

## Building Code Data Matrices

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### Summary

Practice Tip PT.03 describes tools for use by members in compiling a building code data matrix and includes information on some improvements to the matrices.

Regulation 27 of the *Architects Act* requires that members must include building code compliance data in an application for building permit in accordance with original Practice Bulletin A.9 2004. PT.03 is an update of the original Practice Bulletin A.9 as a result of changes to the building code and current practice. Appropriate practice in regard to communication of code related data when applying for a building permit includes a systematic approach to compilation and presentation of a summary of the project's key building code compliance data.

### Background

This Practice Tip provides a suggested means of organizing, summarizing, and presenting critical building code compliance data that forms the basis for the design of the building.

The summary is not intended to 1) be a comprehensive listing of all items in a building code review or analysis, but rather identifies key building code requirements to which the design complies, nor 2) a guide to how to conduct a building code analysis.

Locating this summary information in a conspicuous place on one of the first sheets of the drawing set not only expedites the building official's review of the application, but also informs others involved with the project (e.g. contractors, trades, consultants, etc.) about applicable code related issues and choices. Although the information specifically refers to the Building Code in effect in Ontario, similar procedures can be used for projects governed by the National Building Code of Canada or any of the other provincial building codes.

Until the introduction of Group G Farm Buildings, it was typically only necessary to include a single data matrix for a building. If you have a building with Group G and other occupancies in combination, include both a Part 2 matrix and the appropriate matrix for the other occupancy. This is necessitated because Group G is neither a Part 3 nor a Part 9 occupancy.

### Current Revisions

As required by the adoption of OBC 2024, the code references for all the matrices have been reviewed and revised as needed.

A new Part 2 – Farm Buildings matrix has been created for Group G occupancies.

The Part 3 matrix reflects the change from seismic hazard index to seismic category as a building code parameter. 3.26 was added to highlight any alternative solutions used. Notes was renumbered as 3.27

The Part 9 matrix was revised to include bracing to resist lateral loads due to wind and earthquake as section 9.22. This refers to bracing of non-structural elements. For consistency with the Part 3 matrix 9.23 Alternative Solutions was added and Notes was renumbered as 9.24.

The Part 10 and 11 matrices were updated to include references to Part 2 – Farm Buildings.

The Excel matrix tool for member use makes extensive use of drop-down lists to speed data entry and to make input more convenient and consistent.

The Microsoft Word based version of the matrices remains and has been updated for those who prefer to use that option.

The templates are separated into five individual matrices. One each for: Part 3, Part 9, Part 10, Part 11 and Part 2.

In the MS Excel templates there is a Read Me First tab containing information about using the workbook. In the workbook there is additional information on supporting tabs to assist in interpolating limiting distances, determining the requirement for seismic restraint and determining the requirement for bracing due to earthquake and wind loads in Part 9 buildings.

### **Suggested Procedure – Analyze, Document, Verify and Confirm**

1. Code analysis is done in the early design stages and refined through the design development and construction documents stages. Establish in your practice a system that documents the initial code analysis, confirms it during subsequent phases, and that facilitates the inclusion of the selected elements for the building code data that is ultimately submitted with a permit application. Consider including the data matrix as a record of the decisions made in any design briefs developed during the project.
2. Prepare the preliminary data matrix early in the project to establish the overall framework to which the design must comply. This helps to determine which specialist consultants may be required and reduces surprises in later project stages (such as determining an exterior wall is required to be non-combustible due to spatial separation).
3. Use the code data matrix templates to develop a standard for your practice adapted as needed to meet the specific requirements of each project. Establish a location for code data on the drawings (one of the top sheets is considered best) and make this your office standard. Locating the information in a conspicuous place on the drawings not only expedites the building official's review of the permit application, but also informs others involved with the project (e.g. contractors, trades, consultants, etc.) about applicable code related issues.
4. If the data matrix is located other than on the drawings (e.g. in a project booklet) ensure that the building name and address as well as your project number and date of issuance are inserted at the top of the matrix. If the matrix is submitted as a stand-alone document, affix your seal in accordance with Regulatory Notice RN.01.
5. Coordinate with subconsultants and the client's other consultants and share with them the data based on your code analysis. Incorporate information provided by others, such as adequate water supply, soil class, etc. Request that they similarly include on their drawings building code related data relevant to their disciplines, in accordance with the standards of their profession.
6. Pertinent building code references are included in the templates to assist in checking the requirements. You may prefer to omit these references or refer to only those specific sections that apply to your project. Customize the matrix to suit the project's specific needs. Check the reference numbers and code related values every time there is a new issuance of or amendment to the applicable code.
7. It may be necessary to provide more than one matrix chart for complex projects in order to provide the required information with clarity. (e.g. underground parking garage Part 3 and townhouse Part 9 on same site, multi-use buildings with Part 2 and Part 3 occupancies, or extensive renovations, additions or renovations: Part 11 and Part 3 or Part 9). Adapt the matrices to clearly describe the project.
8. Add exit capacity calculations either on the same drawing sheet as the matrix or separately, confirming that the exit capacity exceeds the occupant load.
9. As required, provide supporting graphical information such as:
  - a) plans illustrating travel distance, suite fire separations, suite/building/gross floor areas, exit widths, limiting distances, fire/party walls
  - b) elevations illustrating fire compartments for spatial separation, grade height, building height, access panels
  - c) sections illustrating horizontal fire separations, projections, grade/first storey height, upper ceiling height.

10. Enter other information that, in your professional judgment, will assist in expediting issuance of the building permit.
11. Refer to Attachment 1 to this Practice Tip, the Guide to the Completion of the OAA Building Code Data Matrices for information on completing the provided sample matrices templates.

## References

OAA Building Code Data Matrix Tools for OAA members (Log-in required)

## Documents

Attachment 1 – Guide to the Completion of the OAA Building Code Data Matrices

MS Word Templates

Attachment 2 – 2024 OBC Data Matrix Part 3 – Fire Protection, Occupant Safety and Accessibility

Attachment 3 – 2024 OBC Data Matrix Part 9 – Housing and Small Buildings

Attachment 4 – 2024 OBC Data Matrix Part 10 - Change of Use

Attachment 5 – 2024 OBC Data Matrix Part 11 - Renovations

Attachment 6 – 2024 OBC Data Matrix Part 2 – Farm Buildings

Original OAA Practice Bulletin A.9, 2004

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