

**DOMUS  
STRATA CORPORATION BCS528  
1055 HOMER STREET  
VANCOUVER, B.C.**

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**MINUTES OF THE STRATA COUNCIL MEETING OF THE OWNERS OF STRATA  
PLAN BCS528, "DOMUS", HELD IN THE LOUNGE AREA, 2<sup>ND</sup> FLOOR, 1055  
HOMER STREET, VANCOUVER, B.C., ON MONDAY AUGUST 25<sup>TH</sup>, 2008 AT 7:00  
P.M. WITH ADDITIONAL FOLLOW-UP BY EMAIL AND IN PERSON.**  
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**PRESENT**

Nathan Hall, Vice President/Landscaping Committee  
Noel Evans, Treasurer

Niknaz Kahnamoui  
Tyson March

**REPRESENTING RANCHO MANAGEMENT SERVICES (B.C.) LTD.**

Joseph Tsang, Senior Strata Agent

**REGRETS**

Charles Bilash, President

1. **CALL TO ORDER**

There being a quorum present, the meeting was officially called to order at 7:03 p.m.

2. **PREVIOUS MEETING MINUTES**

In vetting through the minutes of the previous Council meeting held on July 28<sup>th</sup>, 2008, it was noted that on page 1, under item 2(a), the following words "*and the balcony*" should be inserted into the last sentence after the word "ledges".

There being no other changes, it was then **MOVED, SECONDED, and CARRIED** to approve the minutes of the Council meeting held on July 28<sup>th</sup>, 2008 as amended.

3. **RESIDENT MANAGER'S REPORT**

David Lam, Resident Manager, was in attendance and briefed Council on the following:

- a) **Gas Leak:** The gas leak was recently repaired; it was a pin size leak in the pipe.
- b) **Security Breach:** There was a break and enter into TH1053, as a result of a window being left opened. A set of the resident's keys were stolen but the FOB was deactivated immediately after the Resident Manager was notified. As a precaution measure, the gates in the courtyard leading from the lane to the third and fourth level were all recently re-keyed. Please contact the Resident Manager if you require a new key.

3. **RESIDENT MANAGER’S REPORT – CONT’D**

c) **Miscellaneous:**

- i. **Washing Machine Hoses:** Keith Plumbing & Heating was back in the building to rectify the damages done in those suites when the washing machine hoses were being replaced.
  - ii. **Irrigation System:** the system was recently inspected and small adjustments were made.
  - iii. **New Motion Sensor:** a motion activated light switch has been installed in the gym area.
  - iv. **Door Handle:** the front door handle was recently adjusted.
  - v. **Painting:** floors 12<sup>th</sup> and 13<sup>th</sup> were recently painted with only seven (7) more floors remaining which need painting.
- d) **Fire:** There was a stolen car recently being parked on the lane and set on fire. This occurred on August 8<sup>th</sup>, 2008 at approximately 3 A.M. in the morning. The security footage for that particular incident has been burned by the Building Manager and is waiting for the VPD to pick it up.
- e) **Other:** A suggestion was made to have the Building Manager install a weather strip on the fire stairwell door on the 4<sup>th</sup> level (north elevation) to reduce the draft. Council then thanked Mr. Lam for attending the meeting and excused him from the meeting at 7:15 p.m.

4. **COMMITTEE REPORTS**

a) **Common Deficiencies:**

- i. **Overall** - Council discussed the status of the six (6) building envelope deficiencies originally identified in the Morrison Hershfield reports (see attached). 5 out of 6 items have now been successfully remediated by the Builder at no cost to the strata, and Morrison Hershfield has subsequently determined that the 6<sup>th</sup> item was NOT deficient.
- ii. **Suite 705** – Follow-up testing by Morrison Hershfield did not find any water intrusion in or around Suite 705, which confirms earlier findings of the Builder and the Third Party Warranty Company. This indicates that there was no building envelope deficiency, and any issues experienced by the suite are not considered common area issues. Therefore, the strata’s attorney has advised that the strata is NOT liable for the problems within Suite 705 or the cost to remedy those problems, and that any such issues should be addressed by the Owners of the suite, the Builder, and/or the Third Party Warranty Provider.

4. **COMMITTEE REPORTS**

a) **Common Deficiencies – Cont’d:**

iii. **Building Envelope Maintenance Items** – A meeting was held on August 12<sup>th</sup>, 2008 with Ms. Jackie White of Morrison Hershfield. In attendance were Mr. Joseph Tsang, Mr. Charles Bilash, Ms. Niknaz Kahnemoui, and Mr. Noel Evans. The purpose of the meeting was to discuss and prioritize the building envelope maintenance items identified by Morrison Hershfield, so that appropriate funding may be set aside to implement those items.

b) **Landscaping:** Mr. Nathan Hall informed Council that he is in the process of scheduling a walk with the strata’s gardener, Para Space Landscaping.

5. **FINANCIAL REPORT**

The Treasurer informed Council that the strata has incurred an operating deficit of about \$7,000 as of July 31<sup>st</sup>, 2008, and that he foresees the strata will likely end the current fiscal period with an operating deficit between \$10,000 to \$12,000. The operating deficit is a result of higher than budgeted utilities expense. Council was then presented with charts showing that Water and Electric usage is up over 10% versus prior year, while Gas usage is flat.

Council then agreed on a process and a timeline for preparing the 2009 Operating Budget, and discussed new items which should be included in the 2009 budget.

**Arrears**

The Strata Agent noted that three (3) Owners were issued warning letters related to repayment of Strata insurance deductibles. Two (2) of those owners have since reimbursed the strata. Council instructed the Strata Agent to place a lien on the account of the third Owner.

6. **BUSINESS ARISING FROM PREVIOUS MEETING**

a) **2010 Olympics:**

Council reviewed the survey to be circulated to all Owners for feedback regarding the building security and Guest Suite usage during the 2010 Olympics. Mr. Noel Evans, who is the author of the survey, will finalize the changes and forward a copy to Rancho’s office for distribution to the Owners.

b) **Steam Room:**

Council was presented with a quote to install a scent pump system for the steam room. It was decided that the steam room usage should be monitored further before proceeding with such expense.

7. **CORRESPONDENCE.**

Correspondence was received from an Owner who was assessed \$200 for violating Strata bylaws regarding an Open House. Council agreed to waive the fine, as Council felt that there was sufficient evidence to do so.

Correspondence was also received from an Owner who requested a waiver to the 1-dog policy so that the Owner could care for the dog of an ill relative. Council approved the request on a temporary basis, and instructed the Resident Manager to re-contact the Owner in a few months to check on the continued need for the waiver.

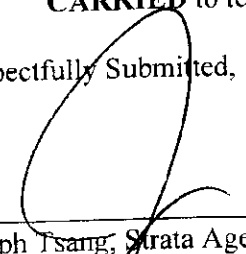
8. **NEXT MEETING**

The next meeting will be a Strata Council Meeting, to be held on **Monday, October 6<sup>th</sup>, 2008 at 7:00 p.m.** in the lounge area, 2<sup>nd</sup> floor, 1055 Homer Street, Vancouver, B.C.

9. **TERMINATION**

There being no other business to discuss, it was **MOVED, SECONDED, and CARRIED** to terminate the meeting at 8:38 p.m.

Respectfully Submitted,



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Joseph Tsang, Strata Agent  
Rancho Management Services (B.C.) Ltd.  
701-1190 Hornby Street, Vancouver, BC, V6Z 2K5  
Phone: 684-4508 (**24 HOUR EMERGENCY SERVICES**)  
Direct Line: (604) 331-4253  
E-mail: [josephtsang@ranchogroup.com](mailto:josephtsang@ranchogroup.com)

**STRATA FEES/PRE-AUTHORIZED PAYMENT**

Should you ever have any questions regarding your strata account, please feel free to contact our Strata Accounts Receivables Department at: 604 331-4258. Owners who are not yet on Pre-Authorized Payment (P.A.P.) Program, our preferred payment option, should contact the same number to obtain a form. The P.A.P. Program is a convenient payment method whereby we can debit your account with your monthly strata fees on the first of every month.

