



Safety Codes Council

COUNCIL ORDER No. 0015491

BEFORE THE ADMINISTRATIVE TRIBUNAL OF THE BUILDING SUB-COUNCIL

(the “Tribunal”)

On August 21 & 22, 2019

IN THE MATTER OF the *Safety Codes Act*, Revised Statutes of Alberta 2000, Chapter S-1.

AND IN THE MATTER OF the Order dated October 19, 2018 (the “Order”) issued pursuant to Section 49 of the *Safety Codes Act* (the “Act”)¹ and the *Alberta Building Code 2014* (the “ABC”) by a Safety Codes Officer (the “SCO”) employed by an Accredited Agency on behalf of the Accredited Municipality (the “Respondent”) against the property owner (the “Appellant”) relating to the subject development.

UPON REVIEWING AND CONSIDERING the evidence named in **The Record** and the arguments made on behalf of the Appellant and Respondent; **AND UPON HEARING** the testimony of witnesses at the hearing; **IT IS HEREBY ORDERED THAT** the Order is **CONFIRMED**.

Without restricting the generality of the foregoing, an excerpt from the Order that has been confirmed is reproduced below:

Action to be taken

You are hereby ordered to demolish all structures (including those partially constructed and all those damaged by fire) at the subject development no later than November 30, 2018.

Direction of action

You are hereby ordered to demolish all forty (40) structures (including those partially constructed and all those damaged by fire) at the subject development, remove all refuse and backfill all open excavations, no later than November 30, 2018. Any open excavation prior to demolition must be immediately fenced off to secure

¹References in this decision to the *Safety Codes Act*, includes reference to the *Alberta Building Code 2014*, pursuant to Section 1(2) of the Act.

public safety.

If this order is not followed through with or completed as ordered by November 30, 2018, the Accredited Municipality will have a demolition crew on site at 8:00 am December 2, 2018 to remove the structures and restore the site. All costs incurred by the Accredited Municipality to carry out and complete this action will be proportionally applied to the following tax rolls: [REDACTED].

Issue:

1. This Appeal concerns the possible contravention of the Act including various Articles within Division B of the ABC referenced in the Order making the subject development unsafe and requiring the demolition of all structures and removal of refuse.

Appearances, Preliminary, Evidentiary, or Procedural Matters:

2. At the commencement of the hearing, the Coordinator of Appeals confirmed the matter is an appeal of the Order issued to the Appellant, reminded all attendees that recording devices are not permitted and confirmed the names of those in attendance:
 - i. Appearing for the Appellant, the Tribunal heard from Counsel for the Appellant, two Directors of the Appellant, and two expert witnesses for the Appellant.
 - ii. Appearing for the Respondent, the Tribunal heard from Counsel for the Accredited Municipality, the Safety Codes Officer, and three expert witnesses for the Respondent.
 - iii. Appearing as the Tribunal: four members of the Building Sub-Council.
 - iv. A Technical Advisor from Alberta Municipal Affairs (AMA) was the Technical Advisor for the appeal hearing.
 - v. The Coordinator of Appeals, Co-Facilitator, and Counsel for the Safety Codes Council attended on behalf of the Safety Codes Council.
 - vi. Several individuals attended the hearing as observers.
3. The Appellant and Respondent confirmed there were no objections to any members of the Tribunal and that the Safety Codes Council (the “Council”) in general and the Tribunal in particular had jurisdiction to hear and decide the appeal.
4. The Tribunal Chair (the “Chair”) then explained the hearing, and reviewed the list of the written material before the Tribunal, consisting of the documents listed below in **The Record** (see paragraph 8). The Appellant and Respondent confirmed that there were no objections to any of the material submitted to the Tribunal.
5. Legal counsel for the Appellant objected to having the witnesses on both sides attend the hearing during the testimony of each expert witness. He asked that witnesses be

excluded except when they were actually giving evidence. After hearing submissions on the objection from legal counsel for the Appellant and legal counsel for the Respondent, the Tribunal convened in camera. Upon inviting all attendees back into the room the Tribunal confirmed that appeal hearings are public and it is the standard practice to allow all witnesses to attend throughout so the Tribunal hears fully informed evidence from all the parties and witnesses; therefore, the Tribunal denied the request to exclude witnesses.

6. Legal counsel for the Appellant submitted additional evidence marked as “Exhibit 3 Appellant”, “Exhibit 4 Appellant” and “Exhibit 5 Appellant” during the proceedings. Upon confirming the Respondent did not object to the submissions, these exhibits were distributed to the parties, the Tribunal, the Facilitator, the Co-Facilitator, Legal Counsel for the Council, and 1 copy was retained for the Record. The Technical Advisor received a copy for context.
7. Upon the conclusion of summary statements, legal counsel for the Appellant sought leave to gather and produce further documentation confirming the attending SCO was copied with certain email communications between the Appellant and Respondent. No explanation was provided as to why the Appellant had not already provided that evidence, given that the process called for the filing of written evidence in advance of the hearing. After hearing submissions from legal counsel for the Appellant and from legal counsel for the Respondent on the issue, the Tribunal convened in camera. Upon inviting all attendees back into the room, the Chair confirmed that the Tribunal weighed the probative value of what the Appellant was asking to provide against the prejudice to the process of allowing the submission of new evidence at such a late stage of the process and denied the request for leave to gather and produce the material.

