings shall be demonstrated through,
  - (a) measurements or calculations carried out in accordance with Sentence 9.11.1.2.(2), or
  - (b) the construction of separating assemblies conforming to Table 1 or 2 of MMAH Supplementary Standard SB-3, "Fire and Sound Resistance of Building Assemblies", as applicable, that have an *STC* rating of not less than 50 in conjunction with flanking assemblies constructed in accordance with Article 9.11.1.4.

#### 9.11.1.4. Adjoining Construction

(1) This Article applies where the required protection is provided in accordance with Clause 9.11.1.1.(1)(b) and compliance is demonstrated in accordance with Clause 9.11.1.3.(2)(b).

- (2) Flanking wall assemblies connected to a separating floor or ceiling assembly shall be constructed with,
  - (a) concrete or concrete block having a mass per area greater than  $200 \text{ kg/m}^2$ , or
  - (b) gypsum board finish that,
    - (i) is supported on wood or steel framing, and
    - (ii) ends or is interrupted where it meets the structure of the separating floor or ceiling assembly.
- (3) Flanking wall and ceiling assemblies connected to a separating wall assembly shall be constructed with,
  - (a) concrete or concrete block having a mass per area greater than  $300 \text{ kg/m}^2$ , or
  - (b) gypsum board finish that,
    - (i) is supported on wood or steel framing, and
    - (ii) ends or is interrupted where it meets the structure of the separating wall assembly or, for double-stud walls, where it meets the space between the two lines of studs.
- (4) Flanking floor assemblies connected to a separating wall assembly shall be,
  - (a) constructed,
    - (i) with concrete having a mass per area greater than  $300 \text{ kg/m}^2$ , or
    - (ii) in accordance with Section 9.16., or
  - (b) supported on joists or trusses that are not continuous across the junction and are covered with floor treatments in accordance with Table 9.11.1.4. for the applicable wall construction.

**Table 9.11.1.4.**  
**Floor Treatments for Flanking Wood-Framed Floor Assemblies in Horizontally Adjoining Spaces**

Forming Part of Sentence 9.11.1.4.(4)

| Item | Column 1<br>Type of Separating Wall Assembly with $STC \geq 50$<br>from MMAH Supplementary Standard SB-3,<br>“Fire and Sound Resistance of Building<br>Assemblies” | Column 2<br>Minimum Requirements for Floor Treatments Applied over Subfloor of<br>Wood-Framed Flanking Floor Assemblies on Both Sides of Floor/Wall<br>Junction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.   | W5, W6, W10, W12 (staggered studs)                                                                                                                                 | (a) Wood strip flooring not less than 16 mm thick aligned parallel to separating wall,<br>(b) one layer OSB or plywood not less than 15.5 mm thick plus finished flooring, or<br>(c) one additional material layer plus finished flooring having a combined mass per area not less than 8 kg/m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                  |
| 2.   | W4, W11 (staggered studs)                                                                                                                                          | (a) One layer of OSB or plywood not less than 12.5 mm thick plus hardwood strip flooring not less than 19 mm thick aligned parallel to separating wall, or<br>(b) one additional material layer plus finished flooring having a combined mass per area 16 kg/m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 3.   | W8, W9 (staggered studs)                                                                                                                                           | (a) Concrete or gypsum concrete topping not less than 19 mm thick bonded to the subfloor plus finished flooring, or<br>(b) one additional material layer plus finished flooring having a combined mass per area not less than 32 kg/m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 4.   | W13, W14, W15 (double stud walls)                                                                                                                                  | Where a continuous subfloor or other rigid materials at the floor/wall junction provide structural connection between the two rows of studs in the separating wall:<br>(a) hardwood strip flooring not less than 16 mm thick aligned parallel to separating wall,<br>(b) one layer OSB or plywood not less than 15.5 mm thick plus finished flooring, or<br>(c) one additional material layer plus finished flooring having a combined mass per area not less than 8 kg/m <sup>2</sup><br>Any finished flooring where the subfloor and other rigid materials are not connected at the floor/wall junction and where there are no structural connections between the two rows of studs in the separating wall |
| 5.   | B1 to B10                                                                                                                                                          | Any finished flooring                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

**235. Subsections 9.13.1., 9.13.2. and 9.13.3. of Division B of the Regulation are revoked and the following substituted:**

#### **9.13.1. General**

##### **9.13.1.1. Scope and Application**

- (1) This Section prescribes measures to control the ingress of water, moisture and *soil* gas.
- (2) Subsection 9.13.2. applies to below-ground walls and floors-on-ground where drainage is provided in accordance with Section 9.14. over and along the entire below-ground portion of the *foundation* wall.
- (3) Subsection 9.13.3. applies to below-ground walls, floors-on-ground and roofs of underground structures that are subject to hydrostatic pressure.
- (4) Subsection 9.13.4. applies to walls, roofs and floors that are in contact with the ground.

#### **9.13.2. Dampproofing**

##### **9.13.2.1. Dampproofing**

- (1) Except as provided in Sentence (4) and Article 9.13.3.1., where the exterior finished ground level is at a higher elevation than the ground level inside the *foundation* walls, exterior surfaces of *foundation* walls below ground level shall be dampproofed.
- (2) Except as provided in Sentence (3) and Article 9.13.3.1., floors-on-ground shall be dampproofed.
- (3) Floors in garages, floors in unenclosed portions of *buildings* and floors installed over granular *fill* in conformance with Article 9.16.2.1. need not be dampproofed.
- (4) Dampproofing in Sentence (1) is not required where the exterior surfaces of *foundation* walls below ground level are waterproofed.

**9.13.2.2. Dampproofing Materials**

- (1) Materials installed to provide required dampproofing shall be,
  - (a) capable of protecting assemblies against moisture transfer from the ground,
  - (b) compatible with adjoining materials, and
  - (c) resistant to mechanisms of deterioration that may reasonably be expected, given the nature, function and exposure of the materials.
- (2) Except as otherwise specified in this Section, materials used for exterior dampproofing shall,
  - (a) conform to one of the following standards:
    - (i) ASTM D1227 "Emulsified Asphalt Used as a Protective Coating for Roofing", Type III, Class I,
    - (ii) ASTM D4479 / D4479M, "Asphalt Roof Coatings - Asbestos-Free", Type III,
    - (iii) CAN/CGSB-51.34-M, "Vapour Barrier, Polyethylene Sheet for Use in Building Construction", or
    - (iv) CAN/CSA-A123.4, "Asphalt for Constructing Built-Up Roof Coverings and Waterproofing Systems", or
  - (b) have a water vapour permeance of not more than  $43 \text{ ng/Pa}\cdot\text{s}\cdot\text{m}^2$  when tested in accordance with Procedure A (wet cup) of ASTM E96 / E96M, "Water Vapor Transmission of Materials", and consist of one of the following material types:
    - (i) a vapour-resistant coating,
    - (ii) a cold-fluid-applied or hot-rubberized bituminous dampproofing membrane,
    - (iii) a liquid-applied or spray-applied asphalt-based emulsion dampproofing, or
    - (iv) a Type III hot-applied asphalt.

**9.13.2.3. Preparation of Surface**

- (1) The area in which dampproofing is to be carried out shall be kept free of water during the application and curing of the dampproofing system.
- (2) The surface to be dampproofed shall be prepared in accordance with the instructions of the dampproofing material manufacturer.
- (3) Where the dampproofing material is to be applied on insulating concrete form (ICF) walls, the instructions of the ICF wall manufacturer shall be followed.
- (4) Unit masonry walls to be dampproofed shall be parged on the exterior face below ground level with not less than 6 mm of mortar conforming to Section 9.20. covered over the footing.
- (5) Concrete walls to be dampproofed shall have holes and recesses sealed with cement mortar or a mastic or sealant that is suitable for vertical applications and compatible with the dampproofing material.
- (6) The surface required to be dampproofed shall be clean and dry and free of ice, snow, frost, dust, dirt, oil, grease, cracks, projections, depressions, loose particles and debris that could be detrimental to the performance of the membrane to be applied.

