



April 29, 2022

Wesley Place Ltd.
c/o Realstar Management Limited
2000-77 Bloor Street West
Toronto, ON M5S 1M2

Attention: Keith Milne, Vice President – Construction & Property Standards

Dear Keith:

**Subject: Wesley Place – 1022 Nelson St., Vancouver
Parkade Evaluation**

As per our proposal dated April 5, 2022, we provide the following report.

INTRODUCTION

SCOPE OF WORK

The purpose of our evaluation was to:

- Obtain information on the current condition of the parking garage;
- Identify conditions that are or will soon adversely impact performance;
- Identify management strategies; and
- Provide opinions of cost to implement the identified solutions.

METHODOLOGY

Work completed for this evaluation included:

- Discussions with management representatives to learn about the history and current performance problems;
- Visual review of the parking garage;
- Visual review of leaking cracks, along with sounding of sample crack areas to identify 'hidden' areas of deteriorations;
- Identify other conditions which appear in need of remedial work (i.e., drainage, lighting, signage, etc.).

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GENERAL BUILDING/COMPONENT DESCRIPTION

Wesley Place is a 22-storey residential building located at 1022 Nelson Street in downtown Vancouver. The building is constructed of reinforced concrete columns, structural slabs, with infill masonry or window-wall cladding. The building was constructed circa 2021.

The four-level underground parking garage is generally located below the building footprint. However, it extends past the footprint along the north, south and west sides, creating a buried roof slab (see Photos 1 to 3). Based on review of building drawings, the buried roof slab is protected by a waterproofing membrane and protection board, below hard and soft landscaping. The parkade is accessed via a covered ramp from the south laneway, which is protected by a traffic membrane (see Photo 4). The P1 to P3 suspended parking slabs are also protected by a traffic membrane, and sloped to area drains (see Photo 5). It appears that the drive aisle membrane has been renewed at some point (see Photo 6). The P4-level is unprotected slab-on-grade (see Photo 7).

PERFORMANCE AND HISTORY

No reports of active leakage or problematic areas were identified to us, at the time of our review.

KEY FINDINGS

TRAFFIC MEMBRANE APPROACHING END OF SERVICE LIFE

We noted wearing in the traffic membrane at base of ramp, and high traffic turning areas generally on the upper levels of the parkade (see Photos 8 to 10). We also noted evidence of leakage at the trench drain, below area drains, and on the underside of the ramp (see Photos 11 to 13).

Although the membrane generally appears to be in a serviceable condition, these membranes typically have a service life of 15 to 20 years, depending on product used, and quality of installation. Regular maintenance is required in order to achieve or prolong service life, and it appears that the drive aisle membrane was recoated for this purpose.

LOCALIZED CONCRETE DETERIORATION

We noted localized concrete deterioration along a slab edge above parking stall 54 on the P2-level (see Photo 14). The concrete deterioration does not appear to be related to leakage, but either the result of thermal movement or settlement.

LOCALIZED LEAKAGE THROUGH FOUNDATION WALL

We noted minor leakage staining through cracks, and wall-to-slab joints along the foundation walls (see Photos 15 and 16). Ongoing leakage may aid in increased concrete deterioration and repair quantities in the future.

MISCELLANEOUS ITEMS

CORRODED DRAIN PIPE

We noted corrosion of an area drain pipe on the P2-level (see Photo 17). This may be a result of leakage from around the drain penetration, or cracks in the drain body itself. This condition may introduce additional water onto the P2-level.

EVIDENCE OF LEAKAGE AT NORTHWEST CORNER OF PARKADE

We noted evidence of leakage on the garage roof slab soffit above the P1-level Water Room at the northwest corner of the parkade (see Photo 18). Although there appears to be a membrane applied to the Water Room floor, we noted hairline cracking and evidence of leakage into the P2-level Storage Room below (see Photos 19 to 21). We did not have access into the P2-level Storage Room to confirm if a waterproofing membrane was present; however, there is evidence of leakage on the soffit at the northwest corner of the P3-level (see Photo 22).

At this time, it is not clear if this leakage is the result of leakage through the garage roof slab membrane, the mechanical equipment in the Water Room, or a combination of both. We would recommend addressing the membranes within the parking garage.

MANAGEMENT STRATEGIES

TEMPORARY MEASURES

Until further repair work is completed, we would recommend removing the deteriorated concrete above parking stall 54, to alleviate risk of property damage or injury of users below.