The Record:

8. The Tribunal considered, or had available for reference, the following documentation:
 - i. Hearing brief from the Appellant, prepared by Counsel for the Appellant (large white binder, “Exhibit 1 Appellant”).
 - ii. Hearing brief from the Respondent (2 volumes), prepared by Counsel for the Respondent (cerlox bound blue volumes, “Exhibit 1 Respondent” including the Order and Appendices A and B to the Order).
 - iii. Notice of Appeal and a request for a stay of order, dated 26 November 2018 (pages 1 - 7).
 - iv. Acknowledgement letter from the Safety Codes Council to the Appellant, dated 29 November 2018 (page 8).
 - v. Stay of order letter from the Chair of Building Sub-Council to the Appellant, dated 29 November 2018 (page 9).
 - vi. Updated stay of order letter from the Chair of Building Sub-Council to the Appellant, dated 30 November 2018 (page 10).

- vii. Letter from the Chair of Building Sub-Council to the Appellant directing that the stay of order be rescinded, dated 05 December 2018 (page 11).
- viii. Letter from the Coordinator of Appeals asking the Appellant to provide grounds for the appeal and the dates they are available, dated 04 January 2019 (page 12).
- ix. Follow-up letter from the Coordinator of Appeals to the Appellant requesting to provide the grounds for appeal and the dates when the Appellant is available, dated 24 January 2019 (page 13).
- x. Letter from the Coordinator of Appeals informing the parties that the hearing is scheduled for Monday 08 April 2019, dated 05 February 2019 (pages 14 - 17).
- xi. Letter from the Respondent's legal counsel to the Coordinator of Appeal requesting the hearing to be held later in the month of April of 2019, dated 01 March 2019 (page 18).
- xii. Letter from the Coordinator of Appeals informing the parties that the hearing is re-scheduled for Monday 29 April 2019, dated 11 March 2019 (pages 19 - 22).
- xiii. Letter from the Chair of the Building Sub-Council to the Appellant informing the latter that the stay of order cannot be granted, dated 12 March 2019 (page 23).
- xiv. Letter from the Coordinator of Appeals informing the parties that the hearing is re-scheduled from Monday 29 April 2019 to Wednesday 01 May 2019, dated 05 April 2019 (pages 24 - 25).
- xv. Letter from the Coordinator of Appeals to the parties requesting to provide new dates for the previously re-scheduled hearing, dated 25 April 2019 (page 26).
- xvi. Letter from the Appellant's legal counsel to the Safety Codes Council requesting to schedule the hearing for the first available date, dated 06 May 2019 (page 27).
- xvii. Letter from the Coordinator of Appeals informing the parties that the hearing is re-scheduled from Wednesday 01 May 2019 to Monday 10 June 2019, dated 13 May 2019 (page 28).
- xviii. Email from Appellant's legal counsel confirming attendees, along with confirmation of attendees for Respondent dated 17 May 2019 (page 29-31).
- xix. Letter from the Coordinator of Appeals informing the parties of the Council's legal counsel and attaching expert witness resumes dated Monday 03 June 2019 (pages 32-39).
- xx. Letter from Appellant's legal counsel requesting an additional day to allow for expert witnesses dated 06 May 2019 and received on 06 June 2019 (page 40).
- xxi. Letter from the Coordinator of Appeals confirming the hearing will go ahead on June 10 and to make application at the hearing for an adjournment dated 06 June 2019 (page 41).
- xxii. Letter from Appellant's legal counsel confirming expert witnesses and requesting an adjournment as additional experts unavailable dated 07 June 2019 (pages 42-43).

- xxiii. Letter from the Coordinator of Appeals confirming the hearing will not proceed on June 10 and requesting additional submissions prior to the Tribunal delivering a decision delivered via email on 07 June 2019 (page 44).
- xxiv. Letter from Appellant's legal counsel confirming they will pay costs of \$1500 and provide expert witness lists and reports dated 10 June 2019 (page 45).
- xxv. Letter from Respondent's legal counsel in response to the Council's request including their request to abandon the hearing dated 10 June 2019 (pages 46-48).
- xxvi. Letter from the Coordinator of Appeals communicating 3 appeal adjournment conditions dated 11 June 2019 (pages 49-50).
- xxvii. Email from Appellant's legal counsel confirming delivery of costs (condition 1) dated 19 June 2019 (pages 51-53).
- xxviii. Email from Appellant's legal counsel providing two options for a hearing (condition 2) dated 19 June 2019 (pages 54-55).
- xxix. Email from Respondent's legal counsel providing two options for a hearing (condition 2) dated 20 June 2019 (pages 56-57).
- xxx. Letter from the Coordinator of Appeals confirming the date of the hearing and reminding the parties about condition 3 dated 20 June 2019 (page 58).
- xxxi. Additional Hearing Brief from the Respondent marked as "Exhibit 2 Respondent" received via email 26 July 2019 (pages 59-107).
- xxxii. Email from Appellant's legal counsel attaching a notice of withdrawal as counsel dated 25 July 2019 (pages 108-109).
- xxxiii. Letter from the Coordinator of Appeals to Appellant requesting confirmation of attendees and notifying of attendees on Respondents' side dated 31 July 2019 and delivered via Purolator on 01 August 2019 (pages 110-111).
- xxxiv. Email from Respondent's legal counsel advising the Council they emailed additional submissions to the Appellant dated 31 July 2019 (pages 112-117).
- xxxv. Email from the Coordinator of Appeals to Appellant containing letter under 33 above dated 31 July 2019 (page 118).
- xxxvi. Letter from the Coordinator of Appeals to Appellant requesting a list of attendees inclusive of experts and resumes dated 06 August 2019 delivered via Purolator and email (pages 119-120).
- xxxvii. Letter from Appellant's legal counsel confirming representation and attendees dated 13 August 2019 (page 121).
- xxxviii. Email to Appellant's legal counsel requesting the resumes of the expert witnesses dated 13 August 2019 (page 122).
- xxxix. Additional Hearing Brief from the Appellant marked as "Exhibit 2 Appellant" received via email 14 August 2019 (pages 123-129).
- xl. [REDACTED] Pile Integrity Testing Results presented at the hearing and

marked as “Exhibit 3 Appellant”.