**9.13.2.4. Application of Dampproofing Material**

- (1) Exterior dampproofing shall be applied from finished ground level to the top of the exterior of the footing.
- (2) Unless otherwise stated in this Subsection, dampproofing shall be installed in accordance with the manufacturer's instructions with regard to,
  - (a) surface priming,
  - (b) conditions during application,
  - (c) application quantity and rate, and
  - (d) curing times.
- (3) Joints, cracks and penetrations shall be sealed to maintain the continuity of the dampproofing, where the dampproofing material is not capable of bridging such discontinuities.

**9.13.2.5. Moisture Protection for Interior Finishes**

- (1) The interior surface of *foundation* walls below ground level shall be protected by means that minimize the ingress of moisture from the *foundation* wall into interior spaces where,
  - (a) a separate interior finish is applied to a concrete or unit masonry wall that is in contact with the *soil*, or

(b) wood members are placed in contact with such walls for the installation of insulation or finish.

(2) Except as provided in Sentence (3), where the protection of interior finishes required in Sentence (1) consists of membranes or coatings,

(a) the membrane or coating shall extend from the *basement* floor surface up to the highest extent of the interior insulation or finish, but not higher than the exterior finished ground level, and

(b) no membrane or coating with a permeance less than  $170 \text{ ng}/(\text{Pa} \cdot \text{s} \cdot \text{m}^2)$  shall be applied to the interior surface of the *foundation* wall above ground level between the insulation and the *foundation* wall.

(3) Where insulation functions as both moisture protection for interior finishes and as a *vapour barrier* in accordance with Subsection 9.25.4., it shall be applied over the entire interior surface of the *foundation* wall.

#### **9.13.2.6. Dampproofing of Floors-on-Ground**

(1) Where dampproofing is installed below the floor, it shall consist of,

(a) polyethylene not less than 0.15 mm thick with joints lapped not less than 100 mm,

(b) Type S roll roofing with joints lapped not less than 100 mm, or

(c) rigid extruded/expanded polystyrene with sealed or ship-lapped joints that has,

(i) sufficient compressive strength to support the floor assembly, and

(ii) a water vapour permeance complying with Clause 9.13.2.2.(2)(b).

(2) Where dampproofing is installed between a floor-on-ground and a finished floor, it shall consist of,

(a) rigid extruded/expanded polystyrene with sealed or ship-lapped joints that has,

(i) sufficient compressive strength to support the floor assembly, and

(ii) a water vapour permeance complying with Clause 9.13.2.2.(2)(b), or

(b) polyethylene not less than 0.05 mm with joints lapped not less than 100 mm.

#### **9.13.2.7. Dampproofing of Preserved Wood Foundation Walls**

(1) Preserved wood *foundation* walls shall be dampproofed as described in CSA S406, "Permanent Wood Foundations for Housing and Small Buildings".

### **9.13.3. Waterproofing**

#### **9.13.3.1. Required Waterproofing**

(1) Where hydrostatic pressure occurs, waterproofing is required for assemblies separating interior space from the ground to prevent the ingress of water into *building* assemblies and interior spaces.

(2) Waterproofing is required for roofs of underground structures to prevent the ingress of water into *building* assemblies and interior spaces.

#### **9.13.3.2. Waterproofing Materials**

(1) Materials installed to provide required waterproofing shall be,

(a) compatible with adjoining materials, and

(b) resistant to mechanisms of deterioration that may reasonably be expected, given the nature, function and exposure of the materials.

(2) Materials used for exterior waterproofing shall conform to,

(a) ASTM D1227, "Emulsified Asphalt Used as a Protective Coating for Roofing", in which case, they shall be installed in accordance with Sentence 9.13.3.3.(3),

(b) ASTM D3019, "Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos-Fibered, and Non-Asbestos-Fibered", but only with respect to non-fibered and non-asbestos-fibered (Types I and III) asphalt roll roofing,

(c) ASTM D4479 / D4479M, "Asphalt Roof Coatings - Asbestos-Free", in which case, they shall be installed in accordance with Sentence 9.13.3.3.(3) and with reinforcing material,

(d) ASTM D4637 / D4637M, "EPDM Sheet Used In Single-Ply Roof Membrane",

(e) ASTM D4811 / D4811M, "Nonvulcanized (Uncured) Rubber Sheet Used as Roof Flashing",

(f) ASTM D6878 / D6878M, "Thermoplastic Polyolefin Based Sheet Roofing",

- (g) CGSB 37-GP-9Ma, “Primer, Asphalt, Unfilled, for Asphalt Roofing, Dampproofing and Waterproofing”, where a primer is required,
- (h) CAN/CGSB-37.50-M, “Hot-Applied, Rubberized Asphalt for Roofing and Waterproofing”,
- (i) CAN/CGSB-37.54, “Polyvinyl Chloride Roofing and Waterproofing Membrane”,
- (j) CGSB 37-GP-56M, “Membrane, Modified, Bituminous, Prefabricated, and Reinforced for Roofing”,
- (k) CAN/CGSB-37.58-M, “Membrane, Elastomeric, Cold-Applied Liquid, for Non-Exposed Use in Roofing and Waterproofing”,
- (l) CAN/CSA-A123.2, “Asphalt-Coated Roofing Sheets”,
- (m) CAN/CSA-A123.4, “Asphalt for Constructing Built-Up Roof Coverings and Waterproofing Systems”, in which case, they shall be installed with reinforcing material, or
- (n) CSA A123.17, “Asphalt Glass Felt Used in Roofing and Waterproofing”.

#### **9.13.3.3. Preparation of Surface**

(1) Surfaces to be waterproofed shall be prepared in accordance with the instructions of the waterproofing material manufacturer.

(2) Where the waterproofing material is to be applied on insulating concrete form (ICF) walls, the instructions of the ICF wall manufacturer shall be followed.

(3) Unit masonry walls that are to be waterproofed shall be parged on exterior surfaces below ground level with not less than 6 mm of mortar conforming to Section 9.20. coved over the footing.

(4) Concrete walls that are to be waterproofed shall have all holes and recesses sealed with mortar or waterproofing material.

(5) Surfaces required to be waterproofed shall be clean and dry and free of ice, snow, frost, dust, dirt, oil, grease, cracks, projections and depressions, loose particles and debris that could be detrimental to the performance of the waterproofing material.

#### **9.13.3.4. Application of Waterproofing Membranes**

(1) Unless otherwise stated in this Subsection, waterproofing shall be installed in accordance with the manufacturer's instructions with regard to,

- (a) surface priming,
- (b) conditions during application,
- (c) the required number of layers of reinforcing fabric on *foundations*, footings, floors, walls and structural slabs,
- (d) application quantity and rate, and
- (e) curing times.

(2) Waterproofing shall be continuous across joints and at junctions between different *building* elements.

(3) The waterproofed surface shall be protected with a suitable material to minimize mechanical damage during backfilling.

(4) The area in which the waterproofing is to be carried out shall be kept free of water during the application and curing of the waterproofing system.

#### **9.13.3.5. Floor Waterproofing System**

(1) *Basement* floors-on-ground to be waterproofed shall have a system of membrane waterproofing provided between 2 layers of concrete, each of which shall be not less than 75 mm thick, with the floor membrane made continuous with the wall membrane to form a complete seal.

