
Architecture and Engineering

The distinction and overlap

The Role of APEGM

- ❖ History:
 - ❖ 1907 - Quebec Bridge collapse
 - ❖ 1921 - First Manitoba Engineering Act
 - ❖ 1997 - Bre-X
 - ❖ 1998 - First Geoscience Act

The Role of APEGM

- ❖ Mandate:
 - ❖ govern and
 - ❖ regulate
 - ❖ the practice of professional engineering and professional geoscience in Manitoba;

The Role of APEGM

- ❖ Mandate:
 - ❖ life,
 - ❖ health,
 - ❖ property,
 - ❖ economic interests,
 - ❖ the public interest or
 - ❖ the environment;

The Role of MAA

- ❖ “The Manitoba Association of Architects (MAA) is a self-governing professional association, mandated by the Province of Manitoba under The Architects Act to regulate the practice of architecture in the province.”
- ❖ MAA 100 year anniversary is this year!

The Role of MAA

- ❖ The MAA serves to protect the public interest and advance the profession of architecture.
- ❖ Members are governed by strict principles of ethical and professional conduct (detailed in the MAA By-Laws and Code of Ethics)

The Role of MAA

- ❖ Role of MAA is to regulate members and practice of architecture within the restricted scope
 - ❖ Ensure performance of members
 - ❖ Ensure industry meet legal requirements of the Architects Act
- ❖ Broad demands are placed on architects – other regulations, delivery types, contract types, etc.

The Role of MAA

- ❖ MAA Website has tremendous amount of information - open access
 - ❖ Links to Acts
 - ❖ Member and firm listings (searchable)
 - ❖ Practice bulletins for further clarity – eg. sealing of documents
 - ❖ Listing of Committees

The Role of MAA

- ❖ There are three important documents to understand the practice of Architecture:
 - ❖ The Architects Act: governs the practice of architecture
 - ❖ MAA By-Laws: regulates the practice of architecture
 - ❖ The Building Code: defines the scope of architecture (in conjunction with The Architects Act)

What is Engineering?

- ❖ professional engineering means any act of:
 1. planning, designing, composing, measuring, evaluating, inspecting, advising, reporting, directing ...
 2. that requires the application of engineering principles
 3. and that concerns the safeguarding of life, health, property, economic interests, the public interest or the environment

What is Engineering?

...as it relates to buildings?

1. ✓ planning, designing, ... inspecting, ... directing
2. the application of engineering principles
3. ✓ safeguarding of life, health, property, economic interests

What is Engineering?

...as it relates to buildings?

- ❖ the application of engineering principles:
 - ❖ Science and methodology taught in engineering schools

What is Architecture?

- ❖ Definition from The Architects Act
 - ❖ "architect" means any person who is engaged for hire, gain, or hope of reward in the planning or review for others of the erection, enlargement, or alteration of buildings by persons other than himself;
- ❖ Key is the construction, addition or alteration of buildings

What is Architecture?

- ❖ Prime Consultant
 - ❖ Does an architect have to be the Prime Consultant?
 - ❖ Nothing in the Act prevents a person or firm from being the prime consultant in respect of the erection, construction, enlargement or alteration of a building.

What is Architecture?

- ❖ Who can use the term Architect?
 - ❖ No person or firm is entitled to practice as an architect in Manitoba, or to take or use in Manitoba the designation "architect" or "architects", either alone or in combination with any other words or any name, title, or description, implying that he or they is or are an architect or architects, unless the person or each member of the firm is a **registered architect**.
 - ❖ This includes words such as: architecture, architectural etc.

Engineering Act

- ❖ Registration
 - ❖ Enforcement
- vs
- ❖ Discipline

Engineering Act

- ❖ Enforcement
 - ❖ no person ... shall
 - ❖ (a) engage in the practice ...; or
 - ❖ (b) ... lead any person to believe that he or she is ... a professional engineer ...