- xli. Schedules A-2 to B-2 presented at the hearing and marked as “Exhibit 4 Appellant”.
- xlii. [REDACTED] Report presented at the hearing and marked as “Exhibit 5 Appellant”.

Position of the Parties

Appellant

From the Appellant’s submissions and testimony, the Appellant’s position can be summarized as follows:

- 9. It is the position of the Appellant that a Demolition Order is not reasonable and remediation can occur. The Appellant is seeking for the Tribunal to either revoke the Order or vary the Order consistent with other Tribunal decisions in similar fact situations: thus, providing the Appellant the time necessary to create a remediation plan subject to approval of the Respondent.

Respondent

From the Respondent’s submissions and testimony, the Respondent’s position can be summarized as follows:

- 10. It is the position of the Respondent that demolition is the only reasonable solution as the construction of the subject development is not in compliance with the Act, the Appellant did not comply with requests to remediate or provide a remediation plan and the forensic engineer report among others and expert testimony confirm there is no way to properly remediate the site at this stage without demolition.

Summary of the Oral Evidence Provided On Behalf of the Appellant

Evidence Summary of the Appellant’s Witness - Director 1

- 11. Director 1 confirmed that he is a Director of the Appellant (with a 1/3 ownership interest).
- 12. Director 1 also testified as follows: he has familiarity with local building codes, with over 10 years of construction development experience involving multi-family units in the lower mainland of B.C. and in Alberta. He got involved in the project in 2013 due to the lack of cooperation Director 1 was experiencing from the Respondent in moving the project (construction of a condominium complex) forward resulting in possible foreclosure. The lack of cooperation and change in the requirements continued up to and after the fire that destroyed 16 units in the subdivision in June 2018. These 16 units had been 60% complete before the fire. Expert 1 was hired to source engineers and reports inclusive of a winterization plan as required by the Respondent and did not know that the Respondent was planning to issue a Demolition Order until the Appellant received it in September 2017. Exacerbating the matter was the inability to support services at the subject development due to the foreclosure of the front subdivision owned by a [REDACTED]. The Appellant paid all the fees associated with all

the reports, securing the site and clean-up of the debris relating to the Respondent's requests. This also included the clean-up involving the units destroyed by fire as the insurance company revoked insurance due to the lack of services to the subject development.

Evidence Summary of the Appellant's Witness, Other Director of the Appellant

13. Director 2 confirmed that he is a Director of the Appellant (with a 1/3 ownership interest.
14. Director 2 also testified as follows: he has fifteen years of experience with a builder's license in both British Columbia and Alberta, as well as, experience dealing with similar soil conditions and the preparation required to prepare the site for development. The Appellant purchased land from [REDACTED] and [REDACTED] stayed on as partner for the entire eighty acres. Director 2 did not have a role in the construction of the subject development. All building permits for the 5 acres (subject development) purchased were issued under the Appellant, but the Appellant experienced issues with the Respondent renewing these permits and constantly changing the requirements to comply. Director 2 explained that the Appellant cannot pump out water or service the subject development due to lack of services to connect to from the front sub-division and the subsequent foreclosure on the owners. The Respondent will not step in to provide services using their bond. Construction stopped in 2017 due to the stop work order and the Appellant has been unable to move forward due to various roadblocks by the Respondent, including the request to provide the respondent with a Schedule C under the ABC. Director 2 referred to pages 80-82 of the Exhibit 1 Appellant, and advised that the Appellant will not move forward, and spend the estimated \$2.4 million (pages 81 and 84 of Exhibit 1 Appellant) to remediate until they receive confirmation that the three items remaining on this list will satisfy the Respondent and nothing further is required from the Appellant. Director 2 asserted that the project is still viable, that there is a willingness to remediate subject to the items contained on pages 80-82 and there is another lender willing to assist with moving this forward.

Evidence Summary of the Appellant's Witness, Expert 1

15. Expert 1 confirmed that she is employed by [REDACTED], and was retained to act as Agent to the Appellant.
16. Expert 1 resume and testimony confirm as follows: that her experience and education includes project management and electrical engineering for many organizations since 2009. Expert 1 is a P.Eng. in British Columbia, Alberta and the Yukon, has Bachelor of Science in Electrical Engineering ([REDACTED]) and is a member of the Association of Professional Engineers and Geoscientists of Alberta (APEGA), the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC) and the Project Management Institute (PMI).
17. Expert 1 started consulting work in 2012 and was originally involved with the subject

development as the engineering consultant for the electrical underground residential distribution (URD) design. Issues surrounding the front sub-division halted work in August 2016. In January 2017, the plan to provide temporary utilities to the subject development through a utility right of way (URW) request was agreed to by the parties including the Respondent and work to get services progressed. On May 12, 2017, the Respondent approved the URD design and advised that safety code permits needed renewal before continuing construction. The Respondent also requested the involvement and reports of various engineers. The Appellant hired Expert 1 on June 7, 2017 to act as an Agent to address the Respondent's concerns and requests. Expert 1 coordinated engineers although in Expert 1's view, this seemed inconsistent with the application of Part 9 of the ABC. Expert 1 said that typically, this is a request under Part 4 of the ABC, which is not applicable to this development. Expert 1 also provided monthly status reports. The monthly reports ceased in March 2018 as the Respondent was not responding and the Appellant was seeking clarification and assurances before committing further money on the development. [REDACTED] was engaged in April 2018 to provide further engineering support to the Appellant. In June 2018, a fire destroyed 16 units, which in Expert 1's opinion cannot be remediated and require demolition. Subsequently the subject Order was issued. Expert 1 was engaged again to assist with the coordination of the clean-up and to deal with the request to stay the subject Demolition Order. Expert 1 further confirmed there is not a report verifying that sulphate resistant concrete was used for the foundation. Expert 1 also explained that the Appellant cannot proceed to get services until the issue of access to underground deep utilities, storm line and pond is resolved with the neighbouring sub-division.