**236. Clauses 9.14.3.1.(1)(e) to (h) of Division B of the Regulation are revoked and the following substituted:**

- (e) CAN/CSA-B182.1, “Plastic Drain and Sewer Pipe and Pipe Fittings”,
- (f) CAN/CSA-G401, “Corrugated Steel Pipe Products”, or
- (g) BNQ 3624-115, “Polyethylene (PE) Pipe and Fittings - Flexible Pipes for Drainage - Characteristics and Test Methods”.

**237. Clause 9.15.1.3.(1)(b) of Division B of the Regulation is amended by striking out “Anchorage of Manufactured Homes” at the end and substituting “Installation of Buildings”.**

**238. (1) Sentence 9.15.2.2.(1) of Division B of the Regulation is amended by striking out “CAN/CSA-A165.1” and substituting “CSA A165.1”.**

**(2) Clause 9.15.2.2.(3)(a) of Division B of the Regulation is amended by striking out “CAN/CSA-A179” and substituting “CSA A179”.**

**(3) Clause 9.15.2.2.(3)(b) of Division B of the Regulation is amended by striking out “CAN/CSA-A179” and substituting “CSA A179”.**

**(4) Clause 9.15.2.2.(3)(c) of Division B of the Regulation is amended by striking out “CAN/CSA-A371” and substituting “CSA A371”.**

**239. Clause 9.15.2.4.(1)(a) of Division B of the Regulation is revoked and the following substituted:**

(a) CSA S406, “Permanent Wood Foundations for Housing and Small Buildings”, or

**240. Sentence 9.15.4.1.(1) of Division B of the Regulation is amended by striking out “CAN/ULC-S701, “Thermal Insulation, Polystyrene, Boards and Pipe Covering”” and substituting “CAN/ULC-S701.1, “Thermal Insulation, Polystyrene Boards””.**

**241. Sentence 9.15.5.1.(1) of Division B of the Regulation is revoked and the following substituted:**

**(1)** Except as permitted in Sentence (2), *foundation* walls of hollow masonry units supporting floor joists shall be capped with,

(a) not less than 50 mm of concrete,

(b) *solid masonry units* that are 100% solid and not less than 50 mm high, or

(c) semi-solid or hollow *solid masonry units* that have the top course completely filled with mortar, grout or concrete.

**242. Sentence 9.15.5.3.(3) of Division B of the Regulation is revoked and the following substituted:**

**(3)** The top 200 mm of pilasters required in Sentence (1) shall be *solid masonry* with the cells of hollow or semi-solid units filled with mortar, grout or concrete.

**243. Sentence 9.16.5.1.(1) of Division B of the Regulation is revoked and the following substituted:**

**(1)** Floors-on-ground constructed of wood shall conform to CSA S406, “Permanent Wood Foundations for Housing and Small Buildings”.

**244. Clause 9.17.5.1.(1)(a) of Division B of the Regulation is amended by striking out “CAN/CSA-A165.1” and substituting “CSA A165.1”.**

**245. Clauses 9.20.2.1.(1)(d) to (k) of Division B of the Regulation are revoked and the following substituted:**

(d) CAN/CSA-A82 “Fire Masonry Brick Made from Clay or Shale”,

(e) CSA A165.1, “Concrete Block Masonry Units”,

(f) CSA A165.2, “Concrete Brick Masonry Units”, or

(g) CSA A165.3, “Prefaced Concrete Masonry Units”.

**246. Sentence 9.20.2.6.(1) of Division B of the Regulation is amended by striking out “CAN/CSA-A165.1” and substituting “CSA A165.1”.**

**247. Sentence 9.20.3.1.(1) of Division B of the Regulation is amended by striking out “CAN/CSA-A179” and substituting “CSA A179”.**

**248. Sentence 9.20.3.2.(7) of Division B of the Regulation is amended by striking out “CAN/CSA-A371” and substituting “CSA A371”.**

**249. Articles 9.20.4.2. and 9.20.4.3. of Division B of the Regulation are revoked and the following substituted:**

#### **9.20.4.2. Masonry Units**

**(1)** Hollow masonry units shall be laid with mortar applied to head and bed joints of both inner and outer face shells.

**(2)** Vertically aligned webs of hollow masonry units shall be laid in a full bed of mortar,

(a) under the starting course,

(b) in all courses of columns, and

(c) where adjacent to cells or cavities that are to be filled with grout.

**(3)** Except for head joints left open for weep holes and ventilation, *solid masonry units* shall be laid with full head and bed joints.

**250. Note (1) to Table 9.20.5.2.C. of Division B of the Regulation is amended by striking out “roof live load” and substituting “roof live load”.**

**251. Sentence 9.20.6.4.(1) of Division B of the Regulation is amended by striking out “shall be of solid units” and substituting “shall consist of *solid masonry units*”.**

**252. Article 9.20.6.5. of Division B of the Regulation is revoked and the following substituted:**

**9.20.6.5. Parapet Walls**

(1) The height of a parapet wall above the adjacent roof surface shall be not more than three times the parapet wall thickness.

(2) A parapet wall shall be *solid masonry* that extends from the top of the parapet wall to not less than 300 mm below the adjacent roof level.

(3) Where semi-solid or hollow units are used in a parapet wall, the cells of those units shall be filled with mortar, grout or concrete.

**253. (1) Sentence 9.20.8.2.(1) of Division B of the Regulation is amended by striking out “solid units” and substituting “*solid masonry units*”.**

**(2) Clause 9.20.8.2.(3)(a) of Division B of the Regulation is revoked and the following substituted:**

(a) *solid masonry units* not less than 57 mm high, bridging the full thickness of the wall, or

**254. Article 9.20.8.5. of Division B of the Regulation is revoked and the following substituted:**

**9.20.8.5. Projection of Masonry Veneer beyond Supporting Members**

(1) Masonry veneer of *solid masonry units* resting on a bearing support shall not project more than one-third of the thickness of the veneer.

(2) Where the masonry veneer described in Sentence (1) is rough stone masonry,

(a) the projection shall be measured as the average projection of the units, and

(b) the thickness of the veneer shall be measured as the average thickness of the veneer.

**255. Table 9.20.9.5. of Division B of the Regulation is revoked and the following substituted:**

**Table 9.20.9.5.  
Veneer Tie Spacing**

Forming Part of Sentence 9.20.9.5.(1)

| Item | Column 1<br>Maximum Vertical Spacing, mm | Column 2<br>Maximum Horizontal Spacing, mm |
|------|------------------------------------------|--------------------------------------------|
| 1.   | 406                                      | 813                                        |
| 2.   | 508                                      | 610                                        |
| 3.   | 610                                      | 406                                        |

**256. Sentence 9.20.12.1.(1) of Division B of the Regulation is amended by striking out “solid units” at the end and substituting “*solid masonry units*”.**

**257. Sentence 9.20.15.2.(1) of Division B of the Regulation is amended by striking out “CAN/CSA-A371” and substituting “CSA A371”.**

**258. Sentence 9.21.3.4.(1) of Division B of the Regulation is amended by striking out “Classification of Fireclay and High Alumina Refractory Brick” and substituting “Fireclay and High Alumina Refractory Brick”.**

**259. Sentence 9.21.4.8.(1) of Division B of the Regulation is amended by striking out “solid units” and substituting “*solid masonry units*”.**

**260. Sentence 9.23.4.3.(2) of Division B of the Regulation is amended by striking out “General Requirements for Rolled or Welded Structural Quality Steel” and substituting “Structural Quality Steel”.**

**261. Sentence 9.23.6.3.(1) of Division B of the Regulation is amended by striking out “Foundation and Anchorage of Manufactured Homes” at the end and substituting “Foundation, and Installation of Buildings”.**

