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Our File No. F07-033
July 13, 2007

Strata Plan LMS 1866 – The Electra
c/o Facilitech Property Management Ltd.
1110 Howe Street
Vancouver, B.C. V6Z 1R2
Email: rick@facilitech.ca

Attention: Mr. Rick Dean

Dear Sir:

Re: The Electra – Strata Plan LMS 1866 – 989 Nelson St., Vancouver, B.C.
- Building Envelope Condition Survey and 25- Year Maintenance Plan

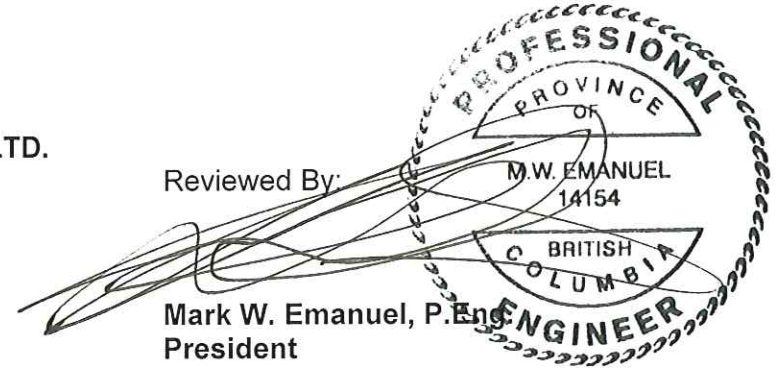
As requested, Spratt Emanuel Engineering Ltd. has conducted a visual survey of the building envelope and its components at the above-referenced development. Our findings have been incorporated into the body of the attached report, and will form the basis for a 25-year building envelope maintenance manual, which is to follow.

If you have any questions regarding the content of this report, please feel free to contact the writer.

Yours truly,
SPRATT EMANUEL ENGINEERING LTD.
Per:

Jim Fedorchuk
Project Consultant

Reviewed By:



Mark W. Emanuel, P.Eng.
President

JF/tb/enclosures

REPORT ON
VISUAL BUILDING ENVELOPE CONDITION SURVEY

AT

The Electra
989 Nelson Street, Vancouver B.C.

Presented to:
Strata Plan LMS 1866 – The Electra
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File No. F07-033 July 13, 2007

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EXECUTIVE SUMMARY

This 50-year-old, 23-storey concrete high-rise underwent a major building envelope renewal in 1985. During the renewal, exterior windows were replaced with aluminium thermally broken framed curtainwall assemblies and upgrades were also performed on the roof membrane. Since that time, the exterior building maintenance appears to have been for the most part reactive in nature, to deal with problems which have occurred. The intent of this report and the subsequent 25-year Building Envelope Maintenance Plan, is to take a proactive approach to identify and correct current deficiencies and provide established budgets and procedures for on going building envelope maintenance and renewal.

The major building envelope issues noted during our review are outlined within this Executive Summary. All other findings and recommendations are contained within the Observations and Recommendations sections found within the body of this report.

1. The decorative concrete spandrel fly beams, which overhang the perimeter of the main roof, were observed to have spalling concrete patches and underlying corroded steel reinforcement rebar, which is exposed to the elements. These pieces of spalling concrete, which can be the size of a human hand, will fall from the roof level and pose a serious hazard to pedestrians at ground level below. Further, the reinforcing steel, which is corroding, diminishes the structural capacity of these concrete beams. Restoration of the concrete and rebar requires immediate attention. (**Photos No. 7-8**).

2. The existing paint finish is delaminating and has deteriorated, typically on exposed concrete finishes, such as the previously-noted spandrel fly beams, mid-height slab eyebrows and decorative concrete spandrel beams around the perimeter of the main entry and lobby on the Nelson Street elevation. Pressure washing of the exposed concrete, followed by a re-coating at the top horizontal surface with a 25 mil base coat of liquid urethane membrane, followed by repainting of all exposed concrete surfaces with an elastomeric paint finish, should be performed within the next 2-3 years. (**Photos No. 3-6**).