Evidence Summary of the Appellant's Witness, Expert 2

18. Expert 2 confirmed that he is employed by [REDACTED] and is a P.Eng. in Alberta.
19. Expert 2 resume and testimony confirm as follows: in [REDACTED], that his experience and education include 15 years experience in structural engineering design, 20 years construction engineering experience, and 10+ years construction project management experience. He holds a Bachelors degree in Engineering ([REDACTED]), and a Masters in Engineering - Structural ([REDACTED]). Canadian experience and education include project management and construction management (multi-family apartment) from 2016 to present, Certified Engineer Technologist (C.E.T.) ([REDACTED]), P.Eng. in [REDACTED] within 9 months of coming to Canada and got license from APEGA in [REDACTED].
20. Expert 2 visited the subject development two times and gained access on the second visit July 21, 2019 for 3 hours. He was able to carry out a limited inspection of a couple of buildings, light was poor as windows were covered with boards in the basements; however, water was present, upper floors were okay and he did not inspect garages. He determined that no visible issue was evident that cannot be resolved or remediated. Piles on grade beam construction can be fixed by adding a counter balance. Teleposts not in centre, are not a major problem, they may require a counter weight if off centre,

but this problem is fixable. He assumes proper concrete was used as designed and reviewed by engineer. In his opinion, the construction will not settle further as this occurs within the first year and it has been two years already. He relied on the Exhibit 5 Appellant, which assumes the removal of peat and buried topsoil and [REDACTED] pile compliance letters. He also reviewed [REDACTED], [REDACTED] and [REDACTED] reports. He did not prepare or provide a report of his own. In his opinion, nothing is impossible for engineers and a solution can be found to solve any engineering problem.

Summary of the Oral Evidence Provided On Behalf of the Respondent

Evidence Summary of the Respondent's Witness - SCO

21. SCO confirmed that he is a SCO employed by an Accredited Agency which is retained by the Accredited Municipality to assist it in administering the Act within the Accredited Municipality.
22. SCO also testified as follows: he is a Journeyman carpenter since 1983 with 15 years of experience as an SCO. As far as this Project is concerned, he took over for SCO who passed away around April 2018. He reviewed the various reports, met with engineers, sat in on meetings with the Accredited Municipality and visited the subject development site three times. SCO walked the Tribunal through various pictures (under Tab F in Book 2 of Exhibit 1 Respondent) to demonstrate the poor construction of the subject development raising safety concerns such as: piles under footings with voids, piles broken away from the foundations, grade beams falling off the foundation, no piles to support the roof, cracks in basement walls, failing grade beams, open excavations, water washing out soil and no drainage resulting in possible mould contamination. Investigations to determine if grade beams will take the load of piles will compromise the building further. There is also nothing confirming that type 50 concrete was used for the foundation as required due to the high sulphate levels in the soil. There is no way to test for the type of concrete and the engineers cannot prove that this was used so they will not sign off. If you do not use type 50 concrete with pilings and grade beams, the sulphates in the soil will eat away at the concrete.

Evidence Summary of the Respondent's Witness, Expert 3

23. Expert 3 confirmed that he has obtained the following degrees or professional designations: PhD., P.Eng., and P.Geo, and that he is employed as a Senior Geotechnical Engineer with [REDACTED].
24. Expert 3's resume and testimony confirm as follows: his experience and education includes 20 years of geotechnical engineering and engineering geology with experience in projects involving transportation, infrastructure, municipal and industrial developments with a specialty in geotechnical site investigation and assessment; foundation analysis and design; slope stability assessment and landslide mitigation design; geotechnical instrumentation, monitoring, data reduction and interpretation.

Expert 3 is a Member of APEGA (P.Eng. P.Geo.), APEGS, APEGBC (P.Eng.) and the Canadian Geotechnical Society. Expert 3 referred to the [REDACTED] report starting on page 60 of “the Record”, (signed by Expert 3 on page 66 of “the record”) which references various geotechnical investigation reports from 2007 to September 2018 and offered the following summary. The [REDACTED] report confirms that the soil profile generally consists of a layer of topsoil and peat over silty clay, and with high groundwater levels, shallow footings are not feasible. Houses would need to be supported on concrete cast-in-place pile foundations with allowable skin friction capacity of 10 kPa for resistance and the peat would need to be stripped. The clay discovered in the boreholes is susceptible to frost and with changes to the groundwater table, it will increase the risk of frost heave. With the discovery of peat and topsoil in the area, it is a very good indication that it was not removed, which means you need to remove the piles and install longer piles deeper into the soil to support the load. In Expert 3’s experience, you would have to dig a pile out to fix it or it will settle further and crack. You cannot counter balance to fix the problem. The best solution is to demolish. The [REDACTED] report shows two meters of peat, you cannot bury material easily as it will settle 6 inches, and there is no resistance, requiring sump pumps forever. In Expert 3’s opinion, further settlement will occur and cause cracking foundations. In the [REDACTED] report, it shows [REDACTED] recommended removal of fill, topsoil and peat and the [REDACTED] report indicates it was not done. One would need a pile construction report to provide schedule C and a qualified engineer will not give it to you because they cannot verify the construction after the fact.