## **DOMUS "BUILDING ENVELOPE REVIEW": Summary**

### **BACKGROUND**

In anticipation of the October 2008 expiration of the Building Envelope Warranty, Domus Council commissioned a Building Envelope Review. Conducted in 2007 by the firm of Morrison Hershfield, the purpose of the Review was to identify and document possible Building Envelope deficiencies that could be submitted for repair by the Builder, prior to expiration of the Warranty.

### **METHODOLOGY**

A survey was sent to all Owners, requesting input on any Building Envelope issues. MH then conducted a visual inspection of areas where potential issues had been reported. A more detailed inspection was conducted in Unit 705 and the Townhouses, which had reported higher degrees of possible Building Envelope issues.

### **GENERAL FINDINGS**

A total of 29 action items were identified by Morrison Hershfield. None of the action items were considered to be serious. Furthermore, the number and type of action items were considered by Morrison Hershfield to be typical of a 4 year old building.

Of the 29 action items, 6 were considered possible deficiencies covered under the Warranty. The remaining 23 were considered simple "maintenance items" not covered by the Warranty, but which could be easily remedied with ongoing maintenance conducted by the Strata.

### **REMEDICATION OF DEFICIENCIES**

The 6 potential deficiencies were submitted to the Builder and the Warranty Company for remediation. 5 of these deficiencies were subsequently repaired at no cost to the Strata. These include: efflorescence on the side of the building, overflowing of planters at the rear entrance, etc.

As of September 2008, the only remaining issue relates to Unit 705, where Morrison Hershfield's original visual inspection indicated signs of potential water intrusion. The Warranty Company and the Builder conducted follow-up testing which concluded that there was no water intrusion. In order to protect the interests of all Owners, Council subsequently commissioned additional testing by Morrison Hershfield, which also conclusively determined that there was in fact no water intrusion, and that the Building Envelope was not compromised.

### **MAINTENANCE ITEMS**

Council members met with Jackie White of Morrison Hershfield to prioritize the 23 maintenance issues identified by MH, so that Council could determine a timeline to address these issues in the most cost-effective manner. None of the issues were deemed critical, and all of them were considered resolvable during the course of regularly-scheduled building maintenance. Each item was assigned a 1, 2 or 3 priority level (see Attachment). Several of these issues have already been addressed, and others will be addressed in the coming months.

## PRIORITIZED SUMMARY OF MORRISON HERSCHFELD ACTION ITEMS

Priority Levels: 1=High; 2=Medium; 3=Low

### SUBMITTED TO WARRANTY COMPANY

| <u>Item</u> | <u>Description</u>                           | <u>Priority</u> | <u>Action</u>                                                                                                     |
|-------------|----------------------------------------------|-----------------|-------------------------------------------------------------------------------------------------------------------|
| 1           | Efflorescence on side of building            | 1               | Claim submitted; issue resolved by Warranty Company; Need to inspect exterior every few years and caulk as needed |
| 18          | Failed sealant at door                       | 1               | Claim submitted; issue resolved by Warranty Company                                                               |
| 19          | No gurnlip sealant at base of wall flashing  | 1               | Claim submitted; issue resolved by Warranty Company                                                               |
| 28          | Water pooling at base of vent shaft          | 1               | Claim submitted; issue resolved by Warranty Company                                                               |
| 29          | Water overflowing in planter                 | 1               | Claim submitted; issue resolved by Warranty Company                                                               |
| 14          | Stained sealing; wet concrete and insulation | 1               | Initial claim denied; further Strata testing concluded there was no water intrusion                               |

### MAINTENANCE ISSUES TO BE ADDRESSED BY THE STRATA

|    |                                                 |   |                                                                                         |
|----|-------------------------------------------------|---|-----------------------------------------------------------------------------------------|
| 7  | Condensation on windows                         | 1 | Remind all Owners about using existing humidistat to control exhaust fans               |
| 8  | Dryer vent leakage                              | 1 | Clean dryer ducts annually                                                              |
| 9  | Paint bubbling at soffit vent grille            | 1 | Clean grills; seal duct; consider booster fans for units with long runs                 |
| 11 | Mold/soft drywall on window sill                | 1 | Likely due to interior condensation issues (see item 7); investigate further            |
| 15 | Excessive condensation in multiple suites       | 1 | Use exhaust fans; consider booster fans for dryers; consider dehumidifiers if necessary |
| 21 | Missing sealant/drip edge at penthouse balcony  | 1 | Resident Manager to caulk                                                               |
| 4  | Dirty balconies                                 | 2 | Pressure wash annually or every other year                                              |
| 12 | Damaged flashing and concrete                   | 2 | After next exterior inspection, patch concrete; provide sealant at hole                 |
| 13 | Missing sealant (caulking) at balcony door jamb | 2 | Resident Manager to caulk                                                               |
| 16 | Fall arrest strap left behind from construction | 2 | Resident Manager to remove strap and apply new caulking                                 |
| 17 | Flaking paint at balcony post                   | 2 | Resident Manager to paint as necessary                                                  |
| 24 | Missing vent pipe extension                     | 2 | Resident Manager to install cap (COMPLETED)                                             |
| 25 | Exposed concrete parapet walls                  | 2 | Coat (paint) parapet walls during next overall building paint job                       |
| 26 | Failed coating top of planter walls             | 2 | Resident Manager to paint annually                                                      |
| 27 | Efflorescence and cracking exterior stairwells  | 2 | Resident Manager to paint annually                                                      |
| 2  | Efflorescence on bricks in front of townhouses  | 3 | Aesthetic only; Resident Manager to pressure wash as necessary                          |
| 3  | Cracking along interior window sills            | 3 | Aesthetic only; no further action required                                              |
| 5  | Chipped paint                                   | 3 | Touch up paint as part of next overall building paint job                               |
| 6  | Missing membrane (paint) on Juliet Balcony wall | 3 | Use elastomeric paint during next overall building paint job                            |
| 10 | Paint peeling on balcony slab edge              | 3 | Touch up paint as part of next overall building paint job                               |
| 20 | Open mullion on window egress                   | 3 | Aesthetic only; no further action required                                              |
| 22 | Missing glass panel at railing                  | 3 | Aesthetic only; no further action required                                              |
| 23 | Streaking along penthouse walls                 | 3 | Resident Manager to wash as necessary                                                   |

## MORRISON HERSHFIELD

Suite 610, 3585 Graveley Street, Vancouver, British Columbia V5K 5J5  
Tel. (604) 454-0402 Fax. (604) 454-0403 www.morrisonhershfield.com

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August 14, 2007

MH Ref: 5075219.00

The Owners, Strata Corporation BCS 528  
c/o Joseph Tsang  
Senior Property Manager  
Rancho Management Services (BC) Ltd.  
701 – 1190 Hornby Street  
Vancouver, B.C. V6Z 2K5

Fax: (604) 684-1956

**Re: Five-Year Building Envelope Warranty Review  
Domus – 1055 Homer Street, Vancouver, BC**

Morrison Hershfield (MH) was retained by the Owners of Domus (Strata Plan BCS 528) to undertake a visual review of the building envelope of their building complex located at 1055 Homer Street, Vancouver. The purpose of the review was to identify possible deficiencies that may be covered by the five-year warranty, which expires October 28, 2008.

The field portion of the review was conducted by Jacquelyn White and Darienne Deans on July 9, 2007.