3. The liquid-applied urethane waterproof membrane has deteriorated at the perimeter of the roof areas, installed on the roof slab at level 22 within the open HVAC cooling tower room. This membrane should be surface prepared, cleaned and re-coated with a liquid applied urethane pedestrian traffic membrane to restore the integrity of the roof membrane. (**Photo No. 20**),

4. The existing caulking, which is installed between dissimilar materials is reaching the end of its serviceable life. The sealants should be scheduled for replacement within the next 2 – 3 years. Targeted repairs are required this year where sealant failure has occurred and sealants should be reviewed and resealed as necessary annually until such time as global sealant replacement is performed. (**Photo No. 79**).

5. There are numerous locations around the building where the mosaic ceramic tile wall cladding is delaminating from the concrete substrate (**Photos No. 21 – 28**). A majority of these locations are at the rooftop elevation around the mechanical penthouse exterior walls, which are not readily visible from the street level below. Repairs of the mosaic tile are required everywhere. Cleaning, grouting and sealing with hand-brush applied acrylic sealer are required. Parapet cap waterproofing and cap flashings are required to protect the tile.

6. Curtainwall repairs should be executed where leaks have occurred and have not yet been satisfactorily repaired. The units affected have been identified in Item 3 F in the Observations section of this report. All locations where leakage has previously occurred should be monitored on an annual basis to determine the efficacy of the repairs. A qualified curtainwall glazing contractor should be hired to repair all locations, which currently leak.

7. The paint finish on the prefinished aluminium vertical column panels and flashings is oxidized and faded. Additionally, there are numerous locations where the painted exterior metal components are rusting at roof elevations and around the lane-way. Exterior metal cladding components should be painted globally within the next 2 – 3 years as part of the global 25-year building envelope renewal and maintenance plan. (**Photos No. 85, 95, 96**).

8. The double-glazing window panels are now approximately 12 years of age, and are reaching the end of their serviceable life. Condensation between glazing panes typically occurs between 10 and 20 years of age in double-glazing panels. A budget should be established for glazing replacement based as a minimum at 10% replacement per year. (**Photos No. 72 - 81**)

9. The protected roof membranes are reportedly currently performing well. When fully protected from UV deterioration, the various membranes types could have longevity in a range between 30 – 50 years. A membrane replacement budget should be established which anticipates replacement of half of the roof area within the next 10 years, and the second half 10 years later. The exposed roof membranes, such as the two-ply SBS roof membrane at the perimeter of the main roof and a couple of locations where the EPDM rubber roof membrane is exposed above the Patterson College, would likely to be the first roof areas requiring replacement due to their exposure to ultraviolet rays. (**Photos No. 9 – 13**).

10. Miscellaneous building envelope maintenance improvements, which we recommend, have been referenced in the Observations section 3.0 and Recommendations section 4.0 in the body of this report.

1.0 GENERAL DESCRIPTION

The subject building is a 50 year old 23-storey mixed-use concrete high-rise over a 1-level below grade basement commercial level. The building contains 152 commercial units and common area rooms, which occupy the basement, lower main and second

storey levels. There are 246 residential units on levels 3 – 21, of which approximately 80% have rental accommodations. There is no long term vehicle parking on site.

The building was renovated in 1985 under the direction of Paul Merrick Architects Limited with new double-glazed aluminium curtainwall windows with thermally broken frames, refurbished mosaic tile wall cladding and targeted roof renewal. The development borders Hornby Street to the east, Nelson Street to the south, Burrard Street to the west and an adjacent building to the north. The roofing consists of two-ply SBS roof membrane at the main roof level, self-adhered membrane around the protected roof at the core above the main roof and mechanical penthouse level and an EPDM loose-laid rubber roof membrane below the gravel ballast at the commercial level second storey roofs.

2.0 SCOPE OF WORK

Spratt Emanuel Engineering Ltd. were commissioned to conduct a visual building envelope review and produce a 25-year maintenance plan manual as per our proposal No. P1287-06, dated November 24, 2006.

The scope of work includes the following items:

A. Review Occupant Survey or Reports of Water Ingress.

B. Review architectural drawings and details.

C. Review of existing professional reports, as provided by the Strata.

D. Perform a visual survey of building envelope components.

E. Prepare a 25-year building envelope maintenance manual.

F. Provide full reporting, complete with digital photographs and recommendations for maintenance and repairs.

G. Attend two meetings with Strata council for members.

The attached report includes items A – D and item F, referenced above.