**262. Sentence 9.23.13.11.(6) of Division B of the Regulation is amended by striking out “(Limit States Design)”.**

**263. Clause 9.23.14.2.(1)(c) of Division B of the Regulation is amended by striking out “CSA O153-M” at the beginning and substituting “CSA O153”.**

**264. Clause 9.23.15.2.(1)(c) of Division B of the Regulation is amended by striking out “CSA O153-M” at the beginning and substituting “CSA O153”.**

**265. Sentence 9.23.15.7.(3) of Division B of the Regulation is amended by striking out “CAN/ULC-S706, “Wood Fibre Thermal Insulation for Buildings”” in the portion before Clause (a) and substituting “CAN/ULC-S706.1, “Wood Fibre Insulating Boards for Buildings””.**

**266. Table 9.23.16.2.A. of Division B of the Regulation is revoked and the following substituted:**

**Table 9.23.16.2.A.  
Wall Sheathing Thickness and Specifications**

Forming Part of Sentence 9.23.16.2.(1)

| Item | Column 1<br>Type of Sheathing                          | Column 2<br>Minimum<br>Thickness, mm <sup>(1)</sup><br>With Supports 406<br>mm o.c. | Column 3<br>Minimum<br>Thickness, mm <sup>(1)</sup><br>With Supports 610<br>mm o.c. | Column 4<br>Material Standards                               |
|------|--------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------|
| 1.   | Fibreboard (insulating)                                | 9.5                                                                                 | 11.1                                                                                | CAN/ULC-S706.1                                               |
| 2.   | Gypsum Sheathing                                       | 9.5                                                                                 | 12.7                                                                                | ASTM C1177 / C1177M<br>ASTM C1396 /<br>C1396M <sup>(2)</sup> |
| 3.   | Lumber                                                 | 17.0                                                                                | 17.0                                                                                | See Table 9.3.2.1.                                           |
| 4.   | Mineral Fibre, Rigid Board, Type 2                     | 25                                                                                  | 25                                                                                  | CAN/ULC-S702                                                 |
| 5.   | OSB, O-2 Grade                                         | 6.0                                                                                 | 7.5                                                                                 | CSA O437.0                                                   |
| 6.   | OSB, O-1 Grade, and Waferboard, R-1 Grade              | 6.35                                                                                | 7.9                                                                                 | CSA O437.0                                                   |
| 7.   | Phenolic, faced                                        | 25                                                                                  | 25                                                                                  | CAN/CGSB-51.25-M                                             |
| 8.   | Plywood (exterior type)                                | 6                                                                                   | 7.5                                                                                 | CSA O121<br>CSA O151<br>CSA O153                             |
| 9.   | Polystyrene, Types 1 and 2                             | 38                                                                                  | 38                                                                                  | CAN/ULC-S701.1                                               |
| 10.  | Polystyrene, Types 3 and 4                             | 25                                                                                  | 25                                                                                  | CAN/ULC-S701.1                                               |
| 11.  | Polyurethane and Polyisocyanurate Type 1, faced        | 38                                                                                  | 38                                                                                  | CAN/ULC-S704                                                 |
| 12.  | Polyurethane and Polyisocyanurate Types 2 and 3, faced | 25                                                                                  | 25                                                                                  | CAN/ULC-S704                                                 |

**Notes to Table 9.23.16.2.A.:**

<sup>(1)</sup> See also Sentences 9.27.5.1.(2) and (3).

<sup>(2)</sup> The *flame-spread rating* of gypsum board shall be determined in accordance with CAN/ULC-S102, “Test for Surface Burning Characteristics of Building Materials and Assemblies”.

**267. Sentence 9.25.2.2.(1) of Division B of the Regulation is revoked and the following substituted:**

**(1)** Except as required in Sentence (2), thermal insulation shall conform to the requirements of,

- (a) ASTM C726, “Mineral Wool Roof Insulation Board,”
- (b) CAN/CGSB-51.25-M, “Thermal Insulation, Phenolic, Faced”,
- (c) CGSB 51-GP-27M, “Thermal Insulation, Polystyrene, Loose Fill”,
- (d) CAN/ULC-S701.1, “Thermal Insulation, Polystyrene Boards”,
- (e) CAN/ULC-S702 “Mineral Fibre Thermal Insulation for Buildings”,
- (f) CAN/ULC-S703, “Cellulose Fibre Insulation for Buildings”,
- (g) CAN/ULC-S704, “Thermal Insulation, Polyurethane and Polyisocyanurate, Boards, Faced”,
- (h) CAN/ULC-S705.1, “Thermal Insulation - Spray Applied Rigid Polyurethane Foam, Medium Density - Material - Specification”, or
- (i) CAN/ULC-S706.1, “Wood Fibre Insulating Boards for Buildings”.

**268. Clause 9.25.2.3.(6)(a) of Division B of the Regulation is revoked and the following substituted:**

(a) Reserved

**269. (1) Sentence 9.25.5.1.(1) of Division B of the Regulation is amended by striking out “Sheet” at the beginning of the portion before Clause (a) and substituting “Except as provided in Sentences (2) to (4), sheet”.**

**(2) Article 9.25.5.1. of Division B of the Regulation is amended by adding the following Sentence:**

**(4)** Sheet and panel-type materials need not comply with Sentence (1) where,

(a) the material has,

(i) a water vapour permeance not less than 30 ng/(Pa•s•m<sup>2</sup>), and

(ii) a thermal resistance not less than 0.7 (m<sup>2</sup>•K)/W, and

(b) the heating degree-days of the *building* location, in degrees Celsius, are less than 6 000.

**270. Article 9.26.1.1. of Division B of the Regulation is revoked and the following substituted:**

**9.26.1.1. Purpose of Roofing**

**(1)** In this Section,

(a) “roof” means sloped or near-horizontal assemblies that protect the spaces beneath them and includes platforms that effectively serve as roofs with respect to the accumulation or drainage of precipitation, and

(b) “roofing” means the primary covering for roofs.

**9.26.1.1A. Required Protection**

**(1)** Roofs shall be protected with roofing, including flashing, installed so as to,

(a) effectively shed water,

(b) prevent the ingress of water and moisture into building assemblies and occupied space, and

(c) minimize the ingress of water due to ice damming into building assemblies.

**(2)** Compliance with Sentence (1) shall be demonstrated by conforming to,

(a) this Section, or

(b) Part 5.

**271. Subsection 9.26.2. of Division B of the Regulation is revoked and the following substituted:**

**9.26.2. Roofing Materials**

**9.26.2.1. Material Standards**

**(1)** Where materials used for the preparation of the substrate for roofing are covered in the scope of a standard listed in Table 9.26.2.1.A., they shall conform to that standard.

**Table 9.26.2.1.A.  
Materials for Preparation of the Substrate for Roofing**

Forming Part of Sentence 9.26.2.1.(1)

| Item | Column 1<br>Type of Material | Column 2<br>Standards                                                                            |
|------|------------------------------|--------------------------------------------------------------------------------------------------|
| 1.   | Sheathing Membranes          | CAN/CGSB-51.32-M, “Sheathing, Membrane, Breather Type”                                           |
| 2.   | Primers                      | CGSB 37-GP-9Ma, “Primer, Asphalt, Unfilled, for Asphalt Roofing, Dampproofing and Waterproofing” |

**(2)** Where roofing materials are covered in the scope of a standard listed in Table 9.26.2.1.B., they shall conform to that standard.