In addition to the warranty review, MH performed an investigation at unit 705 to address concerns of condensation and mold growth in that unit. We issued a letter under separate cover dated July 31, 2007. As some of the items in that report are pertinent to the warranty review, we reference the July 31 report and attach it as Appendix A for reference.

### **Building Description and Project History**

Domus consists of one 26-storey tower and eight townhouses for a total of 134 residential units over a three level underground parking garage. The complex is concrete framed and clad with glazing, painted architectural concrete and some brick veneer; some units are provided with balconies and/or roof decks and gardens; the glazed systems consist of curtain wall at ground floor and common areas, thermally broken aluminum framed windows and sliding doors. The amenity areas include a meeting room, storage facilities, and a gym. Tiered landscaping and terraces adorn the podium. The roof system is an inverted 2 ply SBS membrane protected with insulation, ballast and pavers.

The building was developed by Qualex Landmark Developments and constructed by Intertech Construction Group under the direction of Rafii Architects. Domus was substantially completed on October 24, 2003.

Based on the information provided to us, the following warranties are applicable for this project:

1. St. Paul Travelers 5 year Building Envelope Warranty
2. Starline Windows 5 year building envelope warranty and 10 year structural defect warranty
3. Villa Roofing 5 year warranty against leakage (ground, podium, terraces and roofs)
4. Sonneborn HLM 5000 10 year warranty (material only) (waterproofing)
5. Soprema 10 year limited warranty (roof membrane)
6. Villa Roofing 5 warranty against leakage (parkade and balcony traffic membrane)

It is our understanding that past repairs to the roof membrane have been performed under warranty at the roof and penthouse levels.

### **Scope of Review**

Our scope of services was defined in our proposal of June 28, 2007, and herein referred to as follows:

1. *Review the drawings, maintenance manual and any material or construction warranties prior to visiting the site. We will issue a questionnaire for the Strata to record any incidences of water ingress as related to building envelope. We will also review copies of maintenance records and any other building envelope issues, as provided by the owners. We will require this documentation, in particular the completed questionnaire, prior to commencing our fieldwork.*
2. *A general visual review (from ground, roof and podium levels, if accessible) of the building complex, including the following components:*
  - *Wall cladding and wall assembly components*
  - *Window and door elements*
  - *Balconies*
  - *Roofing and associated tie-ins with wall systems*
  - *Podium waterproofing where visible (test pits not included)*
3. *Conduct a visual review of suite interiors on six sample suites, which will be selected upon review of architectural drawings and building envelope documentation. Assistance will be required for access to specific suites and should be arranged by the Strata.*
4. *Prepare and submit two copies of a professional signed and stamped letter report, which summarizes the review. The letter report will list existing conditions (with sample photographic examples) and recommended actions to correct any identified deficiencies.*

## Limitations

This review is based on a review of available documents and visual inspection of accessible areas. Our review did not include an exploratory investigation, in terms of removing sections of cladding, drywall, roofing or landscaping for evaluation of the hidden systems beneath.

This report primary documents a list of observed deficiencies relating to the building envelope of rehabilitated wall areas. The deficient listing does not include all locations with deficiencies nor do they imply all similar locations or items to be deficient.

Any comments or conclusions within this report represent our opinion, which is based upon our field review of physical conditions and our past experience. This review is limited to technical, construction and performance items.

Some of the findings herein are based on a random sampling and others are based on a visual review of the surface conditions. Deficiencies, which may exist but were not observed and recorded in this report, were not apparent given the level of study undertaken.

Owners, prospective purchasers, tenants or others who use or rely on the contents of this report do so with the understanding as to the limitations of the documents reviewed, the general visual inspection undertaken and understand that MH cannot be held liable for damages which may be suffered with respect to the purchase, ownership or use of the subject property.

## Observations and Recommendations

We have summarized our observations in the following tables, and have provided recommendations for addressing deficiencies under the "Corrective Action" column. Each item has been categorized according to the type of problem as follows:

- **Category D** – A construction deficiency exists when the observed conditions in the building complex differ from the intent of the documentation provided for review, from the applicable codes and standards, or from good construction practice. Such deficiencies are warranty items and should be brought to the attention of the appropriate company for correction.
- **Category M** – A maintenance deficiency exists when the observed conditions in the building complex are caused by general wear and tear on building components and equipment, or when they concern an item that has not received routine service, adjustments and/or cleaning. Such maintenance deficiencies should be corrected as part of the maintenance program.
- **Category I** – A deficiency exists, however, no clear decision can be made as to whether the problem is a design, construction or maintenance deficiency. Repairs to correct the deficiency or further investigation, e.g., test openings or material/component testing, is generally required.

Note that we are not privy to all warranty agreements and hence, some items listed as warranty items may not be included. The suite numbers listed in the report do not represent a total listing of all locations with deficiencies nor do they imply all similar locations or items to be deficient. Therefore as a general rule, we recommend that the site be reviewed and the extent of the deficiencies be confirmed. We have provided recommendations for addressing deficiencies in the tables below, under "Corrective Action".

We have included in Appendix B, sample photographs taken during our review.

### Suite Review

*Areas reviewed:* A visual review of the building envelope was conducted from grade, 3<sup>rd</sup> level podium and units 2403, 2103, 1306, 1201, 1104, 1004, 902 and 705.

| Item/<br>Photo | Deficiency Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Category | Corrective Action                                                                                                                                                                            |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1a, 1b,<br>1c  | <p>Efflorescence staining on the outside of the building. This has been ongoing since construction and was reportedly cleaned last year, however has reoccurred in various locations.</p> <p>The pattern of staining suggests that there may be some cracking in the horizontal concrete reveals. Water getting into the cracks, is leaching out the salts in the concrete and dripping down the side of the building leaving white streaks. Further indication of cracks in the reveals was noted at a test opening in unit 705.</p> | D        | The building should be reviewed for cracking in the reveals and the cracks repaired.                                                                                                         |
| 2              | <p>Efflorescence staining at brick along sidewalk in front of townhouses.</p> <p>Efflorescence is indicative of water getting into the brick cladding, likely from the top of the walls.</p>                                                                                                                                                                                                                                                                                                                                          | M        | Bricks should be cleaned regularly. The Strata may want to provide a metal cap flashing over the top of the walls to reduce the amount of water getting into the wall assembly from the top. |
| 3              | Typical- cracking along window sills between the window frame and the wood stool. This is likely due to shrinkage.                                                                                                                                                                                                                                                                                                                                                                                                                    | M        | Aesthetic issue. Individual owners may choose to seal.                                                                                                                                       |

| Item/<br>Photo | Deficiency Description                                                                                                                                            | Category | Corrective Action                                                                                                         |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------|
| 4              | Typical- Dirty traffic coating on balconies.                                                                                                                      | M        | Regular maintenance should include cleaning of the membrane every six months as outlined in the maintenance manual.       |
| 5              | 2103- Paint chipping at window jamb.                                                                                                                              | M        | Touch up paint as required.                                                                                               |
| 6              | 2103- Balcony membrane does not return up the vertical wall on Juliet balcony.                                                                                    | M        | Membrane should be installed to return up the wall a minimum of 8".                                                       |
| 7 (no photo)   | 1201- Reported condensation on windows.                                                                                                                           | M        | Improve ventilation to prevent condensation by use of exhaust fans, and possibly dehumidifier if condition is persistent. |
| 8 (no photo)   | 1201- Leakage at dryer vents reported.                                                                                                                            | M        | Ensure dryer vents are cleaned regularly. Additionally, in line lint screens can be installed.                            |
| 9              | 1104- Paint bubbling around soffit vent grille.                                                                                                                   | M        | Remove grille and seal duct connection if accessible.                                                                     |
| 10             | 1203- Paint peeling on balcony slab edge (as observed from 1104)                                                                                                  | M        | Touch up paint as required.                                                                                               |
| 11             | 902- Mold, soft drywall at master bedroom window sill.                                                                                                            | I        | Further investigation into source of moisture (condensation or leak).                                                     |
| 12             | 901- Impact damage to metal sill flashing and concrete.                                                                                                           | M        | Patch concrete and recoat. Provide sealant at flashing hole.                                                              |
| 13             | 1004- Sealant missing along jamb of balcony sliding door.                                                                                                         | M        | Provide sealant.                                                                                                          |
| 14             | 705- Staining on ceiling in living room.<br><br>Exploratory opening revealed wet concrete and insulation. Likely related to cracking at the cold joint (reveals). | D        | Seal crack and repair interior finishes. Refer to July 31, 2007 report for further details.                               |