Evidence Summary of the Respondent’s Witness - Expert 4

25. Expert 4, confirmed that he is a Senior Forensic Technologist with [REDACTED]
26. Expert 4’s resume and testimony confirm as follows: his experience and education includes 55+ years of multi-discipline engineering with main focus over the last 21 years being forensic engineering investigation, analysis and production of reports, building restoration drawings/specifications for disaster affected structures, building and municipal services, several unique projects and new building development. He is a Civil Technologist and his formal education and training includes: Structural Theory & Design ([REDACTED] [REDACTED]), Alberta Planning Law ([REDACTED] [REDACTED]), Introduction to G.I.S. ([REDACTED]) and Stormwater Management Requirements for Individual Lot Developments ([REDACTED] [REDACTED]). Expert 4 conducted a site visit and investigation of foundation pile assessment, reviewed various reports, and coordinated, and compiled the report for [REDACTED] (Appendix A to Order, contained in Book 1 Exhibit 1 Respondent). Expert 4 and Expert 5, also of [REDACTED] signed the [REDACTED] Report at the end of the Executive Summary. The scope of the report involved foundation capacity, construction deficiencies, distress or deterioration and life safety. Site observations indicated foundation concerns and deficiencies including the following: standing water within several basements; all units without a concrete basement slab; strip footings under all basement walls being support on piles with no void form; piles not fully supporting or

totally missing grade beams; piles missing at canopy or second floor cantilevers; void forms installed through the top of piles with only the two 10M bars holding the foundation together; void forms uneven and cast into grade beams; movement of grade beams at entries, pad footings for teleposts; teleposts not installed or installed improperly; perimeter foundation wall movement cracks at a majority of the demising wall locations; diagonal cracks at a majority of unit basement window openings. As well, the developer did not follow the majority of the geotechnical recommendations in the [REDACTED] report. In summary, the building foundations at subject development are structurally inadequate and cannot perform their intended function of supporting the structure; therefore, they are unsafe.

Evidence Summary of the Respondent's Witness - Expert 5

27. Expert 5 confirmed that he is a P.Eng. with [REDACTED] (which has merged with his former firm, [REDACTED]).
28. Expert 5's resume and testimony confirm as follows: his experience and education includes 35 years of multi-discipline professional engineering experience involving over 3000 forensic related engineering projects, Bachelor of Science (Structural), Engineering, Minor, Environmental, Engineering (University of Alberta [REDACTED]) and various post-graduate level courses. He is a member of APEGA, APEGBC, Professional Engineers of Ontario (PEO), Northwest Territories and Nunavut (NAPEG), Association of Professional Engineers & Geoscientists of Saskatchewan (APEGS), Society of Automotive Engineers (SAE) and Canadian Association of Technical Accident Investigators and Reconstructionists (CATAIR). As noted by Expert 4, Expert 5 both signed the [REDACTED] report produced for the subject development Stage 2, and Expert 5 reviewed the report in its entirety prior to his appearance at the hearing. Expert 5 confirmed the contents of the report in its entirety and confirms the findings are consistent with Expert 5's opinion and findings.

Technical Advisor Questions & Answers

29. A Technical Advisor from Alberta Municipal Affairs was present for the hearing. The role of the Technical Advisor is to clarify questions of the Tribunal regarding the interpretation of the relevant codes and any related code issues.
30. The Tribunal deliberated on the questions for the Technical Advisor in camera. All parties were then invited back to the hearing room and the Chair posed the Tribunal's questions to the Technical Advisor and received the following responses:
31. Q. *Does part 4 of the ABC, 2014 apply to the foundations for this building?*
A. These buildings have a deep foundation and therefore fall under Part 4 of the ABC, 2014. Part 9 of ABC, 2014, section 9.4. Structural Requirements and 9.4.4. Foundation Conditions speaks only to shallow foundations. The definition of shallow is a foundation unit that derives its support from soil or rock located close to the lowest part of the building that it supports. A deep foundation supports a building by

transferring loads by mobilizing resistance by soil to rock adhesion. Piles are outside the scope of part 9 so this falls under part 4.

- 32.** Q. *Take us to the clause in the ABC, 2014 that refers to the size and complexity that then refers to the professional involvement. We are looking for you to provide the wording of that article.*

A. Division C, Part 2 Administrative Provisions of the ABC, 2014, Section 2.4.2. Professional Involvement:

2.4.2.1 General

2) If drawings or specifications are required to be imprinted with the seals or stamps of a registered architectural professional or a registered engineering professional, the seals or stamps must be signed and dated by the respective professionals in accordance with the enactments that govern their professions; and

9) If the size or complexity of a project may give rise to special safety concerns, the authority having jurisdiction may require

a) that all or part of the plans and specifications of a building be imprinted with a stamp or seal affixed by

i) a registered engineering professional where engineering work is involved,

ii) a registered architectural professional where architectural work is involved, or

iii) both a registered engineering professional and registered architectural professional, and

b) that field reviews during construction of a building be performed by

i) a registered engineering professional where engineering work is involved,

ii) a registered architectural professional where architectural work is involved, or

iii) both a registered engineering professional and registered architectural professional.

