

## Guide to the Completion of the OAA Building Code Data Matrices

A Building Code Data Matrix presents pertinent selected elements from a detailed code analysis to provide an overview of the key code factors of the design to municipal Building Officials and others.

Following is guidance for completing information for each type of matrix for Parts 3, 9, 10 or 11. Refer also to general information regarding Procedures in Practice Tip PT.3.

If there is insufficient space in a matrix for any information, insert additional rows or list the information in a separate table identifying which item it relates to and cross reference to the additional information. Where more space is provided than is needed, hide or delete the unnecessary rows.

Where using the MS Excel templates, refer to additional information in the “Read Me First” tab of the Excel workbook. Where using the MS Word template versions with MS Word for the Mac, the functional check-boxes may not appear or function due to updates in MS Word software that has not currently been updated in Word for Mac software. The OAA is working to resolve the issue for Mac users.

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### Part 3:

#### Practice

Enter the Name of the Practice, address and contact person.

#### Project

Enter the Name of the Project with a brief identifying description (e.g. Lester Pearson Elementary School) and the official address/location of the Project.

#### Building Code Version

Confirm the building code version to which the project is designed, the regulation for the issued building code and the last amendment regulation.

#### Project Type

Identify the Project type as either New Construction, Addition, Renovation, Addition and Renovation, or Change of Use. Provide a brief description of the project: (e.g. construction of two-storey addition to the east face)

#### Major Occupancy Classification

Identify each of the major occupancy groups in the building and describe their use. (e.g. 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).

**Building Area & Gross Floor Area**

Indicate the building area for existing and new portions of the building and provide a total. Provide a simple description of the areas (e.g. existing building, east addition). If a portion of the building is to be demolished, enter in the Existing column only that portion which is to remain, such that the total of the new and existing is the area of the final project. Similarly indicate the gross floor area of the building. Refer to OBC definitions for building area and gross floor area.

**Mezzanine Area**

Note whether there are mezzanines, how many, where and their areas – if none – enter N/A.

**Building Height**

Enter the number of storeys above and below grade, and the building height as defined.

**High Building**

Check the appropriate “Yes” or “No” box in regard to whether the building is a high building as defined.

**Number of Streets / Firefighter Access.**

Enter number of streets and fire access routes.

**Building Classification**

Identify the classification of the building according to 3.2.2. Building Size and Construction Relative to Occupancy. 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.

**Sprinklers, Standpipe, Fire Alarm Systems and Water Supply**

Obtain information from engineers and check the appropriate boxes.

**Construction Type**

Identify the project construction restrictions (“combustible permitted”, “non-combustible required”) (refer to Building Classification).

Indicate the actual construction (“combustible”, “non-combustible”, “combination”) and whether heavy timber construction is used.

**Importance Category & Seismic Hazard Index**

Check the appropriate box for Importance Category and refer to PT.35 *Importance Category and Seismic Restraint* for completion of this section of the building code data matrix. Obtain information as required from a structural and geotechnical engineer.

Provide the seismic hazard index, calculated in accordance with Part 4. In order to calculate the seismic hazard index, obtain information on the importance category, site class, 5% spectral response acceleration, earthquake importance factor, and acceleration-based coefficient. Obtain site class information from the owner. This information is typically provided in a geotechnical investigation report.

**Occupant Load**

Provide design information as to the occupancy and occupant load per floor and method of calculation.

**Barrier-free Design**

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

**Hazard Substances**

Check appropriate box in regard to hazardous substances to be used in connection with any of the occupancies in the project.

**Required Fire Resistance Ratings**

Enter in the spaces provided, the fire resistance rating required for floors, roofs and mezzanines, as well as the supporting members for these.

Indicate where non-combustible construction is used in lieu of ratings (where permitted). Note that the fire resistance ratings required may change for different major occupancies.

If the table in the matrix will not accommodate all the information, prepare a separate table and/or schematic plan and cross reference accordingly.

Indicate the listed design numbers (e.g. ULC, cUL, MMAH SB-2) for the horizontal assemblies and their supporting members in an appropriate location in the construction documents, such as a building assemblies schedule where the designations can be more readily associated with a location or construction type.

**Spatial Separation**

Provide the spatial separation information in the appropriate columns for each building face/compartments as applicable. Provide a description of the exposing building face (e.g. "West Elevation", "North Wall, Fire Compartment 1") and identify the same on the drawings.

Provide the required fire resistance rating, construction type ("combustible permitted", "non-combustible required") and cladding type ("combustible permitted", "non-combustible required").

**Plumbing Fixture Requirements**

Provide design information as to the occupancy, occupant load male/female ratio, and plumbing fixtures required and provided.

