

**Peter McLaughlin Commissioner**

**CITY OF CAMBRIDGE**  
**BOARD OF SURVEY**

July 22, 2025

VIA FIRST CLASS MAIL AND  
CERTIFIED MAIL  
Return Receipt Requested AND POSTED  
AT PREMISES 221 Mount Auburn

Copy posted at the Premises address to:

Owners and those with Interests  
In Units Located at  
221 Mt. Auburn Street  
Cambridge, MA

Re: Board of Survey Report Pursuant to G.L. c.  
143, § 8 Re: Address: 221 Mount Auburn  
Street, Cambridge, MA.

To Whom It May Concern:

The Board of Survey for the City of Cambridge (the "City") was convened under G.L. c. 143, §8 (the "Board of Survey") and visited the above-referenced location to assess the condition of the existing building at 221 Mount Auburn Street (the "Building"). The inspection was conducted on July 7, 2025, at 1:30 PM. The following are members of the Board of Survey who participated in this inspection: Peter J. McLaughlin, Building Commissioner of the City's Inspectional Services Department ("ISD"), Thomas Cahill, Acting Fire Chief of the City's Fire Department ("CFD"), James Willcox, City Engineer, Charles Sullivan Executive Director

Historical Commission and Casey Ching STV. Inc, P.E., disinterested person.

The purpose of this building inspection was to assess and determine the structural condition of the Building, and asses any potential danger to the surrounding properties. The Board of Survey's inspection included reviewing the following documents<sup>1</sup>:

- SGH Evaluation of Two-Way Slabs dated November 6, 2024;
- Thornton Tomasetti Punching Shear Review Final Report dated February 14, 2025;
- SGH Report 221 MT Auburn ST dated February 7, 2025, Revised April 25, 2025;
- SGH Supplemental Letter dated June 25, 2025;
- Drone Survey Comparison dated July 1, 2025; and
- Riverview Condominiums - Count of Slab-Column Connections by DCR dated July 1, 2025;
- STV Report dated July 16, 2025, attached hereto as Exhibit 1.

The Building is a nine (9) story structure, consisting of 66 condominium units. The Building was constructed in 1963.

The Board of Survey reviewed all the documentation provided by SGH, John Porter P.E. and Linda Seymore P.E., and the peer review of the SGH Report, dated February 7, 2025 (updated April 25, 2025) by Thornton and Tomasetti engineers Lisa A Davey, P.E. and Sebastian Mendes, P.E. The Board of Survey agrees with SGH's findings. The information provided in the above-referenced reports and the Board of Survey's site inspection identified several critical issues:

- Low reinforcement placement re-bar placed lower than designed.
- Low concrete compressive strength, strength considered below minimum code requirements.
- Slab repairs performed within the critical punching shear zone, compromising strength.
- Ongoing leakage through the exterior walls, causing reinforcing steel corrosion.