Engineering Act

- ❖ Enforcement - Exceptions
 - ❖ Any person who is registered ... under ... any enactment of Manitoba ... which licenses, governs or regulates the practice of a profession ... from practising that profession

Engineering Act

- ❖ Discipline:
 - ❖ unskilled practice or professional misconduct:
 - ❖ (b) conduct unbecoming
 - ❖ (d) contravenes this Act or the by-laws or the code of ethics
 - ❖ (e) displays a lack of knowledge, skill or judgment

Engineering Act

- ❖ Discipline:
 - ❖ Code of Ethics
 - ❖ e.g. obey the laws of the land
 - ❖ e.g. possess the training, ability and experience necessary to fulfill the requirements of any engineering work undertaken

Architects Act

- ❖ The Architects Act regulates the practice of architecture in the province of Manitoba.
- ❖ The Act is a provincial document available from the Province of Manitoba
- ❖ One key component:
 - ❖ the application of the Architects seal
 - ❖ In addition to the Act a MAA practice bulletin has been created to clarify the application of seals.

Architects Act

Application of Seal

- ❖ All working drawings, specifications and certificates involved in the practice of architecture when issued shall bear the seal and signature of the **Registered Member** responsible for the design.
- ❖ All working drawings, specifications and certificates involved in the practice of architecture which are prepared by through or on behalf of a **firm or corporation**, shall bear the seal and signature of the Registered Member responsible for the design and the stamp of the firm or corporation.
- ❖ In order for a Member to be “responsible” for architectural services, he/she must be **actively involved in the planning or review** (ie. directing and controlling the project).

Architects Act

- ❖ DOCUMENTS WHICH MUST BE SEALED:
 - ❖ Plans, drawings, specifications, reports or documents issued by the architect that are complete and intended for construction.

Architecture Act

- ❖ DOCUMENTS WHICH MUST NOT BE SEALED:
 - ❖ Documents not prepared in their entirety under the direction and control of an architect.
 - ❖ Legal documents requiring signature under seal. (Use the corporate seal for legal documents such as contracts, leases, etc.)
 - ❖ Open competition documents where anonymity is a requirement.
 - ❖ Documents that are incomplete (e.g. drafts, preliminary, etc.). Such documents should have a notation indicating their incomplete state.

Architecture Act

- ❖ DOCUMENTS WHICH MAY BE SEALED:
 - ❖ Generally, any item prepared in its entirety under the direction and control of an architect may be sealed at the architect's discretion.
 - ❖ Reports and documents which are not construction documents, but which are complete.

Architects Act

- ❖ Complaint Process
 - ❖ Internal Disciplinary Process
 - ❖ We have three committees
 - ❖ **Investigation Committee**
 - ❖ **Executive**
 - ❖ **Inquiry Committee**

Architects Act

- ❖ Complaint Process
- ❖ Initiated only by formal written complaint
- ❖ The MAA member must respond to the complaint
- ❖ Investigation Committee does a formal investigation
- ❖ Investigation Committee provides report to Executive Council
- ❖ Executive reviews report and determines one of three routes
 - ❖ No evidence of misconduct – dismiss complaint
 - ❖ Contravention that requires a censure
 - ❖ Move to a formal inquiry
- ❖ Inquiry Committee conducts inquiry and determines disciplinary action

Building Code - Engineering

- ❖ Part 3 Fire Protection, Occupant Safety and Accessibility
- ❖ Part 4 Structural Design
- ❖ Part 5 Environmental Separation
- ❖ Part 6 Heating, Ventilating and Air-conditioning
- ❖ Part 7 Plumbing Services
- ❖ Part 8 Safety Measures at Construction and Demolition Sites
- ❖ Part 9 Housing and Small Buildings

Building Code - Architecture

- ❖ The Architects Act, in conjunction with the Building Code defines the scope of Architecture.
- ❖ The Act defines what practice is (ie. planning and supervision of construction relative to a building)
- ❖ The Building Code that defines the scale (size and occupancy type) to which that applies.
- ❖ The planning of smaller, less complex buildings (Part 9) are not restricted, in as far as the design of the "building"

Building Code - Architecture

- ❖ Designers Required:
- ❖ Plans, drawings and related documents submitted with an application to build a building must be prepared, signed and sealed by an architect, a professional engineer or both, as determined in accordance with the following table:
- ❖ Note the chart deals with new construction only – Alterations are a separate provision.