Add plumbing fixture calculations either on the same drawing sheet as the matrix or separately, confirming that the number of plumbing fixtures provided is not less than required by the occupant loads for the various occupancies. It may be necessary to provide a breakdown of the various occupancies in order to provide the required information with clarity. Adapt the matrix to clearly describe the project.

Where there is an occupancy change under Part 11, Section 3.7 applies and may require an adjustment of the required number of plumbing fixtures due to the change in occupancy or specific use within an occupancy.

Account appropriately for any unisex or universal washrooms.

**Energy Efficiency**

State the Compliance Path utilized in the design and indicate the Climatic Zone.

**Notes**

Enter other information that, in your professional judgment, will assist in expediting issuance of the building permit.

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**Part 9:**

This section includes only information that differs from a Part 3 matrix. For any items in this matrix not described below refer to the information for completion of a Part 3 matrix.

**Post-disaster Building**

Indicate if the building is a Post-disaster building. If Yes, refer to Practice Tip PT 35.

**Energy Efficiency**

Indicate "Residential" or "Non-Residential" as the Energy Efficiency category.

Indicate the appropriate compliance option for "Residential" or "Non-residential" categories.

**Project Design Conditions**

Indicate Climatic Zone, Fenestration, Skylights, Space Heating Fuel, Heating Equipment Efficiency, Other Conditions and Compliance Package.

Provide supporting information/documentation to support compliance path as required.

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## Part 10: Change of Use

This section includes only information that differs from a Part 3 matrix. For any items in this matrix not described below, refer to the information for completion of a Part 3 matrix.

### **Building Size**

Indicate the size of the building as Small, Medium, Large, or >Large. Refer to the notes at the end of the hazard index tables 11.2.1.1.B-N. Note that building size definition varies for different occupancies.

### **Existing Building Classification**

Indicate if there is a change in the major occupancy of the building or portion thereof being renovated.

If there is a change in the major occupancy, then classify the building according to its construction index [1-8] and hazard index [1-7].

As required, indicate the construction index of the building based on its type of construction and fire-resistance ratings.

As required, indicate the hazard index of the building based on its occupancy and size.

### **Renovation Type**

Indicate the renovation type of the project [Basic Renovation, Extensive Renovation].

### **Reduction in Performance Level**

Identify if there is any reduction in performance level for each listed category.

Obtain necessary information regarding structural, plumbing, and sewage systems from the relevant consultants.

If Yes, provide a brief explanation in the subsequent rows. E.g. "Increase in occupant load of >15% [OBC 11.4.2.2.(1)]".

### **Compliance Alternatives Proposed**

Identify if compliance alternatives are proposed.

If Yes, identify the numbers from the appropriate compliance alternative tables [OBC T11.5.1.1.A-F] and provide a brief description.

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## Part 11 – Renovation

This section includes only information that differs from a Part 3 matrix. For any items in this matrix not described below refer to the information for completion of a Part 3 matrix.

### Building Size

Indicate the size of the building as Small, Medium, Large, >Large. Refer to the notes at the end of the hazard index tables 11.2.1.1.B-N. Note that building size definition varies for different occupancies.

### Existing Building Classification

Indicate if there is a change in the major occupancy of the building or portion thereof being renovated.

If there is a change in the major occupancy, then classify the building according to its construction index [1-8] and hazard index [1-7].

As required, indicate the construction index of the building based on its type of construction and fire-resistance ratings.

As required, indicate the hazard index of the building based on its occupancy and size. Building height is required in order to classify the “size” of the building and consequently determine its hazard index.

Indicate the importance category of the building [“Low”, “Normal”, “High”, “Post-Disaster”]. For “Low” and “High” categories, provide further explanation for their classification (e.g. “low human occupancy” or “explosive substances”).

### Renovation Type

Indicate the renovation type of the project [Basic Renovation, Extensive Renovation].

### Reduction in Performance Level

Identify if there is any reduction in performance level for each listed category. Obtain necessary information regarding structural, plumbing, and sewage system from the relevant engineers. If Yes, provide a brief explanation in the subsequent rows. E.g. “Increase in occupant load of >15% [OBC 11.4.2.2.(1)]”.

### Compensating Construction

Identify if compensating construction is required [Yes, No, N/A]. If Yes, provide a brief explanation in the subsequent rows. E.g. “Early warning and evacuation system to be upgraded as indicated [OBC 11.4.3.3.(1)]”.

### Compliance Alternatives Proposed

Identify if compliance alternatives are proposed [Yes, No, N/A]. If Yes, identify the numbers from the appropriate compliance alternative tables [OBC T11.5.1.1.A-F] and provide a brief description.