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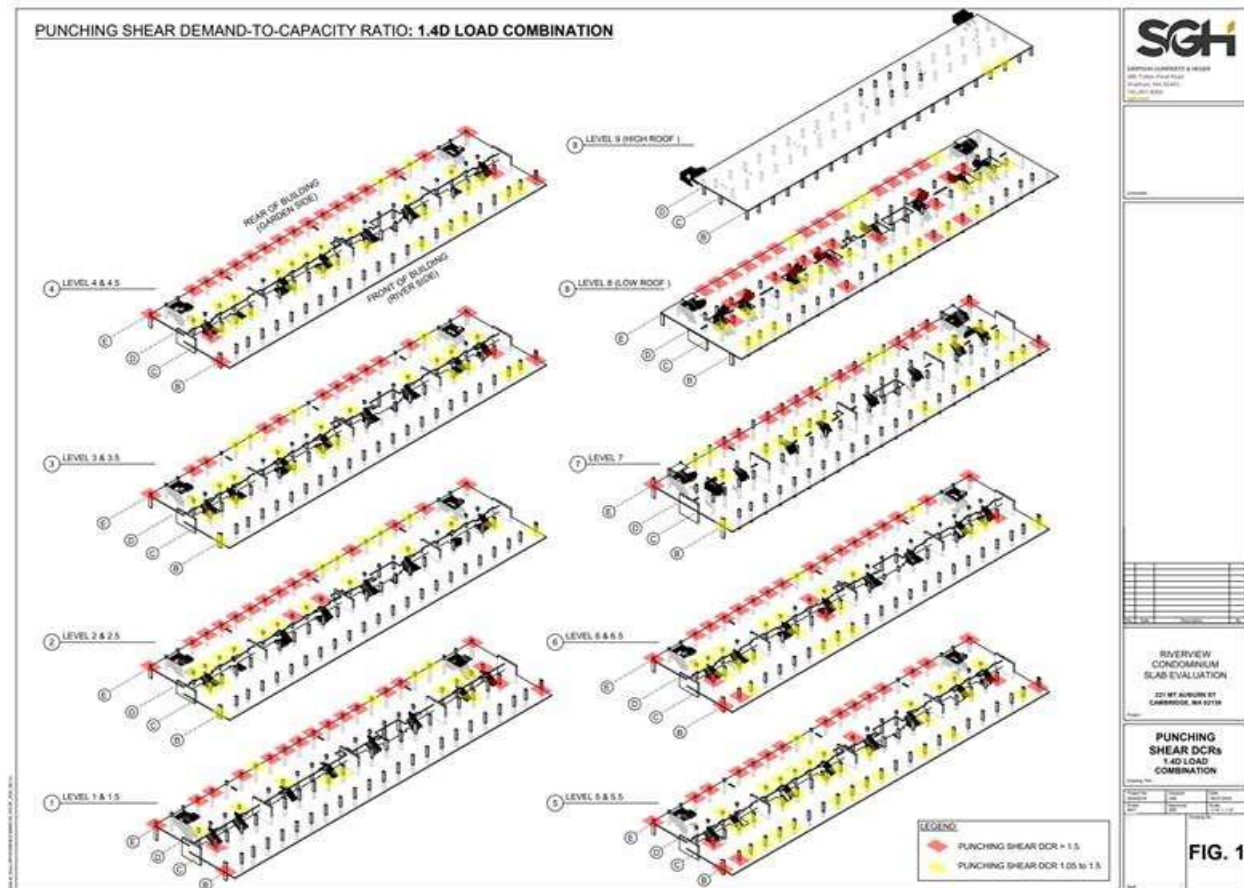
<sup>1</sup> The above-referenced reports can be accessed at <https://www.cambridgema.gov/Departments/capitalbuildingprojects/projectsinitiatives/221mtauburnstreet>.

- Attached letter of review by Casey Ching P.E. from STV INC. and a member of the BOS

These compounding issues, particularly the low reinforcement and low compressive strength, are widespread. The engineering analysis indicates the slabs have a **very low to potentially zero safety factor** under 2019 ACI 318 Massachusetts Structural Concrete Code. **Building Codes mandate widespread slab strengthening**, and SGH created conceptual designs to help determine the order-of-magnitude cost for these necessary repairs at Riverview. It was determined by SGH, the Board of Trustees, Consigli Construction, and reviewed and agreed upon by Thornton Tomasetti, that repairing the Building would put workers in a hazardous working condition and therefor the building must be demolished immediately. The Board of Survey reviewed the documentation and data provided in the above-referenced reports, including the estimate provided in the SGH report, which was prepared by Consigli Construction, and agrees that the only option is to demolish the Building.

The Board of Survey reviewed in detail page 2, section 2 of SGHs Supplement Report dated June 27, 2025 that states. “American Concrete Institute (ACI) Code 562 - Assessment, Repair, and Rehabilitation of Existing Concrete Structures states that for gravity, fluid, soil, and wind loads, “potentially dangerous” structural conditions exist in members or structures if the demand-to-capacity ratio is greater than 1.5, as given in the following equation:  $U_c/\phi R_{cn} > 1.5$ .”