| Item/<br>Photo | Deficiency Description                                                                                                       | Category | Corrective Action                                                                                                                                                                                                        |
|----------------|------------------------------------------------------------------------------------------------------------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15             | 705- Reported excessive condensation. Initial claim to St. Paul's includes units 502, 505, 506, 605, 702, 705, 706 and 1104. | M        | Recommend the continued use of exhaust fans. Possible methods to decrease condensation include the use of a booster fan for dryers and a dehumidifier if conditions persist. Re-evaluate RH values in winter conditions. |
| 16             | 705- Fall arrest tie back strap remaining from original construction at inside corner of balcony.                            | M        | Remove and seal concrete.                                                                                                                                                                                                |
| 17             | 301- Flaking paint at balcony post locations.                                                                                | M        | Remove flaking paint and recoat. A diverter may be required above this location to divert water.                                                                                                                         |
| 18             | TH 1059- Failed sealant at door.                                                                                             | D        | Remove and replace failed sealant.                                                                                                                                                                                       |
| 19             | TH-1047 and 1059- No gumlip sealant at base of wall flashing.                                                                | M        | Provide sealant.                                                                                                                                                                                                         |
| 20             | Stairwell E- Open bottom mullion on window above egress door.                                                                | M        | Provide closure piece, perforated for drainage.                                                                                                                                                                          |

## Roof Review

*Areas reviewed:* Access was provided to the main roof at the 28<sup>th</sup> level and the mechanical penthouse roof. MH reviewed the roof perimeter for visual signs of deficiencies and waterproofing concerns.

| Item/<br>Photo | Deficiency Description                                                                                     | Category | Corrective Action                                             |
|----------------|------------------------------------------------------------------------------------------------------------|----------|---------------------------------------------------------------|
| 21             | Metal flashing at penthouse balcony just to the left of roof access door is missing sealant and drip edge. | M        | Provide sealant at edge of flashing.                          |
| 22             | Glass panel at deck railing missing to accommodate vent stack.                                             | M        | Suggest modifying railing to prevent passage through opening. |
| 23             | Streaking along penthouse walls.                                                                           | M        | Wash walls on a regular basis. Recoat as required.            |
| 24             | Mechanical room roof- Missing vent pipe extension.                                                         | M        | Provide vent pipe to extend above finished roof level.        |

| Item/<br>Photo | Deficiency Description          | Category | Corrective Action                                                                                               |
|----------------|---------------------------------|----------|-----------------------------------------------------------------------------------------------------------------|
| 25             | Exposed concrete parapet walls. | M        | Coat parapet walls to prevent moisture absorption and possible water infiltration behind roof membrane upturns. |

### Parking Garage and Landscaping

*Areas reviewed:* A review of the underground garage and landscaping on the podium level was undertaken.

| Item/<br>Photo | Deficiency Description                                                                                                                                                                               | Category | Corrective Action                                                                                                                                                                                    |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 26a,<br>26b    | Typical- failed coating top of exterior stairwell and planter walls.                                                                                                                                 | M        | We suggest that the top of the walls be covered with a peel and stick membrane and metal flashing or a urethane traffic coating.                                                                     |
| 27             | Efflorescence staining and cracking along walls of exterior stairwells.                                                                                                                              | M        | Seal cracks and clean. Recoat as required.                                                                                                                                                           |
| 28a,<br>28b    | Water pooling at base of vent shaft. Significant damage and constant leakage at PO level below.                                                                                                      | D/I      | It appears as though the vent may not be active. Verify if vent is active, and if not, cover and protect at grade level.                                                                             |
| 29             | Water overflowing planter on south side of rear entrance.<br><br>Planter has been dug out. It is reported that the membrane has been applied over the opening for a scupper to the adjacent planter. | D/M      | Modify membrane to accommodate intended scupper drainage. Membrane should be applied in the scupper opening. Contact membrane warranty provided to perform work so as not to void membrane warranty. |

### Maintenance Manual Review

We were provided with a Maintenance Manual prepared by Intertech Construction Group. The manual includes limited warranty information, contact information, maintenance plans and schedules.

Although the building appears to be well maintained, there does not appear to be a mechanism in place for tracking maintenance activities. We recommend that the provided maintenance manual be implemented including a mechanism of tracking maintenance activities and whoever is



performing the activities. This could be in the form of a logbook identifying the maintenance item, the date it was performed and the name of the maintenance service provider with contact name and telephone number. These records are useful in the evaluation of the warranties and also provide valuable information at the point the maintenance program will need to be updated and can be used to plan for renewals.

## Summary

MH conducted a visual deficiency review of the building envelope. In general, the building appears to be performing in accordance with the design intent, however we have noted a few items that are classified as deficiencies and may be covered under warranty. We recommend that these items be brought to the attention of the warranty provider as soon as possible. These items include the ongoing issues in unit 705, which have been identified under separate cover, dated July 31, 2007; and the cracking of concrete reveals.

The bulk of our observations are regular maintenance items, or deficiencies, which may have been covered under the two year labour and material warranty, which has now expired. As such, the Strata is now responsible. The Strata should deal with these items under a regular maintenance and renewals plan.

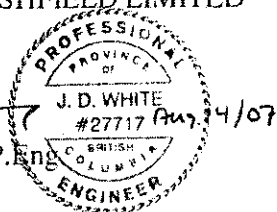
In addition to the items listed, corrections identified on any previous reports (if applicable) should be addressed prior to warranty expiration.

We trust the above meets the Strata's requirement for warranty review. Please do not hesitate to contact the undersigned should you have any questions.

Sincerely,

MORRISON HERSHFIELD LIMITED

  
Jacquelyn White, P.Eng.  
Project Engineer



  
David Fookes, P.Eng.  
Building Envelope Specialist, Associate

**APPENDIX A:**  
**Unit 705 Report**

**APPENDIX B:**  
**Photographs**

**Domus 1055 Homer Street**

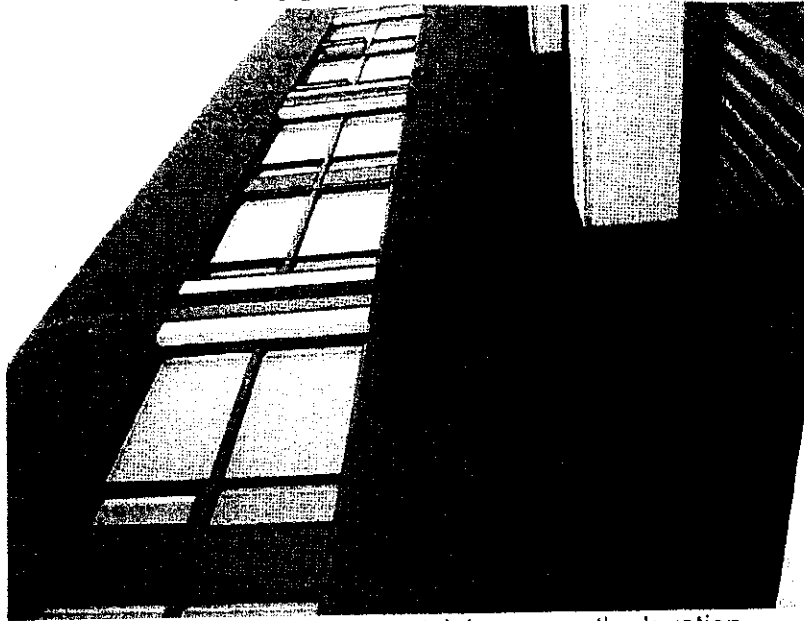


Photo 1a : Efflorescence staining on south elevation.