DO NOTHING APPROACH

We assume and recommend that measures are taken to manage identified issues. If you choose to do nothing to address the identified issues, risks may include:

- Ongoing and accelerated deterioration that may lead to unsafe conditions developing;
- Risks to public safety;
- Increased repair and maintenance costs;
- Increased potential of water ingress;

MANAGEMENT STRATEGY 1 – PARKADE MAINTENANCE REPAIRS

We recommend completing parkade maintenance repairs in the next 1 to 2 years, to protect various structural components, mitigate risk of water ingress, and renew service life of membranes. The scope of work would include:

- Localized waterproofing membrane repairs, along with overlaying the wear course within the drive aisles;
- Membrane application at northwest P1 Water Room and P2 Storage Room;
- Injection waterproofing repairs at leaking foundation wall cracks; and
- Removing evidence of leakage and localized painting on soffits and foundation walls.

We estimate the project budget for the scope listed above to be **\$280,000 to \$300,000** (excluding engineering, contingencies, and taxes). Please note that this budget does not include repairing the garage roof slab membrane at the northwest corner of the development. If requested, we can include this scope into the parkade maintenance repairs.



We expect this report meets your needs at this time. If you have any questions or concerns, please do not hesitate to contact our office.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Ravinder Hans'.

Ravinder Hans, B.Arch.Sc., AScT., PMP
Senior Project Manager

A handwritten signature in black ink, appearing to read 'David Evans'.

David Evans, P.Eng
Director, Building Sciences (BC)

Encl. Limitations
 Photograph Appendix

Dist: Keith Milne, keith.milne@realstar.ca



WSP Ref.: 221-04038-00

LIMITATIONS

WSP Canada Inc. is the “Consultant” referenced throughout this document.

- Our scope of work and responsibilities related to this report are defined by the documents that form the agreement and authorization for this work.
- Any user accepts that decisions made or actions taken based upon interpretation of our work are the responsibility of only the parties directly involved in the decisions or actions.
- No party other than the Client shall rely on the Consultant’s work without the express written consent of the Consultant, and then only to the extent of the specific terms in that consent. Any use which a third party makes of this work, or any reliance on or decisions made based on it, are the responsibility of such third parties. Any third-party user of this report specifically denies any right to any claims, whether in contract, tort and/or any other cause of action in law, against the Consultant (including Sub-Consultants, their officers, agents and employees). The work reflects the Consultant’s best judgement in light of the information reviewed by them at the time of preparation. It is not a certification of compliance with past or present regulations. Unless otherwise agreed in writing by the Consultant, it shall not be used to express or imply warranty as to the fitness of the property for a particular purpose. No portion of this report may be used as a separate entity; it is written to be read in its entirety.
- Only the specific information identified has been reviewed. No physical or destructive testing and no design calculations have been performed unless specifically recorded. Conditions existing but not recorded were not apparent given the level of study undertaken. Only conditions actually seen during examination of representative samples can be said to have been appraised and comments on the balance of the conditions are assumptions based upon extrapolation. Therefore, this work does not eliminate uncertainty regarding the potential for existing or future costs, hazards or losses in connection with a property. We can perform further investigation on items of concern if so required.
- The Consultant is not responsible for, or obligated to identify, mistakes or insufficiencies in the information obtained from the various sources, or to verify the accuracy of the information.
- No statements by the Consultant are given as or shall be interpreted as opinions for legal, environmental or health findings. The Consultant is not investigating or providing advice about pollutants, contaminants or hazardous materials.
- The Client and other users of this report expressly deny any right to any claim against the Consultant, including claims arising from personal injury related to pollutants, contaminants or hazardous materials, including but not limited to asbestos, mould, mildew or other fungus.
- Applicable codes and design standards may have undergone revision since the subject property was designed and constructed. As an example, design loads (such as those for temperature, snow, wind, rain, seismic etc) and the specific methods of calculating the capacity of the systems to resist these loads may have changed significantly. Unless specifically included in our scope, no calculations or evaluations have been completed to verify compliance with current building codes and design standards.
- Budget figures are our opinion of a probable current dollar value of the work and are provided for approximate budget purposes only. Accurate figures can only be obtained by establishing a scope of work and receiving quotes from suitable contractors.
- Time frames given for undertaking work represent our opinion of when to budget for the work. Failure of the item, or the optimum repair/replacement process, may vary from our estimate.

PHOTOGRAPHS APPENDIX

Photo	Description
 <p>A photograph showing a sidewalk area next to a stone building. A red rectangular area on the sidewalk, outlined in red, indicates the location of a buried garage roof slab. The area is paved with red bricks. A large tree is on the left, and a street with a white tent is visible in the background.</p>	<p>Photo 1:</p> <p>General view of north buried garage roof slab (red area).</p>
 <p>A photograph showing a sidewalk area next to a building with a white garage door. A red rectangular area on the sidewalk, outlined in red, indicates the location of a buried garage roof slab. The area is paved with red bricks. A blue car is parked on the street to the left, and a 'TOW AWAY' sign is visible on the pavement.</p>	<p>Photo 2:</p> <p>General view of south buried garage roof slab (red area).</p>

Photo



Description

Photo 3:

General view of west buried garage roof slab (red area).