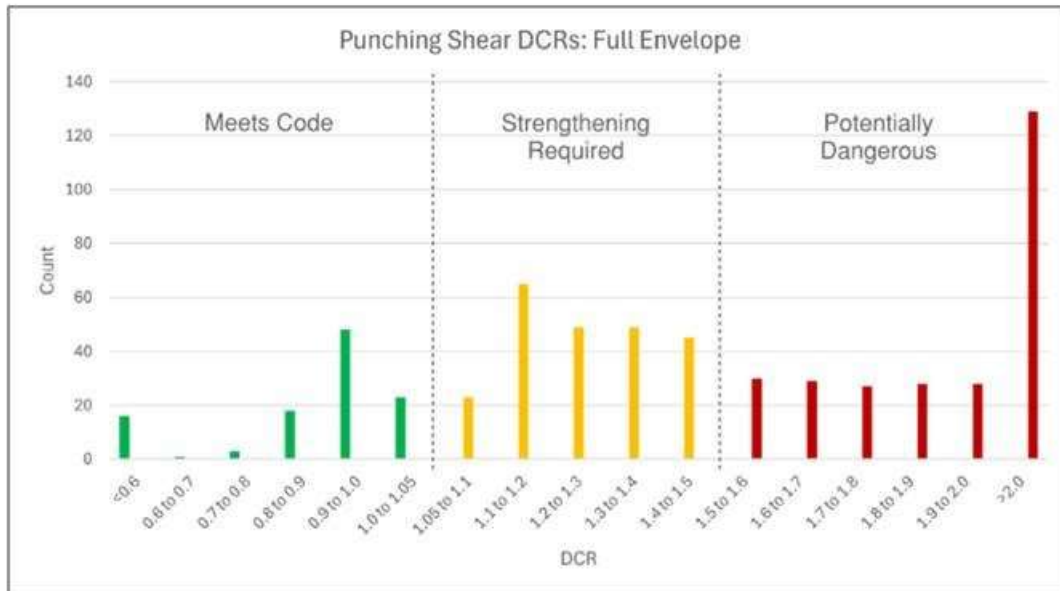
This June 27, 2025 Supplemental Letter prepared by SGH shared additional information requested by the City including **analysis of the building with dead load only (no snow load)**. The analysis shows a **significant number of slab-column connections** that are **potentially dangerous** (Demand to Capacity Ratios (“DCR”)  $>1.5$ , per American Concrete Institute (ACI) Code 562), **even without any snow load**. Figure 1 (1.4D load combination) shows that many column-slab connections have punching shear DCRs greater than 1.5 under dead-load only (i.e., the self-weight of the structure). Similarly, Figure 2 (1.2D + 1.6S load combination) also shows many locations with DCRs greater than 1.5, in particular at the High Roof and Low Roof slabs, due to snow loads. ACI 562 Commentary states that “the demand-to-capacity ratio for unsafe conditions was developed consistent with the performance-based procedures” contained in American Society of Civil Engineers and Structural Engineering Institutes – Minimum Design Loads and Associated Criteria for Buildings and Other Structures (ASCE/SEI 7-16)<sup>1</sup> and that “a demand-to-capacity ratio greater than 1.5...represents a condition with limited to no margin of safety against failure for ASCE/SEI loads.”



## RIVERVIEW CONDOMINIUMS – SUPPLEMENT TO 27 JUNE 2025 SGH LETTER

The Riverview Condominiums - Count of Slab-Column Connections by DCR report dated July 1, 2025 further examined the **magnitude of the number of potentially dangerous slab-column connections, both with and without snow load.**

**FIG. 1** – Count of slab-column connections by DCR range for full code-required gravity loading (envelope), showing categorizations (meets code, strengthening required, potentially dangerous) in accordance with IEBC and ACI 562.



**FIG. 2** – Count of slab-column connections by DCR range under dead-load only (structure self-weight), showing categorizations (meets code, strengthening required, potentially dangerous) for the unloaded structure.



Considering the overall condition of the Building, we are of the unanimous opinion that it is unsuitable for human habitation and based on the findings in the SGH reports, STV report, of which the Board of Survey concurs, the Building structure is structurally compromised. Furthermore, municipal water is being cut off to the building as will electricity, further making the structure uninhabitable as provided in 105 CMR 410.630. Given the totality of the above circumstances, and judging the condition of the entire structure, we determine that the building located at 221 Mount Auburn Street in Cambridge MA cannot be shored up or repaired, and it would be unsafe for anyone to be placed in the Building. The Building must be immediately razed due to being structurally compromised and posing an immediate danger to life or limb.

**Given the totality of the above circumstances, and pursuant to G.L. c. 143, § 7, please be advised that unless the owner(s) commence demolition of the Building on or before July 23, 2025, the City reserves the right to enter upon the Building Site with the necessary contractor to remove the Building; and clear out the debris associated with the razing of the Building as such condition is an immediate danger to life or limb and must be made safe without delay.**

The Board of Survey further recommends that after the removal of the Building, the owner be instructed to secure the Building and site, retain the services of a structural engineer to a) inspect and identify any hazardous conditions before any members of the public enter the site, and b) submit to ISD plans on how to make the site safe for any exploratory investigation to be conducted.

To reiterate, the Board of Survey's inspection found the Building to be:

1. Unfit for human habitation;
2. In need of major structural repairs;
3. Structurally unsafe to perform these repairs; and
4. Having other conditions requiring demolition or removal.

Based on these findings, unless the owner(s) commence demolition of the Building on or before July 23, 2025, the City reserves the right, pursuant to G.L. c. 143, § 7, to enter the Building site with the necessary contractor to remove the Building; and clear out the debris associated with the demolition as such a condition is an immediate danger to life or limb.