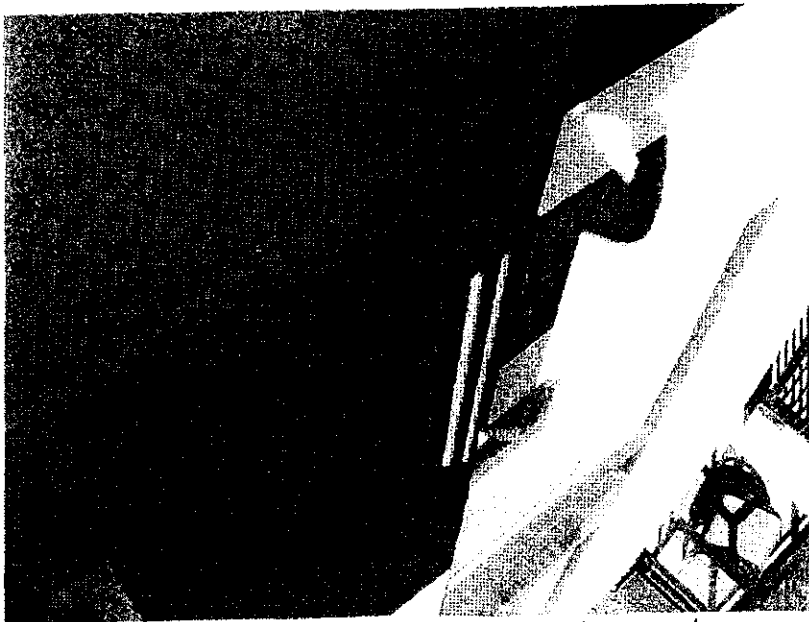


Photo 1b : Efflorescence staining under reveals.

**Domus 1055 Homer Street**



Photo 1c : Efflorescence staining on east elevation (above entrance).

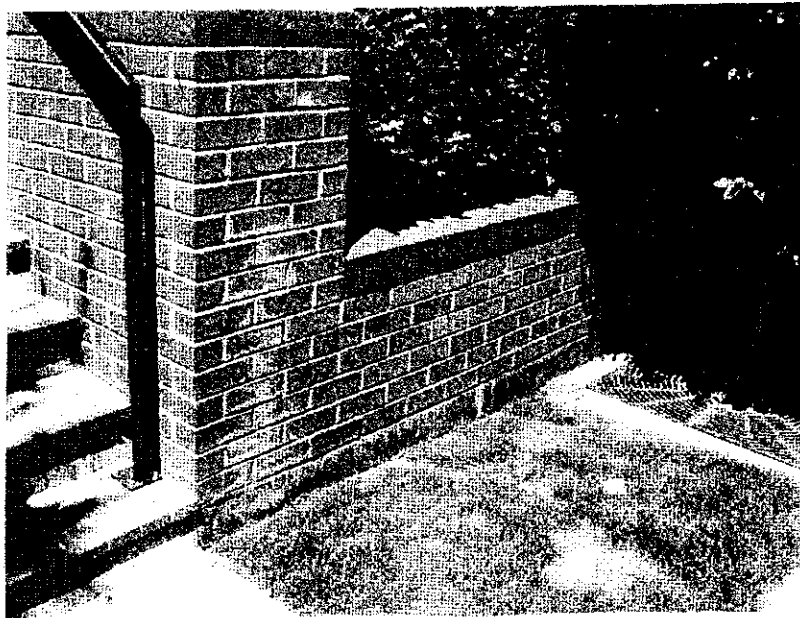


Photo 2 : Efflorescence staining of brick at townhouse entrance.

Domus 1055 Homer Street

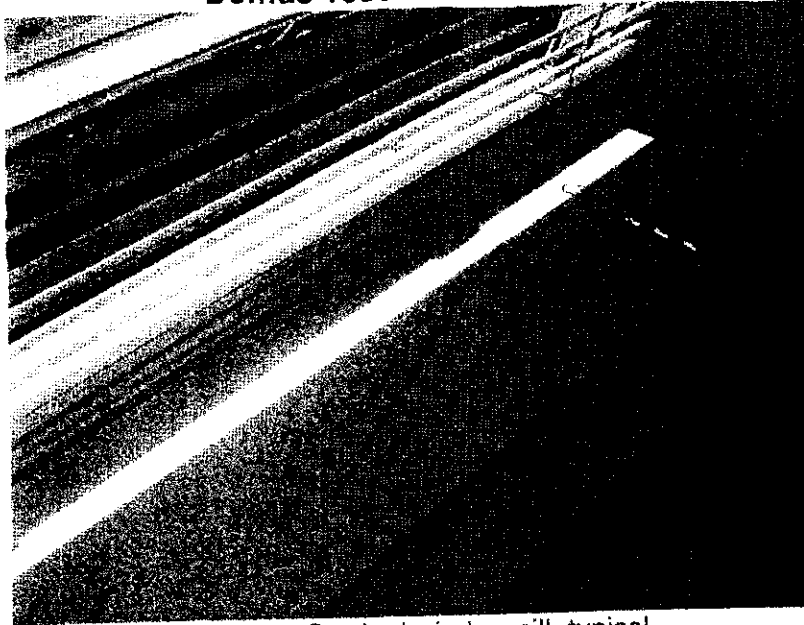


Photo 3: Cracked window sill- typical



Photo 4: Dirty balcony membrane- typical.

Domus 1055 Homer Street

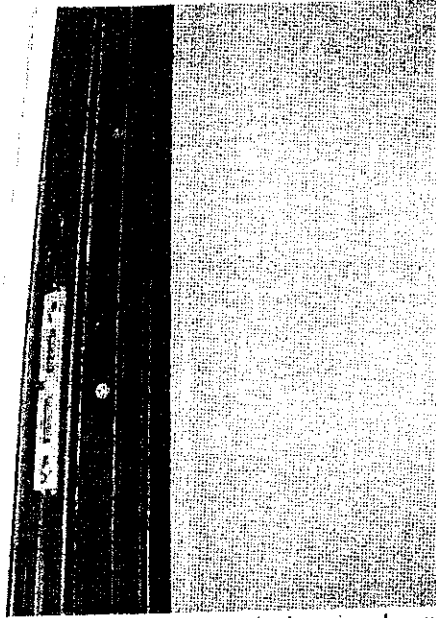


Photo 5: Chipped paint at window jamb, unit 2103.



Photo 6: No membrane on vertical- unit 2103.

