



Guide to the Completion of the City of Kitchener Ontario Building Code Data Matrix for Existing Buildings

A building code data matrix provides an overview of important code requirements applicable to the design when an existing building is proposing an addition, renovation, and/or change of use. Proper evaluation and completion of this matrix is critical to identify the requirements that need to be considered and assists the Design Professional and Building Official to understand the existing conditions and proposed design approach for the building.

The following information has been provided to assist with the proper completion of the matrix.

Note that all Ontario Building Code (OBC) references cited are located in Division B, unless indicated otherwise.

Project Information:

Identify whether your project is an addition, alteration / renovation, and/or change of use. Check all that apply.

Indicate if the subject building falls under the scope of Part 3 or Part 9 by checking the applicable box. To determine if the building is Part 3 or Part 9 refer to OBC articles 1.1.2.2. and 1.1.2.4. of Division A. In addition, check the Part 11 box if Part 11 is also applicable as per Division A, 1.1.2.6.

Provide a brief description of the project (ex. Interior and exterior renovations to create a restaurant).

Major Occupancy Classification

Identify each of the major occupancy groups in the building and describe their use. (e.g. Group D - Business and Personal Services / Medical Clinic). Refer to OBC 3.1.2. and to Appendix A to the building code for multiple major occupancies. Refer also to Hazard Index Tables 11.2.1.1.B – 11.2.1.1.N in Part 11 of the building code and A-3.1.2.1 (1) of Appendix A to the building code for assistance in determining or classifying major occupancies.

Superimposed Major Occupancies

Indicate if the building is designed with superimposed major occupancies. If Yes, provide a brief description. (e.g. Three stories of Group C – Residential, superimposed over one storey of Group E - Retail). Refer to 3.2.2.7. / 9.10.2.3. for further clarity.

Building Area

Indicate the building area for existing, removed, and new portions of the building and provide a total. Refer to the OBC definition of building area under Division A, 1.4.1.2. Do not use this field for the suite area or area of work.

Gross Floor Area

Indicate the gross floor area for existing, removed, and new portions of the building and provide a total. Refer to the OBC definition of gross floor area under Division A, 1.4.1.2. Note that as per the OBC definition this figure does not include floor area below grade (i.e. does not include the basement), refer to the OBC definitions of basement, and first storey to assist in determining.

Basement Area

Indicate the basement area for existing, removed, and new portions of the building and provide a total. Refer to the OBC definition of basement under Division A, 1.4.1.2.

Mezzanine(s) Area

Indicate if there are any mezzanines in the subject building or suite. If there are mezzanines either existing or proposed check the “Yes” box. If a mezzanine is considered a storey for the purposes of building height as per OBC 3.2.1.1., then please check the “No” box, and ensure to count it under the following section “Number of Storeys”.

There are two types of mezzanines, ‘open’ mezzanines which conform with 3.2.1.1.(3)&(8) / 9.10.4.1.(2), and ‘enclosed’ mezzanines which conform with 3.2.1.1.(4) / 9.10.4.1.(2). Complete the requested information for each type of mezzanine(s) within the building or suite as applicable.

This section of the matrix is intended for simplified mezzanine configurations, for complex configurations, or where multiple mezzanines are located within the same room or suite, more detailed information regarding the specifics of each mezzanine may need to be included with the permit submission to properly evaluate.

Number of Storeys

Enter the number of storeys above grade and below grade. Refer to OBC definitions of storey, grade, first storey, basement, and mezzanine under Division A, 1.4.1.2. Also review the provisions of Division B, 3.2.1.1. Where a mezzanine is considered a storey for the purposes of determining building height ensure to count as a storey in this portion of the matrix.

Height of Building

Enter the height of the building from finished grade to the floor level of the top storey

Number of Streets / Access Routes

Check the appropriate box for the number of streets / access routes that the building faces. If selecting more than one street, review article 3.2.2.10. and ensure the design meets the criteria for facing 2 or 3 streets. (i.e. Where a building site / property abuts two municipal streets – corner lot, that does not necessarily mean the building faces 2 streets as described by the OBC)

Building Classification

Complete the fields to specify the major occupancy and applicable article (3.2.2.20 to 3.2.2.83.) that the building falls under. For Part 9 buildings, leave the 3.2.2.____ field blank.