**Table 9.26.2.1.B.  
Roofing Materials**

Forming Part of Sentence 9.26.2.1.(2)

| Item | Column 1<br>Type of Roof Covering | Column 2<br>Standards                                                                                                                                                                                                                                                                                                                                                                                                                |
|------|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.   | Built-up roofing (BUR)            | ASTM D3019, “Lap Cement Used with Asphalt Roll Roofing, Non-Fibred, Asbestos-Fibred, and Non-Asbestos-Fibred” <sup>(1)</sup><br>ASTM D4479 / D 4479M, “Asphalt Roof Coatings - Asbestos-Free”<br>CGSB 37-GP-56M, “Membrane, Modified, Bituminous, Prefabricated, and Reinforced for Roofing”<br>CAN/CGSB-37.50-M, “Hot-Applied, Rubberized Asphalt for Roofing and Waterproofing”<br>CAN/CSA-A123.2, “Asphalt-Coated Roofing Sheets” |

|    |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                                 | CSA A123.3, "Asphalt Saturated Organic Roofing Felt"<br>CAN/CSA-A123.4, "Asphalt for Constructing Built-Up Roof Coverings and Waterproofing Systems"<br>CSA A123.17, "Asphalt Glass Felt Used in Roofing and Waterproofing"                                                                                                                                                                                          |
| 2. | Single-ply membranes            | CAN/CGSB-37.54, "Polyvinyl Chloride Roofing and Waterproofing Membrane"<br>CAN/CGSB-37.58-M, "Membrane, Elastomeric, Cold-Applied Liquid, for Non-Exposed Use in Roofing and Waterproofing"<br>ASTM D4637 / D4637M, "EPDM Sheet Used In Single-Ply Roof Membrane"<br>ASTM D4811, "Nonvulcanized (Uncured) Rubber Sheet Used as Roof Flashing"<br>ASTM D6878 / D6878M, "Thermoplastic Polyolefin Based Sheet Roofing" |
| 3. | Shingles, shakes, tiles, panels | CSA A123.1 / CSA A123.5, "Asphalt Shingles Made From Organic Felt and Surfaced with Mineral Granules / Asphalt Shingles Made From Glass Felt and Surfaced with Mineral Granules"<br>CAN/CSA-A220 Series, "Concrete Roof Tiles"<br>CSA O118.1, "Western Red Cedar Shakes and Shingles"<br>CSA O118.2, "Eastern White Cedar Shingles"                                                                                  |
| 4. | Eave protection                 | CSA A123.22, "Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection"                                                                                                                                                                                                                                                                                   |
| 5. | Flashing                        | ASTM D4811 / D4811M, "Nonvulcanized (Uncured) Rubber Sheet Used as Roof Flashing"                                                                                                                                                                                                                                                                                                                                    |

**Notes to Table 9.26.2.1.B.:**

<sup>(1)</sup> For the purpose of this Subsection, ASTM D3019, "Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos-Fibered, and Non-Asbestos-Fibered", applies only with respect to non-fibered and non-asbestos-fibered (Types I and III) asphalt roll roofing.

**9.26.2.2. Installation of Materials**

(1) Materials listed in Tables 9.26.2.1.A. and 9.26.2.1.B. shall be installed in conformance with the manufacturer's instructions.

**9.26.2.3. Nails**

(1) Nails used for roofing shall be corrosion-resistant roofing or shingle nails conforming to,

- (a) ASTM F1667, "Driven Fasteners: Nails, Spikes, and Staples", or
- (b) CSA B111, "Wire Nails, Spikes and Staples".

(2) Nails shall have sufficient length to penetrate through or 12 mm into roof sheathing.

(3) Nails used with asphalt roofing shall have a head diameter of not less than 9.5 mm and a shank thickness of not less than 2.95 mm.

(4) Nails used with wood shingles or shakes shall have a head diameter of not less than 4.8 mm and a shank thickness of not less than 2.0 mm and shall be stainless steel, aluminum or hot-dipped galvanized.

**9.26.2.4. Staples**

(1) Staples used to apply asphalt or wood shingles shall be corrosion-resistant and shall be driven with the crown parallel to the eaves.

(2) Staples used with asphalt shingles shall be not less than 19 mm long, 1.6 mm diam or thickness, with not less than a 25 mm crown, except that an 11 mm crown may be used as provided in Sentence 9.26.7.4.(2).

(3) Staples used with wood shingles shall be not less than 29 mm long, 1.6 mm diam or thickness, with not less than a 9.5 mm crown and shall be stainless steel or aluminum.

**272. Table 9.26.3.1. of Division B of the Regulation is revoked and the following substituted:**

**Table 9.26.3.1.  
Roofing Types and Slope Limits**

Forming Part of Sentence 9.26.3.1.(1)

| Item | Column 1<br>Type of Roofing                      | Column 2<br>Minimum Slope | Column 3<br>Maximum Slope |
|------|--------------------------------------------------|---------------------------|---------------------------|
| 1.   | Asphalt shingles - Low slope application         | 1 in 6                    | no limit                  |
| 2.   | Asphalt shingles - Normal application            | 1 in 3                    | no limit                  |
| 3.   | Built-up roofing - Asphalt base (without gravel) | 1 in 25                   | 1 in 2                    |
| 4.   | Built-up roofing - Asphalt base (gravelled)      | 1 in 50 <sup>(1)</sup>    | 1 in 4                    |
| 5.   | Built-up roofing - Coal-tar base (gravelled)     | 1 in 50 <sup>(1)</sup>    | 1 in 25                   |

| Item | Column 1<br>Type of Roofing                        | Column 2<br>Minimum Slope | Column 3<br>Maximum Slope |
|------|----------------------------------------------------|---------------------------|---------------------------|
| 6.   | Built-up roofing - Cold process                    | 1 in 25                   | 1 in 1.33                 |
| 7.   | Cedar shakes                                       | 1 in 3                    | no limit                  |
| 8.   | Clay tile                                          | 1 in 2                    | no limit                  |
| 9.   | Glass fibre reinforced polyester roofing panels    | 1 in 4                    | no limit                  |
| 10.  | Modified bituminous membranes                      | 1 in 50                   | 1 in 4                    |
| 11.  | Profiled metal roofing                             | 1 in 4 <sup>(2)</sup>     | no limit                  |
| 12.  | Roll roofing - 480 mm wide selvage asphalt roofing | 1 in 6                    | no limit                  |
| 13.  | Roll roofing - Cold application felt               | 1 in 50                   | 1 in 1.33                 |
| 14.  | Roll roofing - Smooth and mineral surfaced         | 1 in 4                    | no limit                  |
| 15.  | Sheet metal shingles                               | 1 in 4 <sup>(2)</sup>     | no limit                  |
| 16.  | Slate shingles                                     | 1 in 2                    | no limit                  |
| 17.  | Wood shingles                                      | 1 in 4                    | no limit                  |

**Notes to Table 9.26.3.1.:**

<sup>(1)</sup> See Sentence 9.26.3.1.(2).

<sup>(2)</sup> See Sentence 9.26.3.1.(3).

**273. Sentence 9.26.4.1.(2) of Division B of the Regulation is revoked.**

**274. (1) Sentence 9.27.5.1.(1) of Division B of the Regulation is amended by striking out “Sentences (2) to (7)” and substituting “Sentences (2), (3) and (4)”.**

**(2) Sentences 9.27.5.1.(4) to (7) of Division B of the Regulation are revoked and the following substituted:**

**(4)** Where wood shingles or shakes are applied to sheathing that is not suitable for attaching the shingles or shakes, the shingles or shakes may be attached to a wood lath not less than 38 mm by 9.5 mm thick securely nailed to the framing and applied as described in Article 9.27.7.5.