- 33.** Q. *Is there a STANDATA that specifically deals with the application of the ABC, 2014 to the individual building versus to the site as a whole?*

A. Did not bring any STANDATA's so cannot confirm the answer to this question.

- 34.** Q. *Please point us to the specific article in the ABC, 2014 that relates to the C Schedule.*

A. The Article dealing with the C Schedule is in Division C, Part 2 Administrative Provisions of the ABC, Section 2.4.4. Responsibilities:

2.4.4.1 Registered Professional

1) The coordinating registered professional for the project shall ensure that

a) the design requirements are coordinated and comply with the requirements of this Code,

b) any corrective actions taken as a result of a field review are recorded and available to the authority having jurisdiction upon their request, and

c) the authority having jurisdiction is provided with a letter in the form set out in Schedule C-1 stating that the project for which registered professionals were retained substantially complies with this Code.

35. Q. *At what point in construction can an Authority Having Jurisdiction request a C Schedule?*

A. Under Division C, Part 2 Administrative Provisions of the ABC, Section 2.4.3. Schedules of Professional Involvement:

2.4.3.2. Authority Having Jurisdiction

1) Before issuing an occupancy permit or giving permission to occupy, the authority having jurisdiction shall receive assurance in the form set out in Schedule C-1 from the coordinating registered professional that the building or portion of the building to be occupied substantially complies with the requirements of this Code. (See Appendix A.)

36. Q. *To your understanding, is it consistent with the ABC, 2014 to ask for C Schedules for the foundation and geotechnical from the designers of those components when the foundation is complete, but before the entire project is complete?*

A. No, the note section of Schedules C-1 and C-2 provide timelines. Schedule C-1 must be submitted after completion of the project and before occupancy. C-2 is after completion.

37. Q. *Is Article 9.3.1.3 under Division B of the ABC, 2014 a code provision that requires sulphate resistant concrete?*

A. Yes.

9.3.1.3 Concrete in Contact with Sulphate Soil

(1) Concrete in contact with sulphate soil, which is deleterious to normal cement, shall conform to the requirements in Clause 4.1.1.6 of CSA A23.1, "Concrete Materials and Methods of Concrete Construction."

38. Q. *Does Article 4.2.2.3 of the ABC, 2014 require the review of piles?*

A. Yes.

4.2.2.3. Field Review

1) A field review shall be carried out by the designer or by another suitably qualified person to ascertain that the subsurface conditions are consistent with the design and that construction is carried out in accordance with the design and good engineering practice. (See Appendix A.)

2) The review required by Sentence (1) shall be carried out

a) on a continuous basis

i) during the construction of all deep foundation units with all pertinent information recorded for each foundation unit,

ii) during the installation and removal of retaining structures and related backfilling operations, and

iii) during the placement of engineered fills that are to be used to support the foundation units, and

b) as required, unless otherwise directed by the authority having jurisdiction,

i) in the construction of all shallow foundation units, and

ii) in excavating, dewatering and other related works.

Appendix A - A-4.2.2.3.(1) Responsibilities of the Designer as Defined in Part 4.

In certain situations, such as when the design is highly technical, it may be necessary for the “other suitably qualified person” to be someone responsible to the designer. In such cases the authority having jurisdiction may wish to order that the review be done by the designer.

Findings of Fact:

The Tribunal makes the following findings:

39. The subject development is located at [REDACTED]
[REDACTED]
[REDACTED].
40. The Appellant started construction on the subject development in June 2015.
41. Inspections throughout the development 2015-2016 consistently pointed out deficiencies and non-compliance with the Act. These include, but are not limited to the: lack of temporary heat, installation of post on pads, joists and load bearing not matching the design, usage of improper backfill material, studs twisted and bowed, sub floor lateral stability and structural capacity being compromised, posts not being correctly installed and the lack of preparation for winter conditions (no heat, moisture in basement interiors and frozen ground in the buildings).
42. In August 2016, work in the subject development was put on hold due to issues with the neighbouring (front) sub-division. The owners of this sub-division went into foreclosure and underground services were not installed.
43. The Respondent approved the URD design on May 12, 2017 and advised that safety code permits needed renewal before continuing construction. At this time, the Respondent also requested the involvement and reports of various engineers.

44. The Appellant hired Expert 1 on June 7, 2017 to act as an Agent to address the Respondent's concerns and requests including the coordination of shallow utilities to provide heating to the buildings on site and the coordination of professional engineers to review, assess and redesign units ensuring compliance and safety under the ABC.
45. [REDACTED] issued a Report by [REDACTED] (Eng), R.E.T. dated August 16, 2017 the scope of which included - Site assessment and topographic survey of the site only to determine what remedial work was required for the subject development as it relates to sanitary, water, storm system, drainage and roads. The report determined the estimate to remediate to be \$230,000, however the report noted that key performance measures (pressure testing on system and CCTV on sanitary sewer) are missing so it may alter the estimate.
46. The Respondent advised Director 1 and Expert 1 in the Respondent's letter of September 27, 2017 that it would issue a Demolition Order citing various conditions to ensure compliance and subsequently on the next day, the Respondent issued a Demolition Order.
47. On October 9, 2017 [REDACTED] P.Eng. of [REDACTED] provided a summary of the phase 1 Structural Assessment Report done by [REDACTED]. The assessment included a visual site review of existing structures, current conditions and observed damages and deficiencies. Overall [REDACTED] determined structural issues can be alleviated; however, it is dependent on the findings of the geotechnical investigation (phase 2). In this summary, it suggests winterization to prevent further exacerbation of existing concerns.
48. The Structural Assessment Report by [REDACTED] 2017 cited multiple deficiencies including, but not limited to missing teleposts, misplaced piles, water in basements and frost heaving with over 42 units presenting a high-risk level requiring urgent repair.
49. [REDACTED] Report by [REDACTED] P.Eng. dated October 11, 2017 and prepared by [REDACTED] - Phase 1 Geotechnical Assessment Report detailing soil and groundwater conditions based on inspections of units within the development and the conditions (damages and deficiencies) of the units. Phase 1 determined R&G believes geotechnical concerns can be alleviated to repair the foundation structure and to lower groundwater table; however, a phase 2 investigation will determine the extent of remediation measures.
50. [REDACTED] also reviewed reports as follows:
51. [REDACTED] 2007 noting poor soil conditions not suitable for shallow foundations unless native soil is replaced with engineered fill and structural floor slabs due to grade-support structures with below slab drainage system and weeping tile to prevent infiltration into below grade basements.
52. [REDACTED] 2007 conclude that shallow footings would generally not be suitable for the soil conditions and suggesting the use of cast-in-place concrete friction piles with skin friction of 10 kPa and sub-floor drainage systems below the concrete floor slab.