For existing buildings there may not be a current 3.2.2. article that fits for the existing construction of the building, however the building should still be classified within the most appropriate 3.2.2. article, as if the building were constructed new today. This is needed in order to determine construction requirements for additions and alterations, and does not necessarily mean existing construction be upgraded, unless dictated through the Part 11 evaluation, which is covered in more detail later in this guide.

A building may have different major occupancies, but it is generally given one classification with the most restrictive occupancy governing. However, superimposed occupancies may be separately classified as described under 3.2.2.7. / 9.10.2.3.

Construction Types

Specify the building construction restrictions (i.e. is combustible construction permitted, etc.).

The 'OBC Requirement' section shall be based on the construction type dictated by the applicable 3.2.2. article for the building. In the case of a Part 9 building, combustible construction is permitted.

The 'Actual' construction section shall be based on the actual construction proposed for the building. Note that non-combustible shall only be selected where all construction elements are proposed to be non-combustible or comply with 3.1.5., if some or all do not, the 'combination combustible and non-combustible' box should be checked.

Sprinkler System

Check the box indicating whether a sprinkler system is 'required' or 'not required' by the OBC to be installed in all or part of the building. If required in part of the building only check the 'required' box, as this will be further clarified in the next section. If not required by the OBC to be installed, but is or was elected to be installed, please check the 'not required' box.

Under the 'existing' section, specify if the existing building contains a sprinkler system in the entire building, part of the building (various options listed), or if there is no sprinkler system installed, check the 'none' box.

Under the 'proposed' section, specify if a sprinkler system is proposed in the entire building, part of the building (various options listed), or if not required and not proposed to be installed, check the 'none' box.

Select from the drop down if NFPA 13, 13D or 13R is applicable to the building, and specify which edition of the applicable standard the system will be designed and installed to. Where a sprinkler system is not required or installed, this portion may be left blank. For existing buildings where a sprinkler system is installed and no additions or modifications are proposed to the sprinkler system, the edition field may be left blank. Where a sprinkler system is not required by OBC and is elected to be installed for other purposes and the system is not proposed to conform to the applicable NFPA standard (13, 13D or 13R) the section may be left blank, and provide explanation in the notes field.

Standpipe

Check the box indicating whether a standpipe and hose system is 'required' or 'not required' by the OBC to be installed in all or part of the building. If required in part of the building only check the 'required' box, as this will be further clarified in the next section.

Under the 'existing' section, specify if the existing building contains a standpipe system in the entire building, part of the building (various options listed), or if there is no standpipe installed, check the 'none' box.

Under the 'proposed' section, specify if a standpipe system is proposed in the entire building, part of the building (various options listed), or if not required and not proposed to be installed, check the 'none' box.

Select from the drop down if NFPA 14 is applicable to the building, and specify which edition of the applicable standard the system will be designed and installed to. Where a standpipe system is not required or installed, this portion can be left blank. For existing buildings where a standpipe system is installed and no additions or modifications are proposed to the standpipe system, the edition field may be left blank. Where a standpipe system is not required by OBC and is elected to be installed for other reasons and the system is not proposed to conform to the NFPA 14 standard the section may be left blank, and provide explanation in the notes field.

Fire Alarm

Check the box indicating whether a fire alarm system is 'required' or 'not required' by the OBC to be installed in all or part of the building. Indicate whether the fire alarm is a single stage or two-stage fire alarm. If a fire alarm is not required and not installed, check the "none" box. For unique installations (i.e. alternative solutions) where the check box options may not fully describe the system, check the 'other' box and add complete the notes section. Unlike sprinkler and standpipe systems, where a fire alarm is not required by OBC but is voluntarily installed, it must fully conform to the requirements of the OBC and referenced fire alarm performance standards.

Required Fire Resistance Ratings

Specify the fire resistance rating (FRR) required for floors, roofs and mezzanines within the building as prescribed by the applicable 3.2.2. article for the building, or 3.2.1.4. for floors over basements. For Part 9 buildings as prescribed by 9.10.8.1.

In addition, where non-combustible construction is used in lieu of ratings (where permitted) specify using the drop down.

Water Service / Supply is Adequate

Identify if there is adequate water supply for firefighting provided for the building. For Part 9 buildings this section may be left blank.