**275. Sentence 9.27.5.3.(1) of Division B of the Regulation is amended by striking out “Sentences 9.27.5.1.(5) and (6)” and substituting “Sentence (4)”.**

**276. Table 9.27.5.4. of Division B of the Regulation is revoked and the following substituted:**

**Table 9.27.5.4.  
Attachment of Cladding**

Forming Part of Sentence 9.27.5.4.(1)

| Item | Column 1<br>Type of Cladding                                | Column 2<br>Minimum Nail or Staple<br>Length, mm | Column 3<br>Minimum Number of Nails or<br>Staples | Column 4<br>Maximum Nail or Staple Spacing,<br>mm (o.c.)  |
|------|-------------------------------------------------------------|--------------------------------------------------|---------------------------------------------------|-----------------------------------------------------------|
| 1.   | Wood trim                                                   | 51                                               | ---                                               | 600                                                       |
| 2.   | Lumber siding or horizontal<br>siding made from sheet metal | 51                                               | ---                                               | 600                                                       |
| 3.   | Metal cladding                                              | 38                                               | ---                                               | 600 (nailed to framing)<br>400 (nailed to sheathing only) |
| 4.   | Wood shakes up to 200 mm in<br>width                        | 51                                               | 2                                                 | ---                                                       |
| 5.   | Wood shakes over 200 mm in<br>width                         | 51                                               | 3                                                 | ---                                                       |
| 6.   | Wood shingles up to 200 mm<br>in width                      | 32                                               | 2                                                 | ---                                                       |
| 7.   | Wood shingles over 200 mm<br>in width                       | 32                                               | 3                                                 | ---                                                       |
| 8.   | Panel or sheet type cladding<br>up to 7 mm thick            | 38                                               | ---                                               | 150 (along edges)                                         |
| 9.   | Panel or sheet type cladding<br>more than 7 mm thick        | 51                                               | ---                                               | 300 (along intermediate supports)                         |

**277. (1) Clause 9.27.8.1.(1)(a) of Division B of the Regulation is amended by striking out “CSA O115-M” at the beginning and substituting “ANSI/HPVA HP-1”.**

**(2) Clause 9.27.8.1.(1)(d) of Division B of the Regulation is amended by striking out “CSA O153-M” at the beginning and substituting “CSA O153”.**

278. Sentence 9.28.2.1.(1) of Division B of the Regulation is amended by striking out “CAN/CSA-A3001” and substituting “CSA A3001”.

279. Sentence 9.29.8.1.(1) of Division B of the Regulation is amended by striking out “CAN/ULC-S706, “Wood Fibre Thermal Insulation for Buildings”” at the end and substituting “CAN/ULC-S706.1, “Wood Fibre Insulating Boards for Buildings””.

280. (1) Clause 9.30.2.2.(1)(c) of Division B of the Regulation is amended by striking out “CSA O115-M” at the beginning and substituting “ANSI/HPVA HP-1”.

(2) Clause 9.30.2.2.(1)(f) of Division B of the Regulation is amended by striking out “CSA O153-M” at the beginning and substituting “CSA O153”.

281. Sentence 9.30.5.1.(1) of Division B of the Regulation is amended by striking out “vinyl-asbestos”.

282. Sentence 9.32.1.1.(5) of Division B of the Regulation is amended by striking out “Part 6” at the end and substituting “Article 9.32.1.4. or Part 6”.

283. Subsection 9.32.1. of Division B of the Regulation is amended by adding the following Article:

**9.32.1.4. Venting of Laundry-Drying Equipment**

(1) *Exhaust ducts* or vents connected to laundry-drying equipment shall discharge directly to the outdoors.

(2) *Exhaust ducts* connected to laundry-drying equipment shall be,

(a) independent of other *exhaust ducts*,

(b) accessible for cleaning, and

(c) constructed of a smooth corrosion-resistant material.

(3) Where collective venting of multiple installations of laundry-drying equipment is used, the ventilation system shall,

(a) be connected to a common *exhaust duct* that is vented by one central exhaust fan and incorporates one central lint trap,

(b) include an interlock to activate the central exhaust fan when laundry-drying equipment is in use, and

(c) where required by Article 9.32.3.8., be provided with make-up air.

284. Clause 9.32.3.9.(2)(b) of Division B of the Regulation is amended by striking out “Procedure for Loudness Rating of Residential Fan Products” and substituting “Loudness Testing and Rating Procedure”.

285. Subsection 9.34.4. of Division B of the Regulation is revoked.

286. Article 9.35.3.1. of Division B of the Regulation is amended by adding the following Sentence:

(2) Detached garages of less than 55 m<sup>2</sup> *floor area* and not more than 1 *storey* in height that are not of masonry or masonry veneer construction are permitted to be supported on,

(a) wood mud sills, or

(b) a concrete floor slab having a minimum thickness of not less than 100 mm.

287. Article 9.35.3.3. of Division B of the Regulation is revoked and the following substituted:

**9.35.3.3. Small Garages**

(1) Detached garages of less than 55 m<sup>2</sup> *floor area* and not more than 1 *storey* in height that are not of masonry or masonry veneer construction need not conform with the *foundation* drainage requirements described in Section 9.14. where the finished ground level is at or near the elevation of the garage floor and where the ground slopes away from the *building*.

288. (1) The heading to Column 1 of Table 11.5.1.1.A. of Division B of the Regulation is amended by,

(a) striking out “Col. 1” and substituting “Column 1”; and

(b) striking out “NUMBER” and substituting “C.A. Number”.

(2) The heading to Column 2 of Table 11.5.1.1.A. of Division B of the Regulation is amended by striking out “PART 3 REQUIREMENTS” and substituting “Division B Requirements”.

(3) The heading to Column 3 of Table 11.5.1.1.A. of Division B of the Regulation is amended by striking out “PART 11 COMPLIANCE ALTERNATIVE” and substituting “Compliance Alternative”.

(4) Item 8 of Table 11.5.1.1.A. of Division B of the Regulation is amended by striking out “3.1.8.7. to 3.1.8.9.” in Column 2 and substituting “3.1.8.7., 3.1.8.8. and 3.1.8.9.”.

(5) Item 47 of Table 11.5.1.1.A. of Division B of the Regulation is amended by striking out “3.4.6.5.(2) to (11)” in Column 2 and substituting “3.4.6.5.(3) to (13)”.

(6) Item 48 of Table 11.5.1.1.A. of Division B of the Regulation is amended by striking out “3.4.6.6.(2), (4) and (5)” in Column 2 and substituting “3.4.6.6.(2) to (5)”.

(7) Item 52 of Table 11.5.1.1.A. of Division B of the Regulation is amended by striking out “3.4.6.11.(1), (2) and (4)” in Column 2 and substituting “3.4.6.11.(1) to (3) and (5)”.

(8) Item 76 of Table 11.5.1.1.A. of Division B of the Regulation is amended by striking out “3.8.3.13.(2)(f)” in Column 2 and substituting “3.8.3.13.(2)(g)”.

(9) Table 11.5.1.1.A. of Division B of the Regulation is amended by striking out the following rows:

|  | NUMBER | PART 4 REQUIREMENTS | PART 11 <i>COMPLIANCE ALTERNATIVE</i> |
|--|--------|---------------------|---------------------------------------|
|--|--------|---------------------|---------------------------------------|

. . . . .

|  | NUMBER | PART 6 REQUIREMENTS | PART 11 <i>COMPLIANCE ALTERNATIVE</i> |
|--|--------|---------------------|---------------------------------------|
|--|--------|---------------------|---------------------------------------|

. . . . .

|  | NUMBER | PART 8 REQUIREMENTS | PART 11 <i>COMPLIANCE ALTERNATIVE</i> |
|--|--------|---------------------|---------------------------------------|
|--|--------|---------------------|---------------------------------------|

289. (1) The heading to Column 1 of Table 11.5.1.1.B. of Division B of the Regulation is amended by,

(a) striking out “Col. 1” and substituting “Column 1”; and

(b) striking out “NUMBER” and substituting “C.A. Number”.