Sincerely,

James Willcox, City Engineer

X



Thomas Cahill, Fire Chief

X



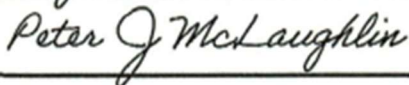
C. Josh Rownd, AIA, Sr. VP, STV Incorporated

X



Peter J. McLaughlin, Building Commissioner

X



Cc: Charles Sullivan, Historical Commissioner

# EXHIBIT 1



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stvinc.com

July 15, 2025 (rev. July 16, 2025)

Peter McLaughlin  
Commissioner  
City of Cambridge Board of Survey

Re: Board of Survey Report  
221 Mount Auburn Street, Cambridge, MA

Mr. McLaughlin:

STV Incorporated (STV) was engaged by City of Cambridge (City) on Friday, June 6, 2025, to assist with their engagement of Simpson Gumpertz & Heger Inc. (SGH) as they conduct a structural assessment of the 9-story privately owned condominium located at 221 Mount Auburn Street. Casey Ching, PE, (Buildings' Group Structural Lead) has led STV's involvement with this project.

SGH has been providing structural engineering services to the Riverview-in-Cambridge Condominium Trust since the Fall of 2024. Additional structural engineering peer review services were also provided by Thornton Tomasetti (TT). As a result of their observations and investigations, the following documents were provided to the City:

- SGH Evaluation of Two-Way Slabs, November 6, 2024
- Thornton Tomasetti Punching Shear Review, Final Report February 14, 2025
- SGH Report 221 MT Auburn ST., February 7, 2025
- SGH Supplemental Letter, June 25, 2025
- Drone Survey Comparison, July 1, 2025
- Riverview Condominiums - Count of Slab-Column Connections by demand-to-capacity ratios (DCR), July 1, 2025

These reports identified the following critical issues:

- Low reinforcement placement, re-bar placed lower than specified on the design drawings.
- Low concrete compressive strength.
- Slab repairs performed within the critical punching shear zone that may have further weakened the structure.
- Ongoing leakage through the exterior walls, causing reinforcing steel corrosion.

STV reviewed the reports by SGH and TT and noted that of particular concern is a significant number of column-slab connections have inadequate strength and could lead to punching shear failure which is a sudden and catastrophic failure. The main causes of the inadequate strength are incorrect installation /



location of the rebar and lower than specified concrete strength. This contributes to the building not meeting minimum code requirements per International Building Code (IBC 2021) as amended by the Massachusetts State Building Code (MSBC). SGH evaluated the structure per ACI Code 562 – Code Requirements for Assessment, Repair, and Rehabilitation of Existing concrete Structures. A significant portion of the slab-to-column connections have a demand-capacity-ratios (DCRs) exceeding 1.5 which is considered “potentially dangerous structural condition” by code with limited to potentially no margin of safety against failure. Per article 4.3.2.1 in ACI Code 562, SGH calculated gravity load demands using the current building code, IBC 2021, as the design-basis criteria because the DCR’s exceeded 1.5.

During a meeting on June 16, 2025, STV and the City of Cambridge recommended SGH to provide a supplemental report evaluating the building under i) 1.4 Dead Loads (DL) and ii) 1.2 DL +1.6 Snow Loads (S) to evaluate the building in its current unoccupied condition and to understand its potential for failure over the winter. Moreover, we recommended SGH to clarify its recommendations about feasibility shoring and repair of the existing structure is feasible given the “potentially dangerous” categorization of this building.

SGH’s supplemental letter dated June 25, 2025, confirmed that even under the self-weight of the building, without Live Loads from construction crews or Snow Loads during winter, there are multiple column-slab location DCRs exceeding 1.5. Shoring is required throughout most of the structure and on all levels, but since a significant portion of the column-slab joints have DCRs exceeding 1.5, SGH noted that it would be unsafe for contractors to go into the building to install shoring elements required to do any repair of the structure. SGH also noted that shoring efforts are further complicated by hazardous materials that are known to exist throughout the building – texture “popcorn” ceilings, floor mastics and drywall compounds.

Given that under only Dead Loads on the building it is already considered “potentially dangerous” and that the type of potential failure (punching shear) is a sudden and catastrophic failure, STV concurs with the findings and recommendations laid out in SGH’s supplemental letter and the City of Cambridge Board of Survey that 221 Mount Auburn Street is not safe and should be demolished, to the best of our knowledge and understanding of the information presently known to us.

Sincerely,

C. Josh Rownd, AIA  
Sr. Vice President  
STV Incorporated

Casey Ching, PE  
Sr. Structural Engineer  
STV Incorporated

File: 4021727-0004.20