High Building (3.2.6.)

Identify if the building is a high building as specified by article 3.2.6.1. For Part 9 buildings the 'No' box may be checked, or the field left blank.

Occupant Load

Provide design information relating to the occupant load of the building or suite, as applicable, by completing the various fields;

Existing: the existing occupant load (before any renovations, additions, etc).

Proposed Total: Specify the new total occupant load

Check the applicable box to identify what the occupant load criteria used was based on.

For complex buildings or buildings with multiple suites, additional information and/or an occupant load breakdown should be provided.

Washrooms

Provide information as to the number of male, female, staff and universal washrooms required by the OBC as well as the number of fixtures provided for each in the applicable spaces provided. Staff washrooms are only applicable to restaurants. If not a restaurant, leave that field blank.

Barrier-Free Design

Check the appropriate box for barrier-free design, and if “No”, provide an explanation of why not.

Concealed space (floor or ceiling) used as a plenum

Check the appropriate box if a concealed floor or ceiling space will be used as a plenum. Refer to definition of plenum in OBC Division B, 1.4.1.2. and additional information under article 3.6.4.3.

Hazardous Substances

Check the appropriate box regarding hazardous substances to be used or stored in connection with any of the occupancies in the project. If ‘Yes’ is checked, provide further details. In addition, the City of Kitchener [Building and Fire Code Design form](#) will be required to be completed and submitted with the permit application. Refer to OBC Division B, 3.3.1.2., 3.3.1.19. and the Ontario Fire Code for further information.

Spatial Separations

Provide spatial separation information in the appropriate fields for each building face as applicable. For alterations where no modifications to the exterior openings, then this section may be left blank.

This section of the matrix is intended for simplified spatial separation calculations. For complex building faces or buildings that will be divided into multiple fire compartments for spatial separation purposes, supplemental information and more comprehensive spatial separation details may need to be submitted. In these cases, select “see attached detailed spatial separation information” from the drop down list, and include the additional information with the permit submission.

For simplified spatial separations, select from the drop down lists the applicable OBC Table used to determine the maximum percentage of unprotected openings, and the Table used to determine the minimum construction requirements. Complete the table with the information noted for each column.

Guide to the Completion of the City of Kitchener Ontario Building Code Data Matrix for Part 10/11 - Change of Use and/or Performance Level Evaluation of Existing Buildings

A Part 10/11 Change of Use and/or Performance Level Evaluation is required for all existing buildings undergoing renovations and/or change of use. Proper evaluation and completion of this matrix is critical to identify the requirements that need to be considered.

The following information has been provided to assist with the proper completion of the matrix.

Building Classification

Complete the following information for the existing building classification, and separately for the proposed building classification in the spaces provided.

Major Occupancy Classification

Select the major occupancy classification for the part of the building undergoing the renovation or change of use (ex. Group D). Refer to OBC Division B, 3.1.2.1. or 9.10.2.1. and to Appendix A, A-3.1.2.1. You may also choose to refer to the Part 11 Hazard Index Tables 11.2.1.1.B to 11.2.1.1.N in for assistance in determining or classifying major occupancies.

Describe Use

There are many different specific types of occupancies in each major occupancy category. Specify the specific type of major occupancy classification (ex. Chiropractic Office). Refer to the Part 11 Hazard Index Tables 11.2.1.1.B to 11.2.1.1.N and where possible, preferably describe as listed in these Tables for clarity. In addition, ensure to be specific as some uses may be listed more than once depending on the type of operation (ex. Dental Office (Denture Clinic), Dental Offices (Surgical/Anesthesia), Dental Offices (General)). In the OBC Reference column of the Matrix select the applicable Table B to N from the drop-down list for the specified occupancy type.

Building Size

Indicate the size of the building as Small, Medium, Large, or >Large. Refer to the footnotes at the end of each of the Hazard Index Tables 11.2.1.1.B to 11.2.1.1.N. Note that the building size definition varies for different occupancy types, therefore ensure to read the size parameters for each applicable major occupancy. In the 'OBC Reference' column of the matrix select the applicable Table B to N from the drop-down list for the specified occupancy type.

Hazard Index (H.I.)