(2) The heading to Column 2 of Table 11.5.1.1.B. of Division B of the Regulation is amended by striking out “PART 3 REQUIREMENTS” and substituting “Division B Requirements”.

(3) The heading to Column 3 of Table 11.5.1.1.B. of Division B of the Regulation is amended by striking out “PART 11 *COMPLIANCE ALTERNATIVE*” and substituting “*Compliance Alternative*”.

(4) Item 7 of Table 11.5.1.1.B. of Division B of the Regulation is amended by striking out “3.1.8.7. to 3.1.8.9.” in Column 2 and substituting “3.1.8.7., 3.1.8.8. and 3.1.8.9.”.

(5) Item 50 of Table 11.5.1.1.B. of Division B of the Regulation is amended by striking out “3.4.6.5.(2) to (11)” in Column 2 and substituting “3.4.6.5.(3) to (13)”.

(6) Item 55 of Table 11.5.1.1.B. of Division B of the Regulation is amended by striking out “3.4.6.11.(1), (2) and (4)” in Column 2 and substituting “3.4.6.11.(1) to (3) and (5)”.

(7) Item 58 of Table 11.5.1.1.B. of Division B of the Regulation is amended by striking out “3.4.6.18.(1)(c)” in Column 2 and substituting “3.4.6.18.(4)(b)”.

(8) Item 77 of Table 11.5.1.1.B. of Division B of the Regulation is amended by striking out “3.8.3.13.(2)(f)” in Column 2 and substituting “3.8.3.13.(2)(g)”.

(9) Table 11.5.1.1.B. of Division B of the Regulation is amended by striking out the following rows:

|  | NUMBER | PART 4 REQUIREMENTS | PART 11 <i>COMPLIANCE ALTERNATIVE</i> |
|--|--------|---------------------|---------------------------------------|
|--|--------|---------------------|---------------------------------------|

. . . . .

|  | NUMBER | PART 6 REQUIREMENTS | PART 11 <i>COMPLIANCE ALTERNATIVE</i> |
|--|--------|---------------------|---------------------------------------|
|--|--------|---------------------|---------------------------------------|

. . . . .

|  | NUMBER | PART 8 REQUIREMENTS | PART 11 <i>COMPLIANCE ALTERNATIVE</i> |
|--|--------|---------------------|---------------------------------------|
|--|--------|---------------------|---------------------------------------|

290. (1) The heading to Column 1 of Table 11.5.1.1.C. of Division B of the Regulation is amended by,

(a) striking out “Col. 1” and substituting “Column 1”; and

(b) striking out “NUMBER” and substituting “C.A. Number”.

(2) The heading to Column 2 of Table 11.5.1.1.C. of Division B of the Regulation is amended by striking out “PART 3 REQUIREMENTS” and substituting “Division B Requirements”.

(3) The heading to Column 3 of Table 11.5.1.1.C. of Division B of the Regulation is amended by striking out “PART 11 *COMPLIANCE ALTERNATIVE*” and substituting “*Compliance Alternative*”.

(4) Item 9 of Table 11.5.1.1.C. of Division B of the Regulation is amended by striking out “3.1.8.7. to 3.1.8.9.” in Column 2 and substituting “3.1.8.7., 3.1.8.8. and 3.1.8.9.”.

(5) Item 48 of Table 11.5.1.1.C. of Division B of the Regulation is revoked and the following substituted:

|     |     |          |                                                                                                                                                                                                                                                                            |
|-----|-----|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 48. | C48 | 3.4.4.1. | <i>Fire separations of exits permitted in buildings:</i><br>(a) 30 min, up to 3 storeys in building height,<br>(b) 45 min, in hotels up to 3 storeys in building height,<br>(c) 45 min, up to 6 storeys in building height,<br>(d) 1 h, over 6 storeys in building height. |
|-----|-----|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

(6) Item 54 of Table 11.5.1.1.C. of Division B of the Regulation is amended by striking out “3.4.6.4.(1)” in Column 2 and substituting “3.4.6.4.(1) to (3)”.

(7) Item 55 of Table 11.5.1.1.C. of Division B of the Regulation is amended by striking out “3.4.6.4.(2) and (3)” in Column 2 and substituting “3.4.6.4.(4) and (5)”.

(8) Item 56 of Table 11.5.1.1.C. of Division B of the Regulation is amended by striking out “3.4.6.5.(2) and (11)” in Column 2 and substituting “3.4.6.5.(3) to (13)”.

(9) Item 57 of Table 11.5.1.1.C. of Division B of the Regulation is amended by striking out “3.4.6.6.(2) and (4)” in Column 2 and substituting “3.4.6.6.(2) to (4)”.

(10) Item 62 of Table 11.5.1.1.C. of Division B of the Regulation is amended by striking out “3.4.6.11.(1) and (2)” in Column 2 and substituting “3.4.6.11.(1), (1.1) and (2)”.

(11) Item 87 of Table 11.5.1.1.C. of Division B of the Regulation is amended by striking out “3.8.3.13.(2)(f)” in Column 2 and substituting “3.8.3.13.(2)(g)”.

(12) Item 110 of Table 11.5.1.1.C. of Division B of the Regulation is amended by striking out “9.8.4.3.” in Column 2 and substituting “9.8.4.3. and 9.8.4.5A.”.

(13) Table 11.5.1.1.C. of Division B of the Regulation is amended by striking out the following rows:

|  | NUMBER | PART 4 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--|--------|---------------------|--------------------------------|
|--|--------|---------------------|--------------------------------|

. . . . .

|  | NUMBER | PART 6 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--|--------|---------------------|--------------------------------|
|--|--------|---------------------|--------------------------------|

. . . . .

|  | NUMBER | PART 8 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--|--------|---------------------|--------------------------------|
|--|--------|---------------------|--------------------------------|

. . . . .

|  | NUMBER | PART 9 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--|--------|---------------------|--------------------------------|
|--|--------|---------------------|--------------------------------|

. . . . .

|  | NUMBER | PART 12 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--|--------|----------------------|--------------------------------|
|--|--------|----------------------|--------------------------------|

291. (1) The heading to Column 1 of Table 11.5.1.1.D/E. of Division B of the Regulation is amended by,

(a) striking out “Col. 1” and substituting “Column 1”; and

(b) striking out “NUMBER” and substituting “C.A. Number”.

(2) The heading to Column 2 of Table 11.5.1.1.D/E. of Division B of the Regulation is amended by striking out “PART 3 REQUIREMENTS” and substituting “Division B Requirements”.

(3) The heading to Column 3 of Table 11.5.1.1.D/E. of Division B of the Regulation is amended by striking out “PART 11 COMPLIANCE ALTERNATIVE” and substituting “Compliance Alternative”.

(4) Item 9 of Table 11.5.1.1.D/E. of Division B of the Regulation is amended by striking out “3.1.8.7.; 3.1.8.9.” in Column 2 and substituting “3.1.8.7., 3.1.8.8. and 3.1.8.9.”.

(5) Item 43 of Table 11.5.1.1.D/E. of Division B of the Regulation is revoked and the following substituted:

|     |      |          |                                                                                                                                                                                                        |
|-----|------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 43. | DE43 | 3.4.4.1. | Fire separations of exits permitted in buildings:<br>(a) 30 min, up to 3 storeys in building height,<br>(b) 45 min, up to 6 storeys in building height,<br>(c) 1 h, over 6 storeys in building height. |
|-----|------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

(6) Item 49 of Table 11.5.1.1.D/E. of Division B of the Regulation is amended by striking out “3.4.6.4.(1)” in Column 2 and substituting “3.4.6.4.(1) to (3)”.