Domus 1055 Homer Street

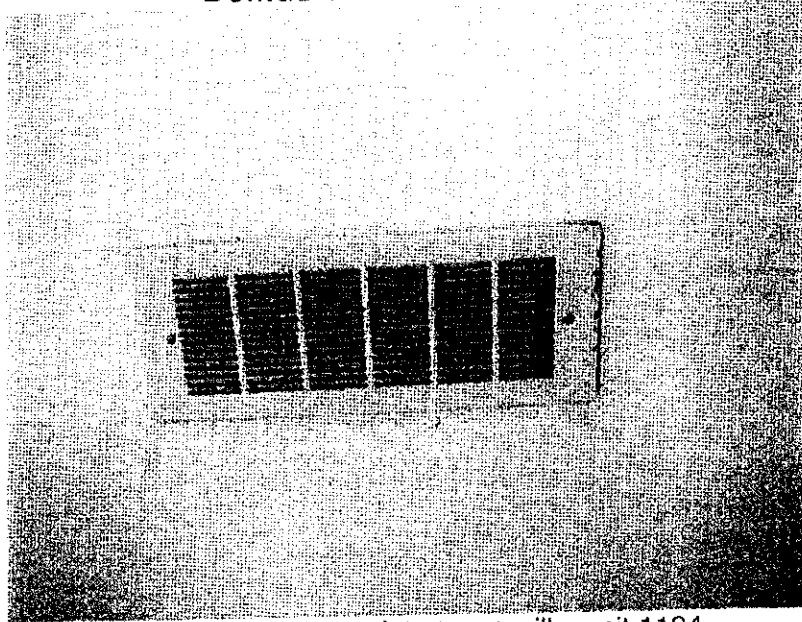


Photo 9: Bubbling paint at vent grille- unit 1104.

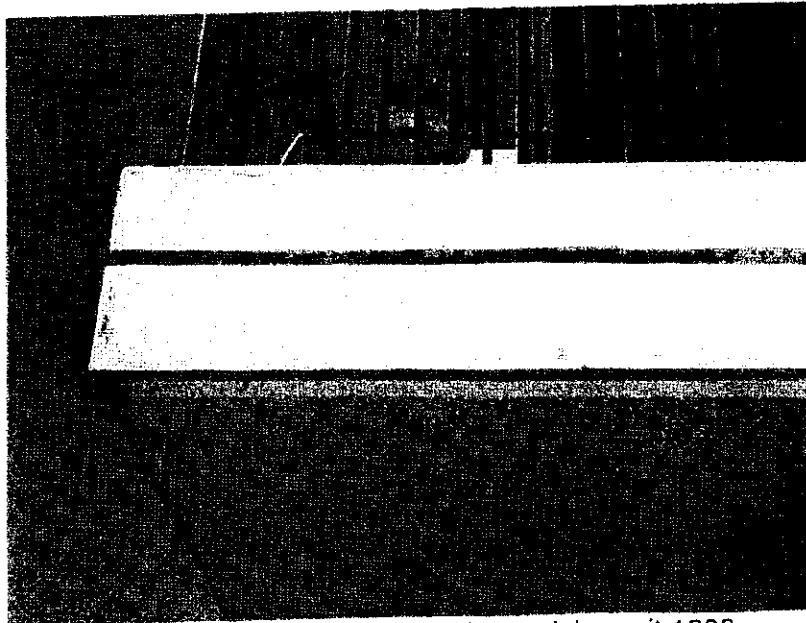


Photo 10: Chipped paint at balcony slab - unit 1203.

Domus 1055 Homer Street

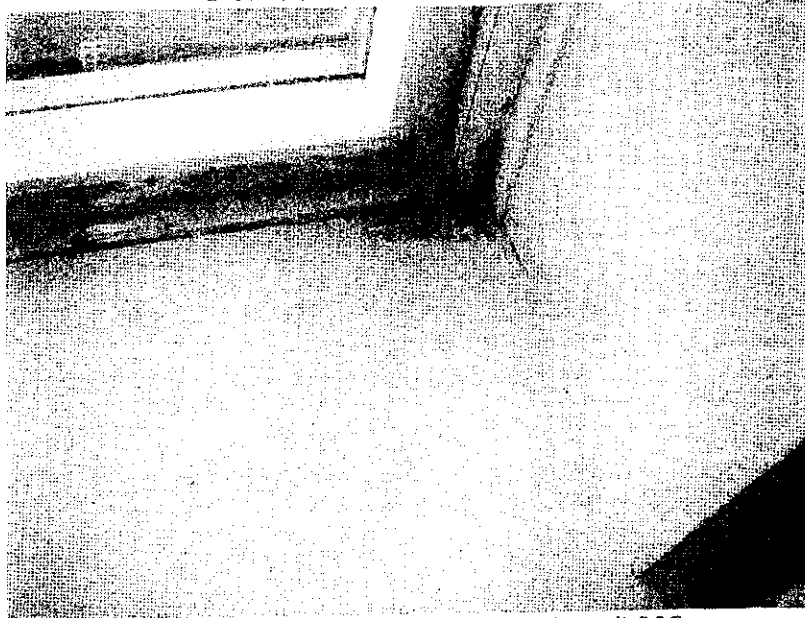


Photo 11: Damaged window stool - unit 902.



Photo 12: Damaged sill flashing and concrete - unit 901.

Domus 1055 Homer Street



Photo 13: Missing sealant at sliding door jamb - unit 1004

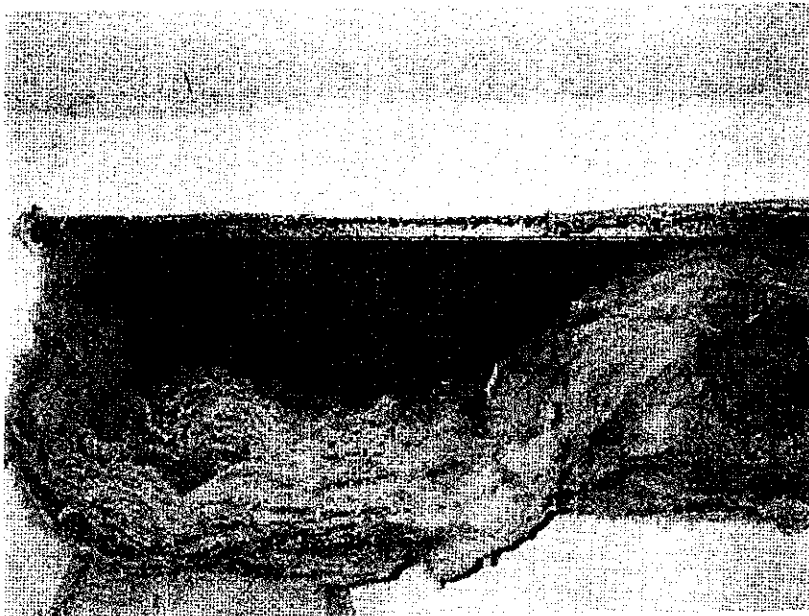


Photo 14: Stained ceiling and wet concrete and insulation - unit 705.

Domus 1055 Homer Street

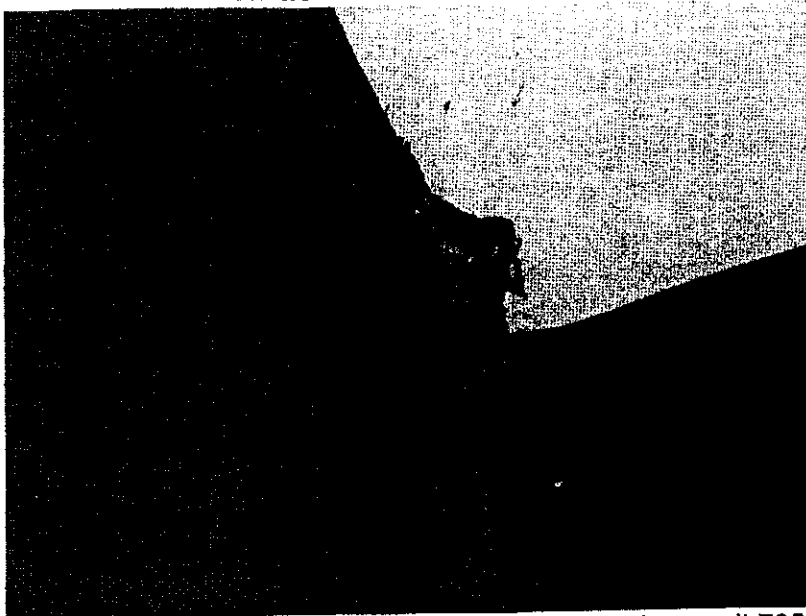


Photo 16: Tie back strap remaining from construction - unit 705.