Specify the Hazard Index, which is a level of 1 to 8, based on the major occupancy of the subject suite, or the building in the case of a single occupancy building. Refer to OBC Division B, 1.4.1.2. for definition of Hazard Index and Appendix A, A-11.2.1.1.(1)(b) for explanatory material. The Hazard Index is determined using Tables 11.2.1.1.B. to N. where a separate Table is provided for each Major Occupancy type. Once the correct Table is located, the Hazard Index may be determined by selecting the most appropriate occupancy type within the Table and aligning with the Building Size (Small, Medium, Large), or in the case of >Large refer to the footnotes of the Table. In the 'OBC Reference' column of the matrix select the applicable Table B to N from the drop-down list for the specified occupancy type.

Construction Index (C.I.)

Indicate the Construction Index, which is a level on a scale of 1 to 8, based on the existing construction conditions. Refer to OBC Division B, 1.4.1.2. for definition of Construction Index and Appendix A, A-11.2.1.1.(1)(a) for explanatory material. The Construction Index is determined by using Table 11.2.1.1.A. based on the type of construction (Combustible / Noncombustible) and the fire-resistance rating of the floors and roof. Note this is based on the existing conditions of the building, before any demolitions or removals, and before any proposed building upgrades. Note that the construction index need not be complete where there is no change in major occupancy or where the change in major occupancy does not result in an increase in hazard index.

Renovation Type

Indicate the renovation type of the project (Basic Renovation, Extensive Renovation). Refer to 11.3.3.1., 11.3.3.2. and associated Appendix A explanatory material A-11.3.3.1. and A-11.3.3.2.

Reduction in Performance Level

Evaluate and identify if there is any reduction in performance level for each category listed. Review each of the applicable articles (Structural – 11.4.2.1., Increase in Occupant Load – 11.4.2.2., Change of Major Occupancy – 11.4.2.3., Plumbing – 11.4.2.4., Sewage Systems – 11.4.2.5., Extension of Buildings of Combustible Construction – 11.4.2.6.). If a reduction in performance level is identified check the 'yes' box, and in the 'OBC Reference' column of the matrix add the applicable sentence and clause in which a reduction in performance level was identified. Also note that there may be more than one reduction under a specified category, and each sentence or clause should be noted where more than one is applicable. Ensure to check the 'Yes' box whenever a reduction of performance level per Subsection 11.4.2. is identified including where existing conditions and/or proposed construction meet the required compensating construction.

Compensating Construction

Where the performance level of an existing building is reduced under Subsection 11.4.2., compensating construction shall be required in conformance with Subsection 11.4.3. Evaluate and identify if there is any compensating construction for each category listed (Structural – 11.4.3.2., Increase in Occupant Load – 11.4.3.3., Change of Major Occupancy – 11.4.3.4., Plumbing – 11.4.3.5., Sewage Systems – 11.4.3.6., Extension of Buildings of Combustible Construction – 11.4.3.7.).

Where no reduction in performance level was determined for a certain category (Structural, Increase in Occupant Load, Change in Major Occupancy, Plumbing, Sewage Systems, Extension of Combustible Construction), compensating construction is not required for that category and you may check the 'No' box.

For each category where a reduction in performance level was identified, read the corresponding compensating construction article for that category to determine if any compensating construction is required. If compensating construction is not required, check the 'No' box and provide a brief explanation in the space provided. If compensating construction is identified, check the 'Yes' box and provide a brief description in the space provided and in the 'OBC Reference' column of the matrix add the applicable sentence and clause in which compensating construction was identified (ex. Early warning and evacuation systems to be upgraded as indicated [11.4.3.3.(1)]).

Compliance Alternatives Proposed

Identify if compliance alternatives are proposed (Yes / No). If compliance alternatives are proposed to be used, specify the compliance alternative number(s) from the Compliance Alternative Tables (Table 11.5.1.1.A. to 11.5.1.1.F.) and provide a brief description. Refer to OBC Division B, 1.4.1.2. for definition of compliance alternative and Appendix A, A-11.5.1. for explanatory material.

Confirmation of Designer Completing Matrix

The designer completing the matrix should be the individual responsible for the architectural scope of work and/or has prepared the architectural drawings for the building permit and should be knowledgeable with Part 11 and the change of use process.

The design professional who completed the form shall print/type their name and sign the form where indicated.