Methodology: The visual review of exterior building envelope wall cladding components was conducted by means of Bosun's chair rope access at eight-drop locations, on the combined four elevations of the building. The condition of the roof membranes was viewed around roof drain locations where the membranes are exposed, and at locations where the gravel ballast could be easily moved to view the membrane condition. No destructive testing or physical evaluations were performed on the membranes during the review. Ladder access was provided to review low-level areas of wall and roof claddings typically around the building.

Historical Information: Reviewed as part of this survey includes comments from the building manager, architectural drawings prepared by Paul Merrick Architects Limited and in-suite reviews where water problems have been reported at exterior walls.

The intent of this report is to give a general overview of the condition of the exterior cladding components for the purpose of assisting the Strata with the development of a 25 year building envelope maintenance program. Due to the limited nature of our review, it is not possible to identify each and every defect, which may or may not be present in the exterior claddings and assemblies.

3.0 OBSERVATIONS

A. Penthouse / Roof Areas

1. A hazardous condition exists around the perimeter of the main roof where the cantilevered concrete decorative spandrel fly beams extend beyond the roof edge around the perimeter of the main roof, concrete is spalling and the reinforcing rebars are corroding, rusted and exposed to the elements. The spalling concrete is free to fall to the ground from the 22nd storey level and poses potentially serious hazards to pedestrians at the ground storey level **(Photos No. 1 – 8).** A thorough impact/tap testing of the concrete spandrel beams and columns at roof level should be performed to identify where spalling and delamination of concrete is occurring. Once the problem areas have been mapped out or marked on the concrete, remedial work of rust removal from rebar and concrete repairs will need to be performed, after which the spandrel beams should be coated with liquid urethane membrane and elastomeric paint finish to prevent further damage to the concrete.

2. There are three roof membrane types at the penthouse roof level, which include a two-ply SBS roof membrane around the perimeter of the main roof, a protected self-adhered bituminous roof membrane covered by rigid insulation and gravel ballast around the core of the mechanical penthouse structure, as well as on top of the mechanical penthouse roof and a liquid-applied urethane membrane on the suspended roof slab where the HVAC cooling towers are installed at level 22 (**Photos No. 9 – 13**). The property manager reports that there are no known active water leaks through the roof membranes currently and there was no conclusive evidence of water leakage through the roof during our review.

3. Moss and vegetation growth should be eradicated and cleaned off the roof surface and from within roof drain bodies, so as to prevent damage and premature membrane failure (**Photos No. 14-15**).

4. Prefinished metal roof flashings are in good condition, generally, but should be re-caulked at S-lock joints on an annual basis due to the thermal differential movement in the metal components (**Photos No. 13**).

5. The diamond-shaped openings in the exterior concrete wall at level 22 cooling tower area allow wind-driven rain to collect at the sill of these openings and cause concrete delamination and rusting of metal components (**Photos No. 16 – 18**). Concrete repairs and liquid urethane membrane overlay is recommended at these openings. Rusted metals should be scraped and coated with zinc coating.

6. The liquid urethane roof membrane installed in the cooling tower roof area at level 22 requires re-coating to regain water tightness at the perimeter of the roof areas. To facilitate the re-coating, all rusting metal components which are bolted onto the bottom of the exterior concrete walls should be removed and either cleaned and coated with zinc coating or replaced in conjunction with the membrane re-coating. Further, a substantial amount of sludge currently ponds in one cooling tower reservoir, which can deteriorate the roof membrane due to chemical reaction. This reservoir should be cleaned and dried prior to recoating with new liquid urethane traffic membrane (**Photos No. 19-20**).

7. There are literally thousands of cracks through the mosaic tile grout joints in the exterior walls around the mechanical penthouse structure. Heavy efflorescence staining is evident on the surface of the tile and delamination of mosaic tile has affected much of the exterior wall surfaces (**Photos No. 21 – 28**). Repairs are needed in these locations. Enhanced overhead waterproofing and flashings are recommended.

