



**RECOMMENDED ORDER
to the
DISCIPLINE COMMITTEE**

IN THE MATTER OF THE ENGINEERING,
AND GEOSCIENCE PROFESSIONS ACT,

AND

IN THE MATTER OF THE CONDUCT OF
Philip McConnell, P.Eng. (#15815)

Investigation Case: #24-23

**APEGA
Recommended Order
to the
Discipline Committee**

In the matter of the Engineering and Geoscience Professions Act

and

**In the matter of the conduct of
Philip McConnell, P.Eng. (#15815)**

The Investigative Committee of the Association of Professional Engineers and Geoscientists of Alberta (APEGA) has conducted an investigation into the conduct of Philip McConnell, P.Eng. (the “Registrant”) with respect to a complaint initiated by [REDACTED] (the “Complainant”) dated August 6, 2024 (the “Complaint”).

I. The Complaint

The Complainant alleged that the Registrant engaged in unprofessional conduct and unskilled practice of the profession arising from the design and inspection of a retaining wall located at Sherwood Honda, located in Sherwood Park, Alberta. (the “Dealership”)

The Investigative Committee conducted an investigation with respect to the following allegations:

1. Allegation #1 – The design:

Whether the Registrant’s design of the retaining wall completed in 2007, failed to meet the acceptable standard of engineering practice in Alberta.

2. Allegation #2 – The inspection:

Whether the Registrant’s inspection of the retaining wall in 2017 failed to meet the acceptable standard of engineering practice in Alberta.

3. Allegation #3 – Record keeping and document retention:

Whether the Registrant’s document retention and record keeping failed to meet the acceptable standard of engineering practice in Alberta.

II. Agreed Statement of Facts

As a result of the investigation, it is agreed by and between the Investigative Committee and the Registrant that:

1. At all relevant times the Registrant was an APEGA Professional Member and was thus bound by the Engineering and Geoscience Professions Act and the APEGA Code of Ethics.
2. The Registrant graduated from the University of Alberta in 1971, with a Bachelor of Science and Civil Engineering degree with a focus on metallurgy.
3. The Registrant worked as a welding engineer for many steel fabricators in Edmonton, and is currently a Responsible Member for Nor-Fab Manufacturing where he finalizes design connection details before sending them to the fabrication shop.
4. The Registrant is currently an approved auditor with the Canadian Welding Bureau.

A. Facts Relating to Allegation #1:

Whether the Registrant's design of the retaining wall completed in 2007, failed to meet the acceptable standard of engineering practice in Alberta.

Background:

5. The Registrant was retained in July 2007 by TRI-STAD Construction to design a concrete retaining wall to be built on the north side of the Dealership property.
6. The design was a cantilever design, relying on a footing to provide resistance against the over-turning moment of retained forces due to soil pressure behind the wall system.
7. The retaining wall was designed to be 400 mm thick, approximately 6 metres tall at its tallest section, and it was to extend a distance of approximately 150 metres. The wall extended from east to west.
8. From the tallest section of the wall, located in the middle, the wall stepped down in both directions.
9. A gravel road and a pipeline right of way were located to the north above the retaining wall.
10. The corner of the Dealership building was located approximately 12 metres to the south of the wall. The wall was at its highest elevation at this location.
11. The Registrant authenticated his retaining wall design on July 16, 2007.

Alberta Building Code Deficiencies:

The Registrant's authenticated drawing of the retaining wall was independently reviewed by a member with 30-years of structural engineering experience. He was also on the working group who revised APEGA's *Practice Standard for Authenticating Professional Work Products*.

12. Based on the review, the Registrant failed to include information on his drawing that would make it compliant with the Alberta Building Code, 2006 edition (the "ABC"). Missing information included:

- a. Design load information (soil pressure, surcharge load, and environmental loads (snow, wind, seismic)).
- b. Climatic information.
- c. Reference to standards (CSA A23.1/2, A23.3) and codes (ABC 2006).
- d. Soil bearing capacity and soil bearing pressure.
- e. Groundwater table elevation.
- f. Soil parameters such as active, passive and at-rest earth pressure coefficients
- g. Soil pressure diagrams (triangular or trapezoidal).
- h. General and design notes.
- i. Reference to geotechnical report.
- j. Material specification and notes for concrete (exposure class, compressive strength, air content, W/C ratio, and cement type).
- k. Material specification for reinforcing steel (grade, yield strength, placement and installation notes).