Photo 17: Spalled paint at balcony rail - unit 301.

Domus 1055 Homer Street



Photo 18: Failed sealant at door jamb - TH 1059.

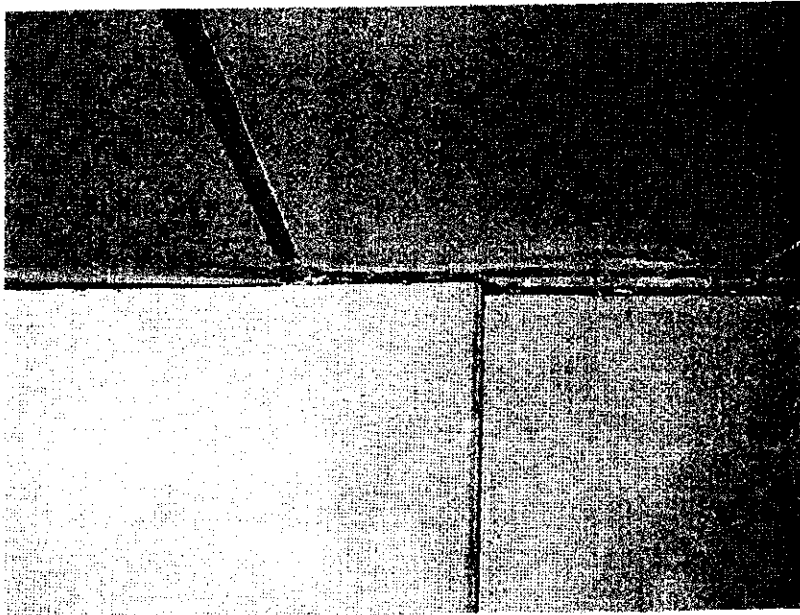


Photo 19: Missing sealant at base of wall flashing - TH 1059.

Domus 1055 Homer Street

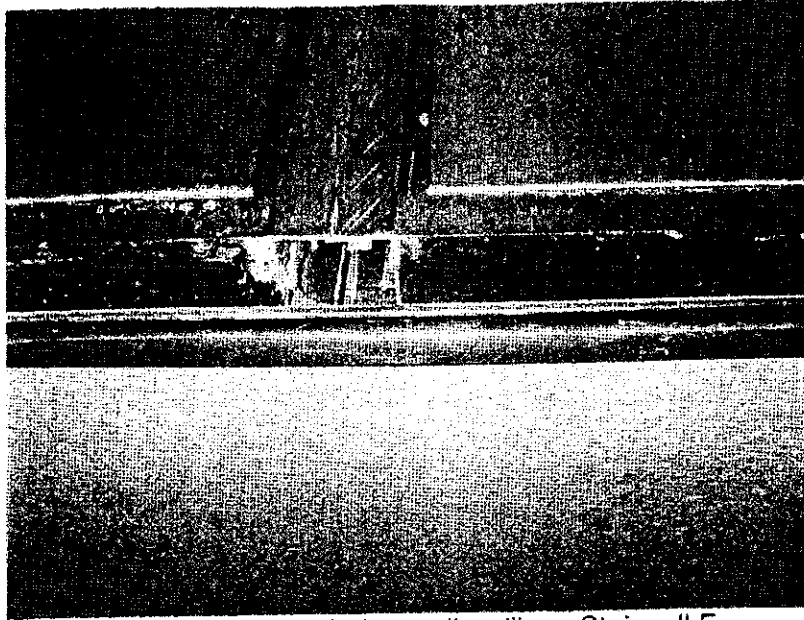


Photo 20: Open window wall mullion - Stairwell E.

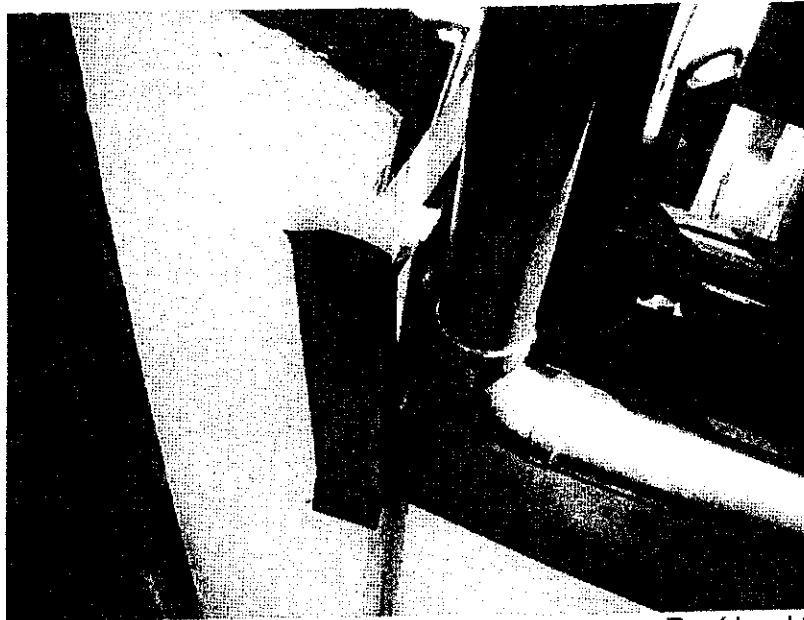


Photo 21: Missing sealant at metal saddle flashings - Roof level 28.

**Domus 1055 Homer Street**

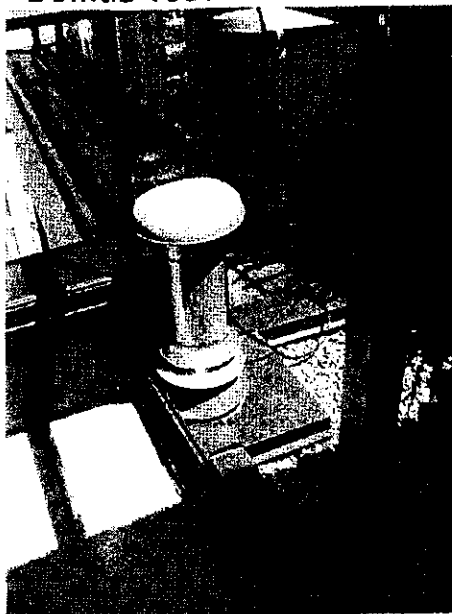


Photo 22: Missing glass at penthouse level 28.

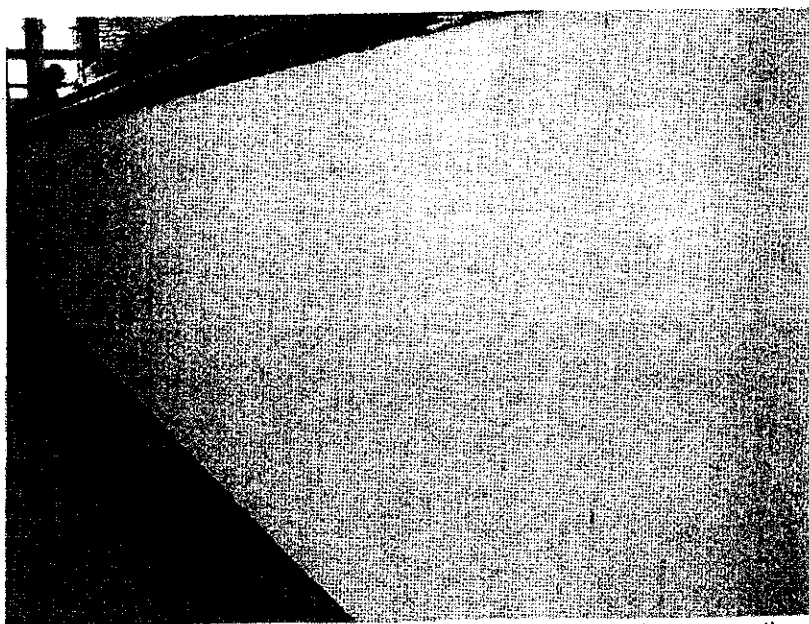


Photo 23: Streaking of paint on mechanical penthouse walls.