8. Water leakage through the mosaic tile has also created heavy calcium efflorescence staining and rusting on the exterior metal doors, frames and flashings at the roof elevations (**Photos No. 29 – 31**). Cleaning and repainting of these metal components is recommended once the mosaic walls are cleaned, re-grouted and re-sealed with brush-applied clear acrylic sealer.

9. Water currently migrates through the mosaic tile and exterior concrete wall at the northeast corner of the roof area into the east stairwell, causing efflorescence staining and paint delamination inside the building (**Photos No. 24, 32, 33**). Cleaning and repainting of interior concrete is recommended once the exterior walls are cleaned, re-grouted and re-sealed with a brush-applied clear acrylic sealer.

10. Heavy efflorescence staining is evident at horizontal cold joints in the exterior walls at the mechanical penthouse at approximately 10' and

20' heights above the main lower roof slab. Routing of the joints ¼"x¼" with a grinder and sealing of these cold joints with polyurethane is recommended in conjunction with mosaic tile repairs (**Photo No. 23**).

B. North Elevation

The following observations were made during the Bosun chair drops along the eastern portion of the north elevation.

1. Supplemental weep holes have been drilled into the base of the bypass panel between 8th and 9th floor (**Photo No. 34**). These locations for weep holes were not typical at other units reviewed. Although this condition will not create water ingress problems but it is irregular.

2. There were some blocked weep holes observed on 21st floor window wall. Cleaning of clogged weep holes is recommended to prevent water blockage inside the panel, which may cause damage to the curtainwall system. These weeps could be checked and cleaned by window washers during regular cleaning.

3. Sealant failure has occurred at various locations around the building. Typical failures include joints in the roof parapet cap flashing, the sealants at jambs of the window wall units, the spandrel bypass sections as seen at between the 20th and 21st floor slab (**Photo No. 35**), at the top of 18th floor window wall (**Photo No. 36**) and as well the 11th and 12th floor (**Photo No. 37**). Existing sealant should be removed and replaced with polyurethane sealant, complete with backer rod where required.

4. Maintenance sealant overcoating has been applied on top of the numerous failed sealant joints. Typical locations noted include along the jamb of bypass spandrel panels between the 19th and 20th floor levels (**Photo No. 38**), along the jambs and beauty caps of the 17th floor curtainwalls and below the 19th floor (**Photo No. 39**). Sealant overcoating is not recommended. A proper caulking procedure requires removal of the old sealant prior to replacing with new.

5. A few locations were noted where sealant is incorrectly applied on the sides of the beauty caps and on glazing panels. Proper curtainwall repairs would include removal of the beauty cap to find the failure not caulking over the beauty cap. (**Photo No. 40**).

6. Adhesive sealant failure was also observed along the jambs of the bypass panels between floors 10 and 11. Sealant replacement is required (**Photos No. 41-42**).

The following observations were made during the Bosun chair drop along the western side of the north elevation.

7. Rust staining was observed emanating from the joint of the 13th floor curtainwall window (**Photo No. 43**) and at the top of the 4th floor window (**Photo No. 44**) directly adjacent to the jamb. Curtainwall repairs are recommended at these locations. Rusting components should be replaced.

8. Sealant failure has occurred along the jamb of the 12th (**Photo No. 45**) and 9th floor windows. Targeted repairs of these failed sealants is recommended.

C. South Elevation

The following observations were made during the Bosun chair drop along the eastern portion of the south elevation.

1. Signs of cohesive sealant failure were observed at various locations of the south elevation typically at the sealant beads along the window jambs, bypass spandrels and prefinished aluminium column cladding joints. These caulk joints require replacement. (**Photo No. 45 - 47**)

D. East Elevation

The following observations were made during the Bosun chair drop along the southern side of the east elevation.

1. Cohesive sealant failure, improper sealants overcoating applications and a generally deteriorated condition of sealants are present at numerous locations on the east elevation. Typical locations include the following; 21st floor window (**Photo No. 48**), along jambs at the window wall, at the horizontal joint in the metal shaft adjacent to window walls, sealant applied to the beauty cap and frame of the window wall (**Photo No. 49**), bottom edge of the sealant bead applied to the jamb of window walls and at the joint between the beauty cap and the steel channel running adjacent the window frame (**Photo No. 50**). Damaged, failed, overcoated and deteriorated sealants have to be removed and replaced with properly applied new sealants. Global sealant renewal is recommended within the next 2-3 years typically around the buildings.

