



ENGINEERS &
GEOSCIENTISTS
BRITISH COLUMBIA

IN THE MATTER OF THE *PROFESSIONAL GOVERNANCE ACT*,
S.B.C. 2018, CHAPTER 47 (“PGA”)

AND

IN THE MATTER OF BRUCE JOSEPH GERNON, P.ENG.

ENGINEERS AND GEOSCIENTISTS BC FILE NO. T20-054

CITATION

TO: Bruce Joseph Gernon, P.Eng.

TAKE NOTICE that a Panel of the Discipline Committee of the Association of Professional Engineers and Geoscientists of the Province of British Columbia, doing business as Engineers and Geoscientists BC, will meet at a date to be determined, for the purpose of conducting a discipline hearing pursuant to the PGA. The *Engineers and Geoscientists Act*, R.S.B.C. 1996, c. 116 (the “EGA”) was repealed and replaced by the PGA on February 5, 2021. While the allegations herein are made under the EGA, the procedures established by the PGA and the current Bylaws of Engineers and Geoscientists BC will be followed as far as they can be adapted in this proceeding.

AND TAKE NOTICE that the allegations against you are that:

From 2016 to 2018 you provided engineering services relating to a balcony guardrail system (the “Guardrail System”) for residential buildings called the [REDACTED] Apartments, located at [REDACTED] [REDACTED] [REDACTED] and [REDACTED] Burnaby, BC (the “Project”):

1. In the course of the Project, you did not conduct the necessary investigations or calculations for the design of the Guardrail System (the “Guardrail Design”). In particular, you failed to:

- a. perform the necessary calculations to verify the wind loads for the buildings located at [REDACTED] and [REDACTED];
 - b. perform the necessary calculations to verify that the connectors between various elements, such as the welds, concrete fasteners, connectors between the post and the top rail, and connectors between the post and the bottom rail, had sufficient strength;
 - c. investigate the existing site conditions to determine whether the building could accommodate the loads imposed by the guardrail system; and
 - d. perform the necessary calculations to verify the capacity of the guardrails to withstand wind loads for the buildings located at [REDACTED] and [REDACTED].
2. In the alternative, you did not adequately document your structural investigations or calculations related to the Guardrail Design.
 3. In the course of carrying out the Project, you were the engineer responsible for the Guardrail Design, which was deficient. In particular, you failed to:
 - a. correctly calculate the allowable deflection limit for the glass panel deflection;
 - b. correctly calculate the allowable deflection limit for the guardrail system;
 - c. calculate the level of reliability for the guardrail glass infill panels for the buildings at [REDACTED] and [REDACTED];
 - d. calculate the reliability for the bottom rail;
 - e. meet the minimum level of reliability required by the BC Building Code in the heat-affected zone (“HAZ”) for the vertical aluminium posts welded onto the base plate;
 - f. meet the minimum level of reliability required by the BC Building Code for the anchorage for the base plates;
 - g. calculate the reliability for base plate thickness for the base plate and anchorage design;
 - h. use adequate spacing for the bolt holes for the base plate;
 - i. calculate the strength and reliability for the concrete anchors;
 - j. meet the minimum edge distance required by the BC Building Code for anchors; and

