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# BREWSTER ENGINEERING AND MANAGEMENT LTD.

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June 16, 2003

Strata 2720  
#417-545 Manchester Road  
Victoria, BC  
V8T 5H6

Attention: Mr. Roger Taylor

Reference: Strata 2720  
Review of Building Envelope Reports and Maintenance Program and  
Biannual Building Envelope Inspection

In March 2003 you retained Brewster Engineering to provide the following services:

1. Review the existing report(s) involving the building envelope and remedial action taken to date and provide a written comment on the repair methodologies undertaken to date.
2. Investigate potential problem areas with Doug Downs of DougLes Consulting by opening up the building in 15 to 20 locations and preparing a written comment on our findings.

In April 2003 I attended the property with Doug Downs on several occasions and performed the moisture testing and visual inspection of the suspected areas of the buildings that from observation and experience would have higher than normal moisture content of the wood framing and sheathing.

The locations and findings of the tests are as follows:

1. Hampton Court – 545 Manchester
  - a. Suite 207 balcony
    - i. OSB – 19.8%
    - ii. Framing – 16.5%
  - b. Suite 315 – below window – framing – 13.8%
  - c. Suite 415 – balcony
    - i. OSB – outside surface – 21.2%
    - ii. OSB – inside surface – 20.3%
    - iii. Framing – 22.4%
  
2. Churchill Place – 520 Dunedin
  - a. Suite 306/406 – between windows in alcove – framing - 13.5%
  - b. Suite 403 – balcony
    - i. OSB – outside surface – 16.8%
    - ii. OSB – inside surface – 11.5%
    - iii. Framing – 10.7%
  - c. Suite 408 – framing – 15.0%
  - d. Suite 410 – Balcony
    - i. OSB – 19.0%
    - ii. Framing – 12.0%
  - e. Suite 310 – Framing 12.0%
  - f. Suite 404 – OSB 18.0%

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For reference, framing lumber is considered dry with a moisture content ranging from 15% to 19% and OSB is dry at 4% to 6%. Deterioration is supported by moisture contents above 20% and accelerates rapidly at moisture contents above 28%.

From the 15 tests done on the buildings, there are a number of findings:

1. the OSB moisture content ranges from 11.5% to 21.2%. While moisture contents are higher than the moisture content when manufactured, they are mostly below the 20% moisture content that is considered to be of concern. There are two readings from one area – Suite 415 at 545 Manchester that are above the threshold. As these were measured at the end of the winter rainy period, these will certainly dry to some extent over the summer. These could be remeasured in late August or September to check the amount of drying that has occurred.
2. the framing lumber tests ranged from 10.7% to 22.4%, with only the reading at the balcony of Suite 415 – 545 Manchester being higher than the 20% threshold. Again this area could be tested again in late summer to determine the amount of drying that has occurred.

I have reviewed the complete history of reports available on your website and find that you have adopted a diligent reporting and maintenance program. The problems in the early reports have been repaired and are being monitored. From my own observations, it is apparent that this program is working to keep the buildings in relatively good condition, even with its design flaws – decorative bands and poor flashing details - and the limitations of the face seal wall system.

I recommend that you continue with your program of monitoring, repair and annual inspections. In addition, I recommend the following:

1. Retest the framing and OSB around the balcony of Suite 415 – 545 Manchester or strip the stucco and repair.
2. The reports itemize various problems over the years at particular suites. It would be beneficial to group these notations for each suite to create a log of events over time. This will enable those involved in maintaining or inspecting the buildings to quickly and easily see what has been happening at a particular suite or in a particular area.
3. Related to the above, I recommend that the moisture tests, problems and repairs be plotted on the exterior elevation drawings of the buildings. This can be done with numbered notations referring to the log. Again the reason for this is to visually track issues and focus inspections and tests in those areas that have demonstrated a history of problems.
4. Permanent moisture meter ports be installed on the exterior of the buildings. I have not completed my research on these items but will report to you by the end of the week.

If you have any questions please feel free to contact me.

Yours truly,

R.B. Cheadle, P.Eng., C.P.  
Principal