E. Patterson College

1. There were some window defects noticed during the visual survey on the Patterson College exterior walls. Items of concern include the following:
   - no head flashing at tile wall window head (**Photo No. 51**),
   - level 2 aluminium windowsills require caulking at jambs (**Photo No. 52**),
   - in some locations sealant is absent or deteriorated at the steel features above level 2 window heads (**Photos No. 53 - 54**) and along the vent perimeters (**Photo No. 55**).
   - Calcium staining was also observed on glazing at the east end of Patterson College 2nd storey level window (**Photo No. 51**). This is due to the water leakage though the mosaic tile cracks and grout joints above the window head. This water brings out the calcium from the mortar and when it comes down over the window glazing, it leaves the calcium stains on the glazing. Targeted repair of these mosaic tile cracks is recommended in order to avoid future calcium staining. The installation of window head drip flashings is also recommended where this occurs.

2. Heavy efflorescent staining was visible below the concrete ledger caps just below the roof parapets (**Photo No. 56**) and at the window heads (**Photo No. 57**). Efflorescence stains need to be cleaned and mosaic tile cracks need to be resealed with grout and hand-brushed acrylic sealer typically on the building.

3. Gutter leaf guards (**Photo No. 58**) are missing on various skylight canopy openings. Reinstallation of gutter leaf guards is recommended.

4. Stress cracks in the concrete walls are telegraphing (**Photo No. 59**) through the ceramic tile of the exterior walls on the east elevation of Patterson School. All cracks require cleaning, re-grouting and sealing with hand-brushed acrylic sealer to prevent water ingress and delamination of tiles.

5. Cold joint cracks need to be routed ¼"x¼" with a grinder and sealed at the slab near the loading bay (**Photo No. 60**).

6. The expansion joint seal is broken between the suspended slabs and slab-on-grade at the front entrance of Patterson College and Language centre/ high school (**Photo No. 61**). This should be cleaned out and re-sealed with new caulking.

7. The Concrete cap is unsealed above the commercial level exterior concrete wall, which is clad with mosaic tile finish. Waterproofing membrane and a new prefinished galvanized flashing are

recommended on top of this and similar walls to prevent water ingress. (**Photo No. 62**)

8. Sealant is absent at the interface of the steel canopy base to the ceramic tile and around the vent shrouds. Silicone sealant application is recommended in these locations. (**Photo No. 63 - 64**)

9. Steel is rusting at the lane elevation vent grill along the head and sill where paint has delaminated. Concrete has delaminated and is spalling as well in these locations (**Photo No. 65 - 67**). Concrete should be repaired in these locations and the grills should be cleaned and repainted.

10. The painted concrete wall at the lane elevation requires re-coating with new elastomeric paint (**Photo No. 68**).

11. Horizontal cracks are visible on the common area patio walls on the Portland cement face-sealed stucco with Acrylic finish. There were also cracks through the stucco at the window heads (**Photo No. 69 - 70**). The cracks need to be resealed with silicone caulking prior to recoating of the exterior stucco with Dow Corning AllGuard silicone elastomeric coating.

12. The Stucco is poorly detailed at the saddle and requires additional sealant around the amenity terrace roof deck (**Photo No. 71**).

F. Window

1. The Building Manager has reported window leaks on the suits 1613, 1101, 914, 814, 507, 610, 411 and 2001 (**Photo No. 72 - 81**). A replacement schedule should be implemented to replace double panel glazing units, which have failed seals. This glazing replacement work should include the above noted units, which have been identified as faulty or leaking.

G. Miscellaneous

1. Damaged slab on grade concrete was observed at numerous locations, such as at perimeter of the lobby to the residential tower (**Photo No. 82**), at control joints between the building slab and the slab-on-grade main entry to 989 Nelson Street (**Photo No. 83**). Concrete repairs at these areas should be performed.