- k. calculate the reliability of the endpost conditions or posts at handrail splice locations.
4. In the course of carrying out the Project, you prepared balcony guardrail shop drawings under your seal (the "Guardrail Drawings") which were deficient. In particular, the Guardrail Drawings failed to:
 - a. specify the applicable glass design standard;
 - b. specify the concrete design standard;
 - c. specify the connection detail between the end post and the bottom rail;
 - d. specify the details for the glass infill panel, including the required minimum glass bite, shape and type of gasket, the thickness and orientation of the channels, and the fastening of the channels to the post;
 - e. adequately specify the anchors;
 - f. specify the minimum embedment depth for the anchors;
 - g. specify the size of welds, including the weld between the post and the base plate; and
 - h. delineate the scope of work.
5. In the course of carrying out the Project, you failed to ensure that documented field reviews of the Guardrail System installation were conducted in connection with the building at [REDACTED]
6. In the course of carrying out the Project, you failed to ensure that sufficient documented field reviews of the Guardrail System installation were conducted in connection with the buildings at [REDACTED] and [REDACTED]
7. In the course of carrying out the Project, you failed to ensure that documented independent structural reviews of the Guardrail Design were conducted.
8. The conduct set out above at paragraphs 1, 3, and 4 is unprofessional conduct, or in the alternative negligence, under s. 33(1) of the EGA and is contrary to Principle 1 of the Engineers and Geoscientists BC's Code of Ethics, as it stood at the time, which provided that members shall hold paramount the safety, health and welfare of the public, the protection of the environment and promote health and safety within the workplace.
9. The conduct set out above in paragraph 2 constitutes unprofessional conduct and is contrary to the Bylaws of Engineers and Geoscientists BC, as they stood at the time, and in particular s.14(b)(1) which provided:

14 (b) Members and licensees shall establish and maintain documented quality management processes for their practices, which shall include, as a minimum:

(1) retention of complete project documentation which may include, but is not limited to, correspondence, investigations, surveys, reports, data, background information, assessments, designs, specifications, field reviews, testing information, quality assurance documentation, and other engineering and geoscience documents for a minimum period of 10 years;

10. The conduct set out above in paragraphs 5 and 6 constitutes unprofessional conduct and is contrary to the Bylaws of Engineers and Geoscientists BC, as they stood at the time, and in particular s.14(b)(3) which provided:

14 (b) Members and licensees shall establish and maintain documented quality management processes for their practices, which shall include, as a minimum:

...

(3) documented field reviews by, or under the direct supervision of, members or licensees, of their domestic projects during implementation or construction;

11. The conduct set out above in paragraph 7 constitutes unprofessional conduct and is contrary to the Bylaws of Engineers and Geoscientists BC, as they stood at the time, and in particular s.14(b)(4) which provided:

14 (b) Members and licensees shall establish and maintain documented quality management processes for their practices, which shall include, as a minimum:

...

(4) documented independent review of structural designs prior to construction by members or licensees having appropriate experience in designing structures of a similar type and scale, and not involved in preparing the design. The reviewer shall examine representative samples of the structural assumptions, continuity of gravity and lateral load paths, stability and detailing. Where appropriate, the reviewer shall perform numerical calculations on a sample of gravity and lateral force resisting elements necessary to satisfy any reviewer concerns. The extent of the review shall be determined by the reviewer based on the

progressive findings of the review. This review and any follow up action must be completed before the documents are issued for construction.

The independent review of structural designs shall evaluate the construction documents to determine if the structural systems appear complete, consistent, and in general compliance with applicable codes. The structural review may be part of, but is not intended to replace, the regular checks required in 14(b)(2).

Independent review of each instance of repetitive designs of individual structural components is not required, but documented initial independent review and independent review at intervals is required to confirm the maintenance of design quality.

AND FURTHER TAKE NOTICE that you, Bruce Joseph Gernon, P.Eng., have the right, at your own expense, to be represented by counsel at the inquiry by the Panel of the Discipline Committee pursuant to s. 79 of the PGA, and you or your counsel shall have the full right to cross-examine all witnesses called and to call evidence in defence and reply in answer to the allegations.

AND FURTHER TAKE NOTICE that, pursuant to s. 78 of the PGA, in the event you fail to attend or remain in attendance at a discipline hearing under s. 75 of the Act, the Panel of the Discipline Committee may, if satisfied that you have been notified of the hearing, proceed with the hearing in your absence and make any order that the discipline committee or panel could have made in your presence.

DATED this 10 day of March, 2022.

The Investigation Committee of the
Association of Professional Engineers
and Geoscientists of the Province of
British Columbia

<original signed by>

Per: Peter Helland, P.Eng.
Chair, Investigation Committee