(7) Item 50 of Table 11.5.1.1.D/E. of Division B of the Regulation is amended by striking out “3.4.6.4.(2) and (3)” in Column 2 and substituting “3.4.6.4.(4) and (5)”.

(8) Item 51 of Table 11.5.1.1.D/E. of Division B of the Regulation is amended by striking out “3.4.6.5.(2) to (11)” in Column 2 and substituting “3.4.6.5.(3) to (13)”.

(9) Item 57 of Table 11.5.1.1.D/E. of Division B of the Regulation is amended by striking out “3.4.6.11.(1) and (2)” in Column 2 and substituting “3.4.6.11.(1), (1.1) and (2)”.

(10) Item 80 of Table 11.5.1.1.D/E. of Division B of the Regulation is amended by striking out “3.8.3.13.(2)(f)” in Column 2 and substituting “3.8.3.13.(2)(g)”.

(11) Item 95 of Table 11.5.1.1.D/E. of Division B of the Regulation is amended by striking out “9.8.4.3.” in Column 2 and substituting “9.8.4.3. and 9.8.4.5A.”.

(12) Table 11.5.1.1.D/E. of Division B of the Regulation is amended by striking out the following rows:

|  | NUMBER | PART 4 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--|--------|---------------------|--------------------------------|
|--|--------|---------------------|--------------------------------|

. . . . .

|  | NUMBER | PART 6 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--|--------|---------------------|--------------------------------|
|--|--------|---------------------|--------------------------------|

. . . . .

|  | NUMBER | PART 8 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--|--------|---------------------|--------------------------------|
|--|--------|---------------------|--------------------------------|

. . . . .

|  | NUMBER | PART 9 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--|--------|---------------------|--------------------------------|
|--|--------|---------------------|--------------------------------|

292. (1) The heading to Column 1 of Table 11.5.1.1.F. of Division B of the Regulation is amended by,

(a) striking out “Col. 1” and substituting “Column 1”; and

(b) striking out “NUMBER” and substituting “C.A. Number”.

(2) The heading to Column 2 of Table 11.5.1.1.F. of Division B of the Regulation is amended by striking out “PART 3 REQUIREMENTS” and substituting “Division B Requirements”.

(3) The heading to Column 3 of Table 11.5.1.1.F. of Division B of the Regulation is amended by striking out “PART 11 COMPLIANCE ALTERNATIVE” and substituting “Compliance Alternative”.

(4) Item 9 of Table 11.5.1.1.F. of Division B of the Regulation is amended by striking out “3.1.8.7.; 3.1.8.9.” in Column 2 and substituting “3.1.8.7., 3.1.8.8. and 3.1.8.9.”.

(5) Item 45 of Table 11.5.1.1.F. of Division B of the Regulation is revoked and the following substituted:

|     |     |          |                                                                                                                                                                                                        |
|-----|-----|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 45. | F45 | 3.4.4.1. | Fire separations of exits permitted in buildings:<br>(a) 30 min, up to 3 storeys in building height,<br>(b) 45 min, up to 6 storeys in building height,<br>(c) 1 h, over 6 storeys in building height. |
|-----|-----|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

(6) Item 51 of Table 11.5.1.1.F. of Division B of the Regulation is amended by striking out “3.4.6.4.(1)” in Column 2 and substituting “3.4.6.4.(1) to (3)”.

(7) Item 52 of Table 11.5.1.1.F. of Division B of the Regulation is amended by striking out “3.4.6.4.(2) and (3)” in Column 2 and substituting “3.4.6.4.(4) and (5)”.

(8) Item 53 of Table 11.5.1.1.F. of Division B of the Regulation is amended by striking out “3.4.6.5.(2) to (11)” in Column 2 and substituting “3.4.6.5.(3) to (13)”.

(9) Item 59 of Table 11.5.1.1.F. of Division B of the Regulation is amended by striking out “3.4.6.11.(1) and (2)” in Column 2 and substituting “3.4.6.11.(1), (1.1) and (2)”.

(10) Item 81 of Table 11.5.1.1.F. of Division B of the Regulation is amended by striking out “3.8.3.13.(2)(f)” in Column 2 and substituting “3.8.3.13.(2)(g)”.

(11) Item 95 of Table 11.5.1.1.F. of Division B of the Regulation is amended by striking out “9.8.4.3.” in Column 2 and substituting “9.8.4.3. and 9.8.4.5A.”.

(12) Table 11.5.1.1.F. of Division B of the Regulation is amended by striking out the following rows:

|  | NUMBER | PART 4 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--|--------|---------------------|--------------------------------|
|--|--------|---------------------|--------------------------------|

. . . . .

|  | NUMBER | PART 6 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--|--------|---------------------|--------------------------------|
|--|--------|---------------------|--------------------------------|

. . . . .

|  | NUMBER | PART 8 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--|--------|---------------------|--------------------------------|
|--|--------|---------------------|--------------------------------|

. . . . .

|  | NUMBER | PART 9 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--|--------|---------------------|--------------------------------|
|--|--------|---------------------|--------------------------------|

293. Clause 12.3.1.2.(1)(a) of Division B of the Regulation is amended by striking out “CAN/CSA-A440.2” at the beginning and substituting “CSA A440.2”.

294. Clause 2.4.2.1.(2)(c) of Division C of the Regulation is amended by,

(a) striking out “NRCC 53301” and substituting “NRCC 56190”; and

(b) striking out “NRCC 53302” and substituting “NRCC 56193”.

295. (1) Section 4.1. of Division C of the Regulation is amended by adding the following Subsection:

#### 4.1.6. Transition, January 2020

##### 4.1.6.1. Transition Rule

(1) Subject to Sentence (2), this Regulation, as it read on December 31, 2019, is deemed to continue in force with respect to *construction* for which a permit has been applied for before January 1, 2020.

(2) Sentence (1) does not apply unless the *construction* is commenced within six months after the permit is issued.

(2) Section 4.1. of Division C of the Regulation is amended by adding the following Subsection:

#### 4.1.7. Transition, January 2022

##### 4.1.7.1. Transition Rule

(1) Subject to Sentence (2), this Regulation, as it read on December 31, 2021, is deemed to continue in force with respect to *construction* for which a permit has been applied for before January 1, 2022.

(2) Sentence (1) does not apply unless the *construction* is commenced within six months after the permit is issued.

#### Commencement

296. (1) Subject to subsections (2) and (3), this Regulation comes into force on the day it is filed.

(2) Subsections 1 (1) to (4), (7), (8) and (10), sections 3 to 26, 28 to 52, 54, 56, 57, 62, 64 to 66, 69 to 71, 74, 82 to 85, 87 to 97, 99 to 103, 105, 108 to 181, 183 to 194, 219 to 284, 286 and 287, subsections 288 (1) to (4) and (7) to (9), 289 (1) to (4) and (6) to (9), 290 (1) to (5), (10), (11) and (13), 291 (1) to (5), (9), (10) and (12) and 292 (1) to (5), (9), (10) and (12), sections 293 and 294 and subsection 295 (1) come into force on January 1, 2020.

**(3) Subsections 1 (6), (9) and (11), sections 53, 55, 58 to 61, 63, 67, 68, 72, 73, 75 to 81, 86, 98, 104, 106, 107 and 195 to 218 and subsections 288 (5) and (6), 289 (5), 290 (6) to (9) and (12), 291 (6) to (8) and (11), 292 (6) to (8) and (11) and 295 (2) come into force on January 1, 2022.**

20/19

NOTE: Consolidated regulations and various legislative tables pertaining to regulations can be found on the e-Laws website.

REMARQUE : Les règlements codifiés et diverses tables concernant les règlements se trouvent sur le site Lois-en-ligne.

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