Other deficiencies included:

13. The Registrant's design did not account for a sufficient factor of safety for sliding.
14. The Registrant's design (Section B) specified weeping tile to be surrounded by 400 mm of washed rock, yet the drawings did not show the rock as being wrapped in filter fabric, which is a common, best practice for these types of retaining walls.
15. The Registrant's design (Section B) contained an image of washed rock that when proportionally scaled, would require the weeping tile to be covered with approximately 1.5 m of washed rock. The image does not accurately represent the note on the drawing that specifies the weeping tile to be surrounded by 400 mm of washed rock.

B. Facts relating to Allegation #2:

Whether the Registrant's inspection of the retaining wall in 2017, failed to meet the acceptable standard of engineering practice in Alberta.

Background:

16. The Registrant was retained in January 2017, ten years after the wall was built, to provide an inspection of the retaining wall.
17. The reason for the inspection came about because the potential buyers of the property (who were leasing it at the time) noted the wall had deflected more during the 2016 year and they wanted assurance that it was safe.
18. In his inspection letter, the Registrant indicated the deflection was caused by the over-compaction of the backfill at the time the wall was being built and that the contractor, on his own accord, used heavy vibration packing equipment when installing the backfill which led to the deflection.
19. The Registrant indicated the over compaction caused a deformation or bow in the wall between 200 mm – 250 mm (8-10 inches).
20. Cracks had also occurred in the wall due to the over-compaction.

21. When the wall deflected, the Registrant required that the surcharge that he allowed for in his design must be removed, which meant that no cars could be parked behind and on top of the wall.
22. He informed the contractor and the owner that, "...they could no longer rely on the backfill to support any surcharge loading at the top of the wall."

The inspection letter:

23. The Registrant authenticated his inspection letter which was dated January 23, 2017.
24. The Registrant's letter included the following assessments:
 - a. The deformation within the wall occurred during construction when heavy compaction equipment was used.
 - b. There has been no further deflection since it occurred, "...the same condition exists with the wall."
 - c. There is some cracking in the midpoint of the concrete wall, likely due to the over stressing of the concrete during the backfill.
 - d. The cracks, "...pose no significant issue other than being unsightly."
 - e. There is no significant presence of water, and the drainage system "...seems to be working."
 - f. He made a recommendation to repair the major cracks with an epoxy grout.
 - g. He concluded that; "No other work is necessary at this time or in the foreseeable future."

Deficiencies with the inspection:

No data or documentary evidence:

25. During the investigation, the Registrant failed to provide any field notes, photographs or measurements related to his site inspection.

Wall deflection and yielding:

26. Observed deformations showed a significant and increasing horizontal offset between the base of the wall and the top of the wall.
27. The Registrant's design did not include reinforcement on the front section of the wall that may have allowed redistribution of loads horizontally along the wall.
28. The deformation in the wall exceeded the elastic deflection of the wall, therefore reinforcement in the back face of the wall must have yielded in order to permit the movement to occur.

Cracking:

29. The Registrant failed to identify that cracks in the wall were an issue.
 - a. The Registrant failed to recognize that deflections of the magnitude observed could not be explained by elastic movements alone, so yielding of reinforcement in critical areas on the back face of the wall must have yielded.

- b. Yielding of reinforcement would likely have led to the development of large cracks in the yielded zone, where crack control was not in accordance with Code requirements.
- c. Some cracks had exposed rebar reinforcement.

Drainage:

- 30. The Registrant accounted for local water management in his design.
- 31. During his inspection the Registrant failed to document as-built discrepancies which impacted his design for local water management. These included:
 - a. The surface on top of the backfill had not been paved, as per the original intent.
 - b. Two scuppers, shown on his design drawings, had not been installed at the top of the wall.
 - c. Drainage pipes, attached to the weeping tile and located at the base of the wall, were not constructed as per the Registrant's drawing. They were installed level with the ground, instead of being sloped as per his design and as per the requirements as outlined in the Canadian Foundation Engineers Manual, 2006.
 - d. The Registrant failed to inspect the drainage holes to ensure they were connected to the weeping tile, open, and free flowing.
 - e. The Registrant did not note the surcharge restriction in his letter.