53. [REDACTED] 2016 did a visual inspection of pile installations, construction foundation walls and grade beams in the summer of 2015 and relied upon written confirmation from the contractor that all piles were constructed as per design.
54. [REDACTED] 2016 provided basement and foundation floor plans, later revised by [REDACTED]. Concrete piles to be 12 inches in diameter and to a depth of 19 feet for building foundation and 15 feet for the garages, veranda and deck slabs. Friction piles designed based on allowable skin friction of 10 kPa to a depth of 10 feet and 15 kPa.
55. [REDACTED] 2015 suggested perimeter drains and sump pumps.
56. Site observations by [REDACTED] M. Eng., E.I.T. September 20, 21 and 26th, 2017 detailed several deficiencies throughout the units including foundation cracks, misplaced piles, standing water, seepage of water, missing teleposts, misplaced grade beams, poorly formed and uneven grade beams, soil swelling and shrinkage in all basements, grade beams inconsistent in thickness and poor grading. [REDACTED] could not conclusively determine if existing foundation structure is sufficient to support the existing units, but he noted, with the presence of groundwater in most units, no sub-floor drainage system was installed. He was of the view that further field investigation is required to determine current soil and groundwater conditions and to assess suitability of existing foundation structure.
57. On October 19, 2017, Expert 1 prepared a letter for the Respondent outlining efforts to date and an overview of the project. In response to these efforts, the Respondent forwarded a letter on November 1, 2017 that confirms receipt of some incomplete schedules, acknowledges work done to date, reminds Director 1 and Expert 1 of the conditions and defers the Demolition Order to May 1, 2018.
58. A report dated November 20, 2017 was prepared by [REDACTED], retained by [REDACTED]. This report was produced at the hearing for the first time and marked Exhibit 3 Appellant. The purpose of the Pile Integrity Testing Report was to evaluate as-built installation depths and diameters of piles and pile shafts for potential deficiencies. Limited testing of 14 garage piles was conducted as house piles were not exposed or too far under the grade beam which prevents the signal from passing through the grade beam to the pile. The report provides an indication of pile shaft quality, but notes that it should be combined with reviews of pile installation records, inspection results and load tests to determine overall quality.
59. Expert 1 forwarded the first monthly status report to the Respondent on December 1, 2017 for the month of November and continued reporting until the beginning of March 2018. At that point, the Appellant halted further activity until they receive a response from the Respondent providing them assurance on next steps as cost estimate to remediate and prepare site exceeds \$2 million (page 82).
60. [REDACTED] (Engineering and Consulting Company) was engaged in April 2018 to assist on discussions with the Respondent.
61. The April 20, 2018 letter from the Respondent advised that the Accredited Municipality will be seeking a Demolition Order due to the lack of submissions relating to the

conditions cited in their letters.

62. The SCO, was engaged to review the various reports and conduct site visits in April 2018 as the former SCO passed away.
63. On [REDACTED], a fire destroyed 16 units that were 60% complete and caused exterior damage to units nearby.
64. The [REDACTED] Engineering Report dated July 20, 2018 concludes that the foundation design of all units did not fit the purpose of supporting the structures and that they are unsafe. They also determined that the foundation pile system is grossly inadequate and cannot perform the intended function to support the structures as required under the ABC. Overall, the buildings are unstable and unsafe.
65. The subject Order was issued by the SCO on October 19, 2018 requiring the demolition of all structures (including those partially constructed and all those damaged by fire) at the subject development by November 30, 2018.
66. The initial request for a Stay of Order was not granted due to unsafe conditions on the subject development, but later changed to a conditional stay due to conflicting information. A site inspection was done by the Provincial Building Administrator, who confirmed the subject development was not secure or safe so the Stay of Order was rescinded on December 5, 2018.
67. The buildings within the development did not have a source of heat from the start of building in 2015.
68. The soil in the subject development is high in sulphates consisting of peat over organic clay up to about 3 m thick, overlying soft clay (open ~ 25 kPa). These poor soil conditions, along with the water table measuring within a few meters below the ground surface, require the ground to be stripped of topsoil, peat and the organic clay, the use of sulphate resistant cement (type 50) and pile and grade beam construction.
69. There is no evidence to support that sulphate resistant cement (Type 50) was used. This is a requirement under Article 9.3.1.3 "Concrete in Contact with Sulphate Soil" under Division B of the ABC.
70. Schedules A and B were provided at the hearing as Exhibit 4 Appellant and they are not part of the initial submission, however emails from the Respondent confirm the receipt of some incomplete schedules. The only items acknowledged in these schedules relate to electrical and this is done by Expert 1.
71. The [REDACTED] Report dated July 26, 2019 by [REDACTED], M.Sc, P.Eng. evaluates existing soil conditions and capacities of the as-built foundations using the following reports: [REDACTED] 2007 "Geotechnical Site Assessment" (October 2007); the [REDACTED] 2018 "Geotechnical Site Investigation" (April 2018); [REDACTED] 2018 "Geotechnical Site Investigation" (September 2018); the [REDACTED] 2017 "[REDACTED] Residential Development, Geotechnical Investigation" (July 2017); [REDACTED] 2016 "[REDACTED] Drawings"; and [REDACTED] 2018 "[REDACTED] Stage 2 Foundation Assessment, Schematic Site Info Plans and Sections". It concludes that