2. Rust and corrosion was observed on exterior painted metal at different locations of the ground floor and roof top such as: rusting metal cladding at the columns of the main entrance to the residential tower (**Photo No. 84**), painted metal fixtures and accessories with un-sealed fastener connections (**Photo No. 85**). Regular maintenance

work such as repainting of the rusted metals and appropriate sealant application is recommended.

3. Landscaping materials are placed up to top of the planter, which could be causing leakage into column at the main entrance to 989 Nelson street residential tower (**Photo No. 86**). Removal of excessive soil is recommended. Sealants at the base of the column should also be checked once the soil is removed.

4. A metal flashing has become dislodged at the level one corner post at the soffit height above the main residential entry lobby (**Photo No. 87**).

5. A window hinge is broken at level 15 on the southwest corner of the building. (**Photo No. 88**).

6. A damaged metal spandrel panel was observed on level one on Nelson Street, above the residential main entrance (**Photo No. 89**). Replacement of these damaged metal spandrels is recommended.

7. Ground level expansion joints require replacement on the Nelson Street grade level of the building (**Photo No. 90**).

8. Sealant delamination has occurred between the terrazzo sidewalk finish and the metal columns at the west end commercial level (**Photo No. 91**).

9. Paint blistering has occurred on the concrete spandrel beams at the commercial level at the west end of the building (**Photo No. 92**).

10. A guardrail is loose at the ground floor level on northwest corner of the building (**Photos No. 93 – 94**).

11. Rust and corrosion has occurred at the iron corner guards at the loading ramp in the lane way (**Photo No. 95**). These protective units should be replaced with hot dipped galvanized steel bumpers.

12. Exterior prefinished aluminium claddings are oxidized and faded in some locations. Repainting is recommended in these locations. (**Photo No. 96**).

4.0 RECOMMENDATIONS

1. The architectural concrete spandrel beams, which have spalling and delaminating concrete together with corroded reinforcement steel bars, require immediate restoration due to the safety hazard posed to pedestrians below. A thorough review of the exterior concrete should be performed so as

to identify and mark areas where the concrete is delaminating and requires repair. Once locations have been identified, a concrete repair specification can be created and the work tendered to qualified repair contractors.

2. Once the exterior concrete repairs have been performed, all painted architectural concrete should be pressure washed, surface prepared and recoated. All horizontal surfaces of the architectural concrete should receive a 25mil. base coat of liquid urethane membrane prior to the recoating of the exposed vertical concrete surfaces with a coating such as Dow Corning AllGuard silicone elastomeric membrane. This work should be performed immediately after the spandrel beam concrete repairs are completed.

3. Deteriorating liquid applied urethane waterproof membrane, which is installed on the roof slab at level 22 within the HVAC cooling tower room, requires cleaning, surface preparation and recoating of the liquid urethane pedestrian traffic membrane to restore the integrity of the roof membrane. Corroded steel components installed at the base of these exterior walls would need to be temporarily removed during membrane recoating. The rusting metal components would also need to be surface prepared, cleaned and coated with zinc coating prior to reinstallation.

4. There are numerous problems with the mosaic ceramic tile installation on the exterior concrete walls at the roof top level. The mosaic tile cladding system requires diligent maintenance and periodic recoating of the sealant to prevent tile delamination and water ingress. New roof parapet waterproofing and cap flashings are required to protect the tile.

   The mosaic tile finish should be maintained on an annual basis. General maintenance includes tap testing of the exterior wall to repair loose and delaminating tiles, re-grouting of all cracks through the tiles and tile system prior to resealing the grout periodically with acrylic tile grout sealer.

5. The existing caulk sealants, which are installed between dissimilar materials, are typically at the end of their serviceable life around the building, and should be schedule for replacement immediately. Targeted repairs are required periodically where sealant failure has occurred. All caulk sealants should be reviewed at regular intervals as routine building envelope maintenance.

6. The aluminium pre-finished vertical column panels and spandrels are faded, discoloured and should be recoated. Global repainting of the exterior metal components should be scheduled within the next three years. The exterior walls should be pressure washed and re-caulked, prior to receiving new coatings. All rusting and corroded metal components require surface preparation with zinc coating.