1. Evidence gathered after the Registrant's inspection letter:

Pals Geomatics:

- 32. Pals Geomatics were retained to survey the deflection in the wall. In April 2021, Pals' survey measured the greatest deflection in the wall to be 1.15 m (45-inches) from its original, intended position.
- 33. Pals survey also showed that a section of the wall, measuring approximately 25m (80-feet) in length, had deflected 1.0 m (39-inches) or more from its original position.

Clifton Engineering Group Inc.:

Clifton Engineering Group Inc. was retained by Sherwood Honda in July 2021, to provide geotechnical engineering services regarding the existing retaining wall. In general, their scope was to:

- a. Identify the subsurface soil and groundwater conditions.
 - b. Assess the stability of the wall and identify potential failure mechanisms.
 - c. Develop a list of potential remedial options with corresponding cost estimates.
- 34. Clifton concluded that several weaknesses in the design made the wall vulnerable to failure including:
 - a. No specification of the backfill materials.
 - b. A drainage system susceptible to clogging.
 - c. Poorly directed surface water drainage.

- d. No filter cloth specified around the gravel.
35. Clifton concluded the mechanism causing the continued movement in the wall was the buildup of hydrostatic pressure behind the wall, and the effects of the water going through freeze and thaw cycles.

2. New Evidence:

After the majority of the investigation had been completed, APEGA learned that a large section of the wall (approximately 80 m of the wall) had been demolished exposing the soils behind the wall.

This provided an opportunity to inspect the site. New evidence related to drainage issues was acquired. This included:

36. The drainage system had fundamental flaws. The system, as observed, could not have worked as per the Registrant's inspection claim because:
- a. The weeping tile was found to be installed well below the drainage pipes.
 - b. The weeping tile was found to be flattened.
 - c. The weeping tile was not surrounded with 400 mm of washed rock. Excavator operators interviewed on site indicated the majority of gravel (which they estimated was 120 mm) was installed below the weeping tile. Further, they indicated the clay behind the wall was very wet.

C. Facts relating to Allegation #3:

Whether the Registrant's document retention and record keeping failed to meet the acceptable standard of engineering practice in Alberta.

37. The Registrant indicated that they had moved offices around 2010 – 2011, and said they lost a fair amount of their documentation.
38. Per the Limitations Act, notes and drawings for the project from 2007 were not expected to be retained. However, the Registrant's inspection took place in 2017, after his company (Northstar Engineering) had ceased being a permit holder in March 2016.
39. The Registrant failed to take or record any field notes, photographs or measurements related to his 2017 inspection.

III. Conduct

40. The Registrant freely and voluntarily admits that:
- a. His authenticated drawing failed to meet the acceptable standard of engineering practice in Alberta.
 - b. His inspection of the retaining wall, in 2017, failed to meet the acceptable standard of engineering practice in Alberta.
 - c. His document retention and record keeping failed to meet the acceptable standard of engineering practice in Alberta.
41. The Member acknowledges that the conduct described above constitutes unprofessional conduct and unskilled practice as defined by Section 44(1) of the Act.

A. Section 44(1) of the Act:

44(1) Any conduct of a professional member, licensee, permit holder, certificate holder or member-in-training that in the opinion of the Discipline Committee or the Appeal Board

(a) is detrimental to the best interests of the public;

(b) contravenes a code of ethics of the profession as established under the regulations;

(c) harms or tends to harm the standing of the profession generally;

(d) displays a lack of knowledge of or a lack of skill or judgment in the practice of the profession or;

(e) displays a lack of knowledge or lack of skill or judgment in the carrying out of any duty or obligation undertaken in the practice of the profession.

Whether or not that conduct is disgraceful or dishonorable, constitutes either unskilled practice of the profession or unprofessional conduct, whichever the Discipline Committee or the Appeal Board finds.