peat was not removed, long term settlement could result in downdrag on portion of piles extending through the clay fill, and inadequate pile lengths to make up for the depth of unsuitable soils under the basements. The settlement of piles is the result of inadequate pile capacity due to the expected depth of peat or clay backfill coupled with potential for negative skin friction in the clay backfill and underlying soft clay. The settlement of building foundations may continue to occur due to the overload on the piles.

- 72.** The Tribunal finds that Schedule C is not applicable until completion and before occupancy.

Reasons for Decision:

- 73.** The Order was issued pursuant to section 49 of the *Act*. Section 49 of the *Act* reads as follows:

49 (1) A safety codes officer may issue an order if the safety codes officer believes, on reasonable and probable grounds, that

- a) This Act is contravened, or
- b) The design construction, manufacture, operation, maintenance, use or relocation of a thing or the condition of a thing, process or activity to which this Act applies is such that there is danger of serious injury or damage to a person or property.

- 74.** On an appeal such as this, the powers of the Tribunal are set out in subsection 52 (2) of the *Act*. That provision reads as follows:

52 (2) The Council may by order

- a) confirm, revoke or vary an order, suspension or cancellation appealed to it and as a term of its order may issue a written variance with respect to any thing, process or activity related to the subject-matter of the order if in its opinion the variance provides approximately equivalent or greater safety performance with respect to persons and property as that provided for by this Act.

- 75.** The Tribunal finds, on the basis of the evidence before it, that the subject development is unsafe, and must be remediated.

- 76.** The question before the Tribunal is whether the subject development inclusive of all buildings, foundations and piles can be safely remediated, short of the demolition directed by the Order.

- 77.** In coming to its decision to confirm the Order, the Tribunal looked at the purpose and intent of the safety codes system, which is to provide assurance of safety and health to persons and property. This is primarily achieved through a permitting and inspection process. The various inspections throughout the development, the pictures depicting the deterioration and unsafe nature of the subject development prove the development does not meet the necessary standards and thus further permits were not approved and the

Respondent sought professional involvement.

- 78.** The Tribunal then reviewed the option of remediation short of demolition including how long it would take and the impact of another winter season on the subject development. The Tribunal determined there was insufficient evidence produced that demonstrates there is a viable remediation plan. The Tribunal also finds that there is lack of willingness by the Appellant to take further steps without receiving assurance from the Respondent that nothing further is required. The Tribunal finds that the Respondent's position in this regard is not reasonable as it is the Respondent's responsibility to ensure compliance with the Act.
- 79.** Any remedial work would be subject to inspection and if further deficiencies or contraventions of the Act were identified, the Respondent would have the discretion to order additional remedies. It would not be appropriate to fetter that discretion.
- 80.** It is clear from the evidence inclusive of expert reports and testimony that the soil at the subject site contains organic layers and is high in sulfate content requiring extensive preparation, the use of a pile on grade beam construction and the use of sulphate resistant concrete (Type 50) in order to be compliant with the Act and to safely support the structures.
- 81.** It is also clear that the subject development still contains peat, which confirms the site was not properly prepared throughout and there was no evidence to reasonably support a finding by the Tribunal that sulphate resistant cement (type 50) was used as required under Article 9.3.1.3 "Concrete in Contact with Sulphate Soil" under Division B of the ABC. There is no test available to determine at this point the type of cement used.
- 82.** The Tribunal heard conflicting evidence from a number of witnesses. In particular, Expert 3, called on behalf of the Respondent and Expert 2, who testified for the Appellant, differed on whether the site could be safely remediated short of the demolition directed by the Order. Expert 2 opined that it could, but did not present a report, nor a clear and comprehensive plan as to how this could be done. Expert 3 presented his report (Exhibit 2 Respondent, pages 60-85) and opined that the only way to safely remediate the subject development would be to proceed with the demolition directed by the Order.
- 83.** On the basis of its assessment of the respective presentations by Expert 3 and Expert 2, and of the rationale they each put forward in support of their positions, as well as the Tribunal's evaluation of their respective levels of training, credentials and experience in Canadian conditions, the Tribunal has determined that where their evidence differs, the Tribunal prefers and accepts the evidence of Expert 3.
- 84.** For the benefit of the parties, the Tribunal finds that the actions directed in the Order include the removal of all piles at the subject development.
- 85.** The Tribunal notes that this finding is also consistent with the testimony of Expert 1 who indicated during her testimony that it was the Appellant's plan to demolish the 16 units destroyed by the fire, and that it understood that to include the necessity that demolition of those units would include the removal of the piles. In the Tribunal's view, demolition as directed at the subject development includes removal of all piles.

- 86.** In light of all of the above, the Tribunal's decision is to confirm the Order.
- 87.** The Tribunal understands that the time limits for the actions ordered to be taken under the terms of the Order have expired, and it has chosen not to vary the order to allow these times to be extended. The Tribunal considers that the *Act* provides the Respondent with certain remedies and rights of enforcement in these circumstances, and the Tribunal considers it appropriate not to interfere with these.

Signed at the City Edmonton)
in the Province of Alberta)
this 11th Day of October A.D. 2019)

Chair

Building Sub-Council Administrative Tribunal