Building Code - Architecture

Building Classification	Designers Required must be skilled in the type of work
Group A: Assembly Occupancies (except for Group A, Division 3: Arenas with a fixed seating capacity of 1,000 people or less)	Architect AND Professional Engineer
Group A, Division 3: Arenas Building with a fixed seating capacity of 1,000 people or less	Architect OR Professional Engineer
Group B: Care or Detention Occupancies	Architect AND Professional Engineer
Group C: Residential Occupancies Building exceeding 600 m ² in building area or exceeding 3 storeys in building height	Architect AND Professional Engineer

Building Code - Architecture

Building Classification	Designers Required must be skilled in the type of work
Group D: Business and Personal Services Occupancies Building exceeding 600 m ² in building area or exceeding 3 storeys in building height	Architect AND Professional Engineer
Group E: Mercantile Occupancies Building exceeding 600 m ² in building area or exceeding 3 storeys in building height	Architect AND Professional Engineer
Group F, Division 1: High Hazard Industrial Occupancies	Architect OR Professional Engineer
Group F, Division 2 and Division 3: Medium and Low Hazard Industrial Occupancies Building exceeding 600 m ² in building area or exceeding 3 storeys in building height	Architect OR Professional Engineer

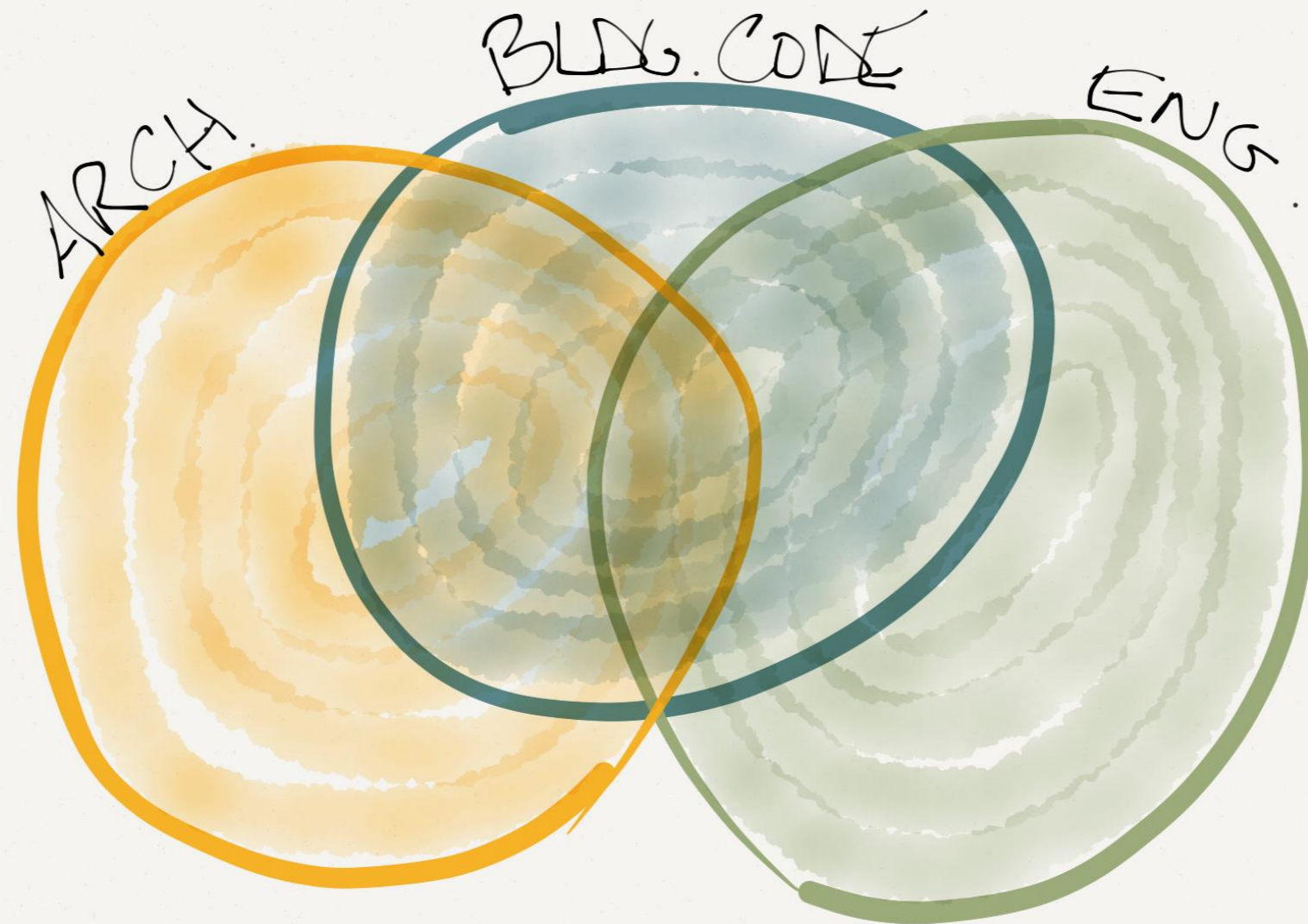
Building Code - Architecture

- ❖ The Building Code attempts to address alterations to existing buildings
- ❖ It distinguishes between:
 - ❖ Interior Design - which is not restricted
 - ❖ architecture and engineering - which are restricted.

Building Code - Architecture

- ❖ Alterations to an applicable building that will affect the integrity of:
- ❖ the mechanical, electrical, and physical fire safety systems,
- ❖ structural systems,
- ❖ environmental separations including the building envelope,
- ❖ HVAC systems,
- ❖ addition of a mezzanine or other similar
- ❖ the plans, drawings and related documents submitted with the application to make the alteration must be prepared, signed and sealed by an architect, a professional engineer or both, as determined by the authority having jurisdiction that relate to the type of work concerned.

Building Code - Grey Areas



Building Code - Grey Areas

- ❖ Part 3 Fire Protection, Occupant Safety and Accessibility
- ❖ Part 4 Structural Design
- ❖ Part 5 Environmental Separation
- ❖ Part 6 Heating, Ventilating and Air-conditioning
- ❖ Part 7 Plumbing Services
- ❖ Part 8 Safety Measures at Construction and Demolition Sites
- ❖ Part 9 Housing and Small Buildings

Case Study - E

Case Study - E

Background

- ❖ Residential - Multi-family
- ❖ Owner...
- ❖ Engineer as prime consultant?

Case Study - E

Design Evolution

- ❖ Engineer develops the floor plan
- ❖ Engineer develops elevations
- ❖ Engineer engages architect for exiting, egress, etc
- ❖ Engineer engages architect for building envelope

Case Study - E

Issues

- ❖ Should the engineer seal the floor plans?
- ❖ Should the engineer seal the elevations?

Case Study - E

Results

- ❖ Engineer was formally cautioned for
 - ❖ Disobeying the laws of the land
 - ❖ Sealing work without the competency (architecture)

Case Study - A

Case Study - A

- ❖ The project:
 - ❖ +10,000 square foot single tenant improvement, including mezzanine, located within a larger single storey strip mall with multiple tenants in the province of Manitoba
- ❖ Question: Did an architect need to be retained on the project?

