sorensen TRILOGY
STRUCTURAL ENGINEERING SOLUTIONS

November 23, 2021 19-077

Primex Investments Ltd.
#200 – 1785 West 4th Avenue
Vancouver, BC, V6J 1M2

Attn: Greg Mitchell, M.PL., MCIP, RPP

Re: Seismic Upgrade Strategy – 1518 Cooke Street (Parkway)

Dear Greg:

Introduction:
As requested, the following provides a description of the seismic upgrading work to be undertaken on the existing building located at the corner of 1050 Pandora Avenue and 1518 Cook Street in Victoria, BC as part of the new Parkway project. The existing building consists of a two-storey unreinforced brick masonry structure with wood floor and roof framing. The building has a very small basement mechanical space, but is otherwise constructed of conventional, shallow spread footings with a main floor concrete slab on grade.

A portion of the existing 2-storey building (~5000sq.ft plan area) at the corner of Cook and Pandora, as well as the façade along Pandora, will remain while the remainder of the existing building is to be demolished. As per the project drawings, a new underground parkade is to be installed around the existing building that is remaining. The existing building will be connected to a new 6-storey building with mixed-use, constructed of concrete and wood above the second level.

Foundation and Masonry Structural Work:
A description of the structural foundation work required to maintain the existing structure is as follows:

1. The existing brick walls are to be tested, with mortar repaired/repointed as required.
2. The existing brick walls will be seismically anchored to the new/existing structure to resist seismic loads. New framing will be installed behind the brick framing as required.
3. The existing brick parapet will be anchored to the roof framing system using steel brackets.
4. The existing brick wall and foundation on the north side of the existing building remaining will be reconstructed.
5. The existing façade along the south end of the building will be underpinned.
6. Existing pad footings will need to be upgraded within the existing building and around the building perimeter.
7. The existing pad footings will need to be lowered in several areas to ensure bearing on competent soil and not to undermine adjacent footings. New concrete piers will also be required.
8. A new concrete curb will need to be installed around the perimeter of the existing building remaining to replace the existing masonry/wood curbs that are inadequate.

Framing Structural Work:
A description of the structural framing work required to maintain the existing structure is as follows:

1. The existing timber beams are to be upgraded with steel channels each side to meet code requirements.
2. The existing timber beam to column connections will be upgraded
3. New steel beams will be installed in the second-floor framing to support loading above.
4. The existing steel perimeter beams will be upgraded to meet current code requirements.
5. New wood beams will be installed around the perimeter of the roof.
6. The existing floor and roof systems will be connected to the new building on the west side to provide seismically stability in two directions.
7. The existing roof and floor systems will be connected to a new 2-storey steel frame on the east side of the existing building.
8. New wood shear walls are to be added within the existing building on the second level with drag struts connecting to the new concrete slab.
9. New steel channels and HSS beams will be added within the main floor façade to provide stability for the glazing and brick piers in order to meet current code requirements.
10. Existing roof and floor framing will be repaired where damaged.
11. The second floor and roof diaphragms will be upgraded.
12. The existing fascade and connections will be upgraded as required.

We have been informed that the anticipated building upgrade costs associated with the structural work are in the ballpark of $75-$85 per square foot.

We assume this report is adequate for your needs at this time. Please contact the undersigned if you have any questions or if we can be of further assistance.

Yours truly,

Sorensen TRILOGY Engineering Ltd

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Principal

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