Photo 4:

General view of covered entrance ramp, with traffic membrane.



Photo	Description
	<p>Photo 5:</p> <p>General view of suspended parking slabs protected by a traffic membrane.</p>
	<p>Photo 6:</p> <p>Appears drive aisles have been recoated (red arrow), relative to parking stalls (yellow arrow).</p>


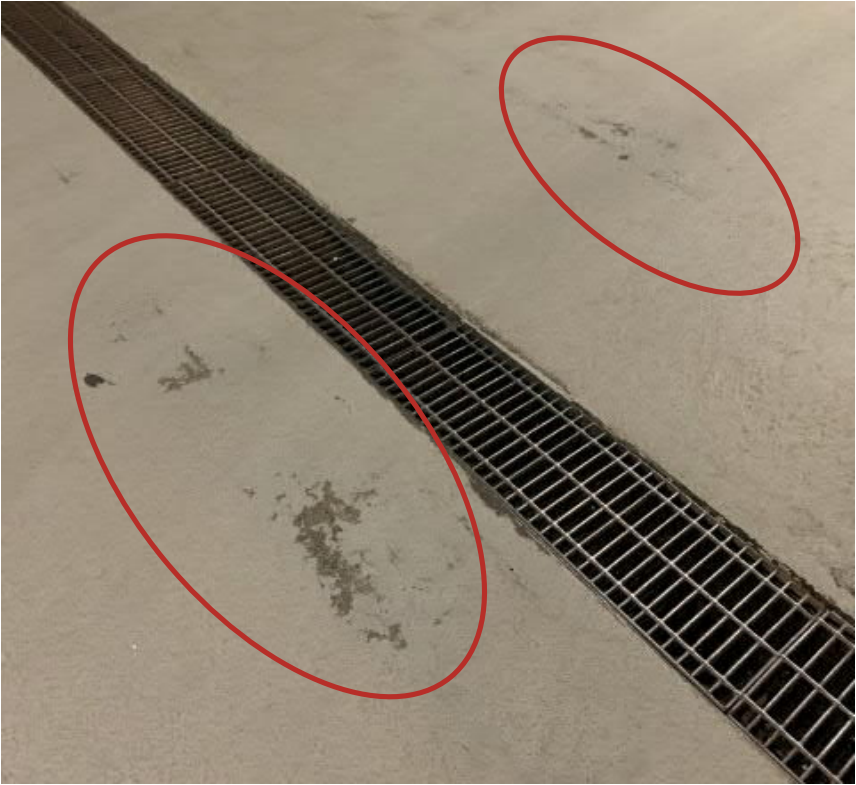
Photo	Description
 <p>A wide-angle photograph of a multi-level parking garage. The floor is a smooth, light-colored concrete slab. Several white concrete support columns are visible, spaced out across the area. In the background, several cars are parked in designated spaces. A large, dark, cylindrical pipe runs horizontally across the upper portion of the frame, supported by brackets.</p>	<p>Photo 7:</p> <p>General view of P4-Level slab-on-grade.</p>
 <p>A close-up photograph of a concrete floor next to a metal drainage grate. Two red ovals are drawn on the concrete surface, highlighting areas of wear and discoloration in the traffic membrane. The grate is a long, narrow, rectangular metal grid.</p>	<p>Photo 8:</p> <p>Evidence of wear in the traffic membrane at base of ramp.</p>


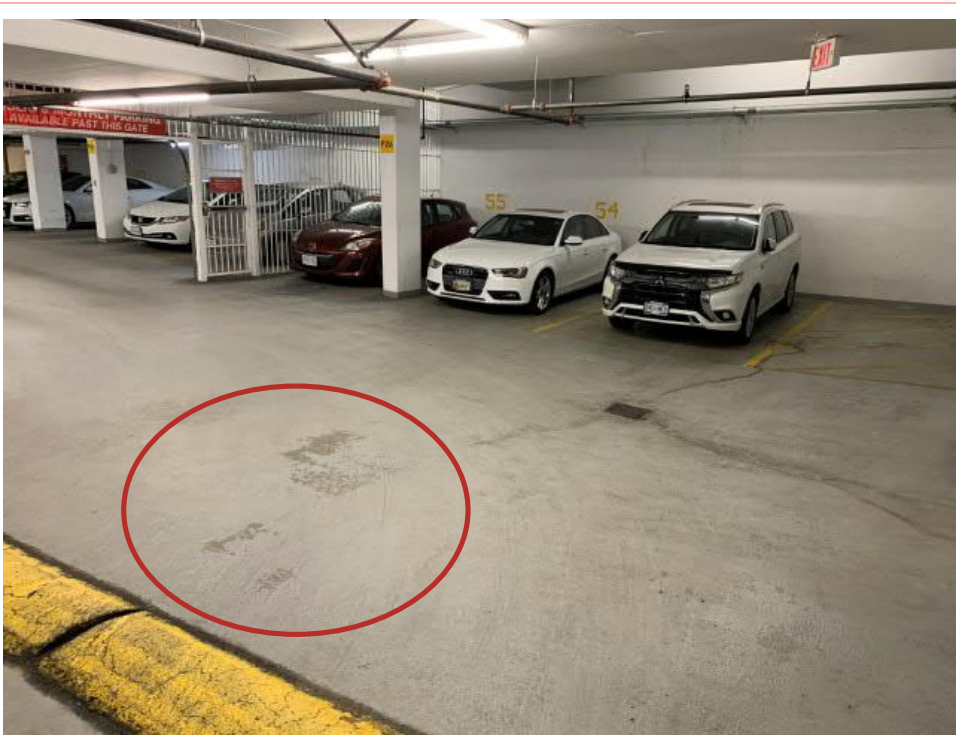
Photo	Description
	<p>Photo 9:</p> <p>Evidence of wear in the traffic membrane at P1 turning area.</p>
	<p>Photo 10:</p> <p>Evidence of wear in the traffic membrane at P1 turning area.</p>