Case Study - A

- ❖ The Work:
 - ❖ Drawings signed and sealed by a registered architect with both his/her own personal architectural seal and the corporation stamp.
 - ❖ Architectural drawings on the title block of a professional engineer.
 - ❖ Drawing formally submitted to the Authority Having Jurisdiction for permit
 - ❖ Letters of Assurance were submitted for the architectural aspects of the project, certifying compliance with all applicable legislation and professional codes
- ❖ Question: Do you see any issues?

Case Study - A

- ❖ Contracts:
 - ❖ The Engineer was the Prime Consultant
 - ❖ The Engineers contracted with the Architectural firm to provide architectural services
 - ❖ Architectural services were to be limited primarily to MBC issues and requirements related to the building permit process
 - ❖ Architectural services were to include all drawings and documentation required to apply for a building permit and construct the project
 - ❖ Names on arch. drawings (drawn by and checked by) were the sealing engineers
 - ❖ The Engineer would perform all drafting required for the project, under the direction and review of the architect.
- ❖ Question: Do you see any issues?

Case Study - A

- ❖ The Concern/Complaint:
 - ❖ The AHJ was concerned that the architectural drawings carried the title block of an engineering firm and the designed by and checked by areas were filled out by the engineers.
 - ❖ They believed that this did not constitute the correct involvement of an Architect.
- ❖ Question: Do you agree?

Case Study - A

- ❖ The MAA Members Response to the complaint:
 - ❖ The Architect provided correspondence indicating review and mark-up of the drawings prepared by the engineer.
 - ❖ The Architect believed that the architectural plans included “incorrect initials in the ‘designed by’ and ‘checked by’ boxes of the title block”.
 - ❖ The Architect stated that he/she had comprehensive involvement and knowledge of the project.
 - ❖ The Architect believed he/she can to seal drawings which are prepared on his behalf, provided that he/she indeed “directed and reviewed their preparation”.
- ❖ Question: Do you agree with the response?

Case Study - A

- ❖ The MAA Investigation Committee and Executive proceeded with the complaint
- ❖ Findings:
 - ❖ The Engineer is not authorized to practice architecture in the Province of Manitoba.
 - ❖ The Architect is required to maintain direction and control of the architectural considerations involved in the project, despite the involvement of “others” for the actual preparation of drawings on their behalf.
 - ❖ From the outset, the Architect enabled the Engineer to undertake an inappropriate level of involvement in the architectural aspects of the project, by leading the planning and design.

Case Study - A

- ❖ Plans which are prepared for the erection, construction, enlargement or alteration of a building must carry an appropriate title block of the firm that is responsible for the documents.
- ❖ The Architects Act also dictates that registered members and firms must seal working drawings issued from their offices.
- ❖ The Engineering firm undertook the practice of architecture, in that they both led and controlled (through design and approval) the preparation of architectural drawings for the project.

Case Study - A

- ❖ CONCLUSIONS:
 - ❖ The Architect provided an insufficient and inappropriate level of professional services relative to the project
 - ❖ The Architect facilitated the practice of architecture by the Engineer.

Case Study - A

- ❖ RECOMMENDATIONS:
 - ❖ The Architect was given a Formal Censure.
 - ❖ Publication to be forwarded to all MAA members and the Engineering firm to clarify the responsibilities of members.
 - ❖ This appeared to be somewhat of a “grey area”, wherein the members and firms concerned believed they were providing an appropriate level for this relatively small project.
 - ❖ Association expects that other members might look upon the same kind of project in a similar manner

Case Study - A

- ❖ My Thoughts:
 - ❖ The Architects Act defines the extent of involvement required of an architect.
 - ❖ The member was looking at what was required by the code but the scope of architecture is defined by the Act and the Code.
- ❖ This is why it is not acceptable for one of our members to simply do a Code analysis on a Part 3 building
- ❖ Or prepare drawings that cover only those aspects relating to egress
 - ❖ If this was a new construction would it be clearer?

Conclusion

- ❖ We are all in this together
- ❖ Three partners in this MAA, APEGGM, Building Officials
- ❖ Question – contact us – that is our job

Conclusion

❖ Questions?