42. The Member also acknowledges that the conduct described above breaches the Rules of Conduct below.

B. APEGA Code of Ethics:

The Rules of Conduct:

- 1. Professional engineers and geoscientists shall, in their areas of practice, hold paramount the health, safety and welfare of the public and have regard for the environment.*
- 2. Professional engineers and geoscientists shall undertake only work that they are competent to perform by virtue of their training and experience.*
- 3. Professional engineers and geoscientists shall conduct themselves with integrity, honesty, fairness and objectivity in their professional activities.*
- 4. Professional engineers and geoscientists shall comply with applicable statutes, regulations and bylaws in their professional practices.*
- 5. Professional engineers and geoscientists shall uphold and enhance the honour, dignity and reputation of their professions and thus the ability of the professions to serve the public interest.*

IV. Recommended Orders

43. On the recommendation of the Investigative Committee, and by agreement of the Registrant with that recommendation, and following a discussion and review with the Discipline Committee Case Manager, the Discipline Committee hereby orders that:

- a. The Registrant shall be reprimanded for their conduct and this order shall serve as the reprimand.
- b. This matter and its outcome will be published by APEGA as deemed appropriate and such publication will name the Registrant.
- c. The Registrant shall be subject to the following permanent restrictions and conditions from the date this Order is approved by the Discipline Committee Case Manager:
 1. The Registrant's scope of practice shall be restricted to metallurgy and the design of welded and metal fabricated components.
- d. Registrant shall pay a fine in the amount of \$10,000. The fine is a debt owing to APEGA and shall be paid within six (6) months of the date this order is approved by the Discipline Committee Case Manager.
- e. The Registrant shall provide the Discipline Manager, within twelve (12) months of the date this order is approved by the Discipline Committee Case Manager, written confirmation/proof of successful completion (a passing grade) of a post-secondary level course relating to ethical practice, that is satisfactory to the Discipline Manager, such as Ethics for Professional Practice (University of Calgary Continuing Education, AOL 213).

If the noted course is no longer available on approval of this order, at the discretion of the Discipline Manager another course in ethics may be authorized for substitution if it is deemed substantially equivalent. The Registrant shall be responsible for all costs associated with the completing the course.
- f. If there are extenuating circumstances, the Registrant may apply in writing to the Discipline Manager for an extension prior to the deadlines noted above. The approval for extending a deadline is at the discretion of the Discipline Manager. If such an application is made, the Registrant shall provide the Discipline Manager the reason for the request, a proposal to vary the deadline, and any other documentation requested by the Discipline Manager.
- g. If the Registrant fails to provide the Discipline Manager with proof that they have completed the requirements noted above within the timelines specified, or any extended timeline granted, the Registrant shall be suspended from the practice of engineering for a minimum of thirty (30) days. The Registrant is required to meet their regulatory obligations during their suspension period with respect to payment of professional dues and/or levies, compliance with the mandatory CPD program, and completing the mandatory portion of the Annual Declaration. If the non-monetary requirements in this Order are not completed within six (6) months of the suspension date, the Registrant shall be cancelled. In the event of cancellation, the Registrant will be bound by APEGA's reinstatement policy.

I, Philip McConnell, P.Eng. acknowledge that before signing this Recommended Discipline Order, I consulted with legal counsel regarding my rights or that I am aware of my right to consult legal counsel and that I hereby expressly waive my right to do so.

Further to the above, I acknowledge that a copy of this Order and my identity will be disseminated to all provincial and territorial engineering and geoscience regulators in Canada.

Further to the above, I acknowledge that a copy of this Order and my identity shall be provided to the APEGA Practice Review Board.

Further to the above, I acknowledge that I have reviewed APEGA's "Good Standing Policy." I understand that I will not be considered a member "in good standing" until I have fully complied with the Orders set out above and I understand that good standing status may affect my membership rights or benefits (including the ability to become a Responsible Member, or the ability to volunteer with APEGA in any capacity).

IN WITNESS WHEREOF the undersigned agrees with the Agreed Statement of Facts, Acknowledgment of Unprofessional Conduct and the Orders jointly proposed.


Signed by Philip McConnell, P.Eng. (2024/11/28)
Verify with verifio.com or Adobe Reader.



Philip McConnell, P.Eng.

Kevin Willis, M.Eng., P.Eng.
Signed with ConsignO Cloud (2024/11/28)
Verify with verifio.com or Adobe Reader.



Kevin Willis, M.Eng., P.Eng.
(Panel Chair)
APEGA Investigative Committee

APEGA Discipline Committee

John McDonald
Signed with ConsignO Cloud (2024/12/19)
Verify with verifio.com or Adobe Reader.



By:

Case Manager

2024/12/19