Photo	Description
	<p>Photo 11:</p> <p>Evidence of leakage at trench drain penetration, below garage access ramp.</p>
	<p>Photo 12:</p> <p>Evidence of leakage at area drain.</p>



Photo	Description
	<p>Photo 13:</p> <p>Evidence of leakage below garage entrance ramp.</p>
	<p>Photo 14:</p> <p>Localized concrete deterioration above parking stall 54.</p>

Photo	Description
	<p>Photo 15:</p> <p>Evidence of leakage through foundation wall.</p>
	<p>Photo 16:</p> <p>Evidence of leakage at suspended slab to wall joint.</p>


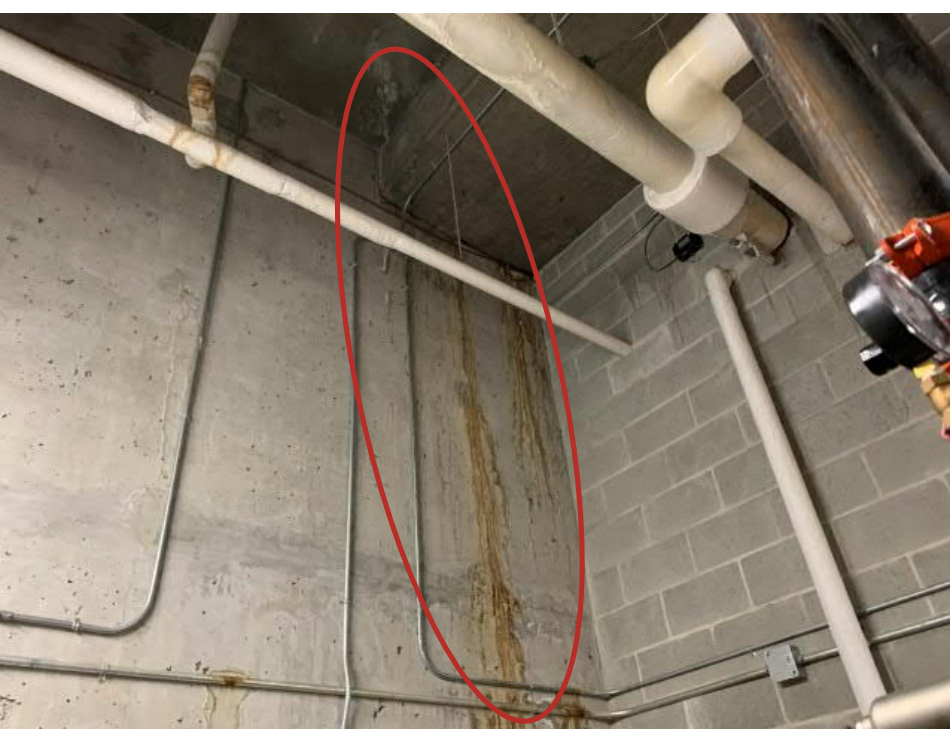
Photo	Description
	<p>Photo 17:</p> <p>Corroded drain pipe on P2-level.</p>
	<p>Photo 18:</p> <p>Evidence of leakage below garage roof slab, at northwest corner of site, within P1-level Water Room.</p>





Photo	Description
	<p>Photo 19:</p> <p>Hairline cracking present in the P1-level Water Room.</p>
	<p>Photo 20:</p> <p>Hairline cracking present in the P1-level Water Room.</p>

Photo	Description
	<p>Photo 21:</p> <p>Evidence of leakage on soffit of P2-level Storage Room.</p>
	<p>Photo 22:</p> <p>Evidence of leakage on soffit at northwest corner of P3-level.</p>