7. A budget should be established for double-glazing panel replacement based on a minimum of 10% of the building's windows per year starting

immediately. During glazing replacement, all seals in the curtain wall assembly should be checked and renewed where possible to ensure a long-term and worry free installation has been performed.

8. In general, the roof membranes currently are in good condition. A budget should be established for 50% of roof membrane replacement in 10 years, followed by the last half at year 20. Annual reviews of the roof systems should be performed by a qualified roof consultant and all drains should be checked at four-month intervals to ensure that the drains are free-flowing and clear.

9. Where window leaks have occurred in the curtainwall assembly, it is necessary to hire a qualified curtainwall window technician to service the window assembly. The current repair method, which includes surface caulking over the beauty caps and the glazing, is not an effective manner of repair. Where window leaks have occurred, glazing panels should be removed and all interior seals checked and resealed as necessary to regain the integrity of the window assembly.

10. The pre-finished aluminium vertical column covers typically have failed sealant joints at the horizontal laps between flashings at the floor levels. The caulk sealant at these joints should be replaced with Dow Corning Silicone 1-2-3 Sealant Tape, which is a better-suited product to deal with the thermal differential movement of the cladding components. The longevity of the Dow Corning 1-2-3 Sealant Tape should exceed twenty years at these locations. Dow Corning 1-2-3 Tape would also be a preferred sealant at ineffective flashing joints on the pre-finished metal roof flashings.

11. Pre-finished aluminium spandrel panels and aluminium flashings, which have become dislodged on the south elevation of the building at levels 1 and 2, require repairs and/or replacement.

12. Pre-finished metal column covers, which are beginning to show signs of corrosion and rust around the main entry to the residential lobby should be repaired or replaced as necessary.

13. The face-sealed Portland cement stucco with Acrylic finish, which is installed around the terrace patio at the residential amenity lounge area, has cracks through the stucco and poorly detailed wall saddles. The stucco cladding should be resealed where cracks are present by routing the crack ¼" deep and ¼" wide, and sealing it with Dow CCS Silicone sealant prior to recoating the exterior stucco cladding with Dow Corning AllGuard Silicone Elastomeric Coating System. All sealant joints on these wall areas should be resealed with Dow Corning 790 Silicone sealant.

14. The exterior concrete walls have experienced cracking at cold joints, both at the lane elevation and at the rooftop. Routing of these cracks ¼"x¼" with a

grinder and sealing them with silicone sealant is recommended, followed by Dow Corning AllGuard Silicone Coating System.

15. It was noted during our Bosun's chair review that at few window assemblies on the north elevation of the building, there were some weep holes which were clogged on the bottom window units. These weep holes should be checked during window washing on a regular basis to ensure free and clear drainage from the window assembly.

16. Landscaping materials should be lowered a couple of inches in the planters around the main entry to prevent water overflow from the planters to the column structures.

17. The loose guardrail on the west elevation ground floor level requires refastening.

18. Wall mounted ventilation grills need to be back-caulked to the concrete exterior walls around the lane and commercial level. Head drip flashings should be installed above the vents.

19. All exterior metal components, which are rusting or corroding, require surface preparation, cleaning and zinc coating, or where the damage is severe completely replaced. This work can be performed at the time of recoating and re-caulking work.

20. Drip flashings should be installed at window heads on Patterson College to minimize the efflorescence staining on the windows. Existing efflorescence should be removed with a dilute acid wash.

Should you have any questions, please do not hesitate to contact the undersigned.

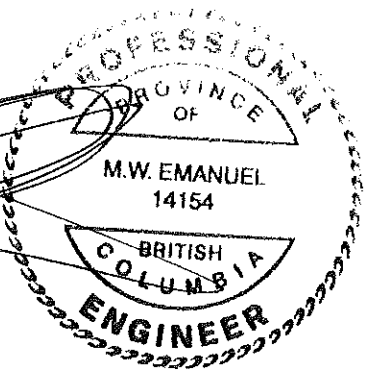
Yours truly,
SPRATT EMANUEL ENGINEERING LTD.

Per:

Jim Fedorchuk
Project Consultant

Reviewed by:

Mark W. Emanuel, P.Eng.



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