Domus 1055 Homer Street

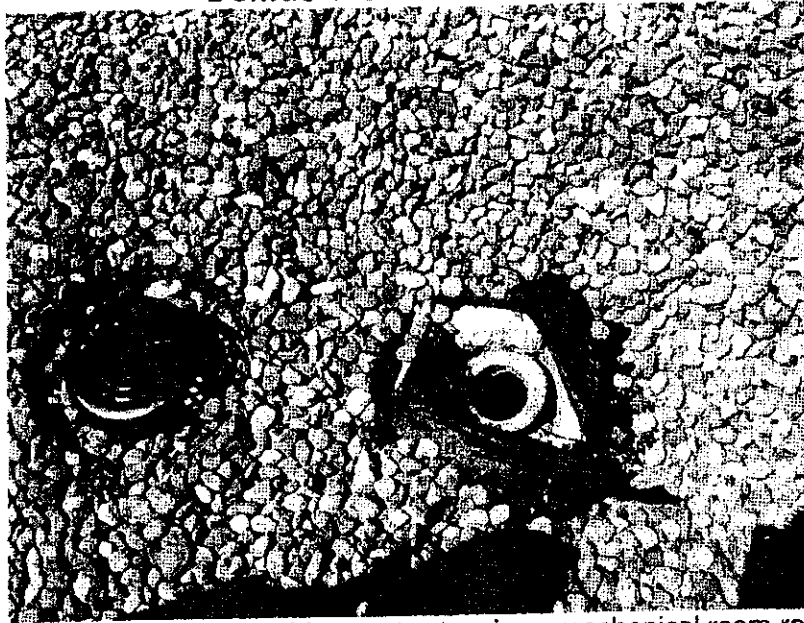


Photo 24: Missing plumbing vent extension - mechanical room roof.

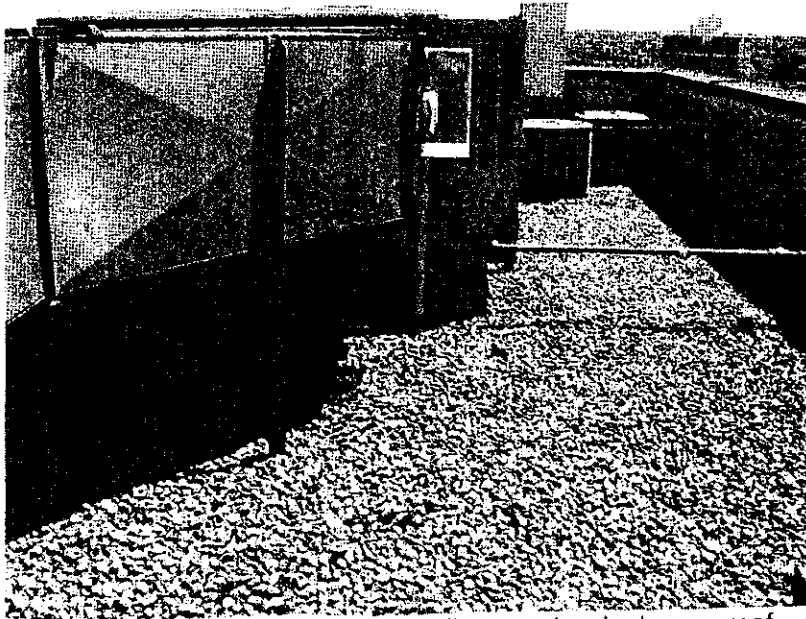


Photo 25: Exposed concrete walls - mechanical room roof.

Domus 1055 Homer Street

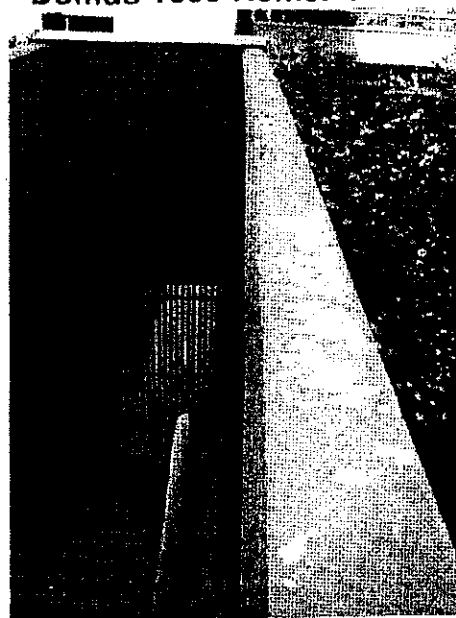


Photo 26a: Failed paint - north exterior stairwell.



Photo 26b: Failed paint top of column.

Domus 1055 Homer Street

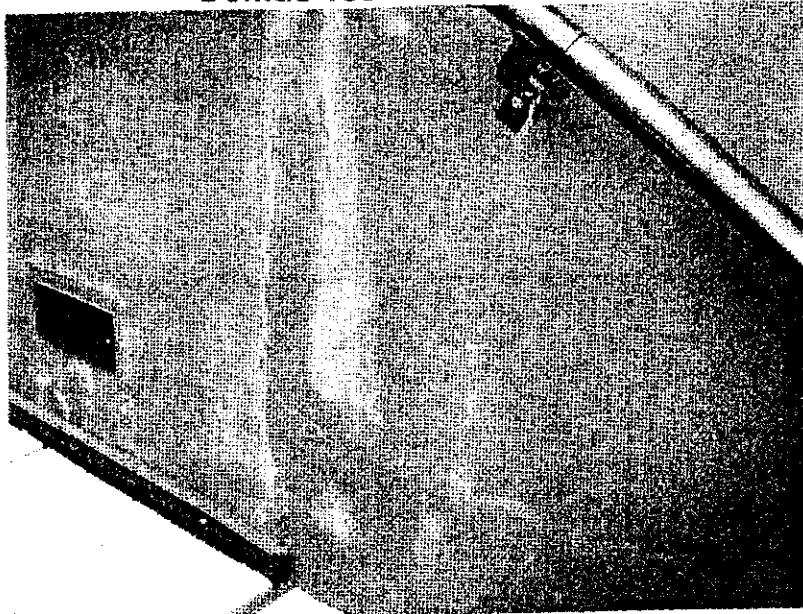


Photo 27 : Efflorescence and cracking - stairwell D.

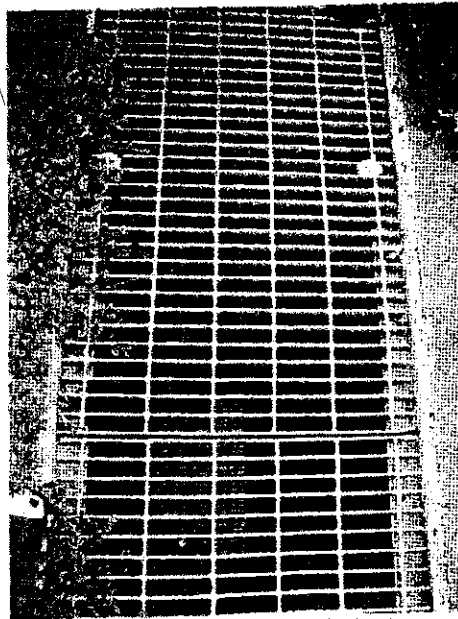


Photo 28a : Ponding in mechanical shaft - rear entrance.

Domus 1055 Homer Street

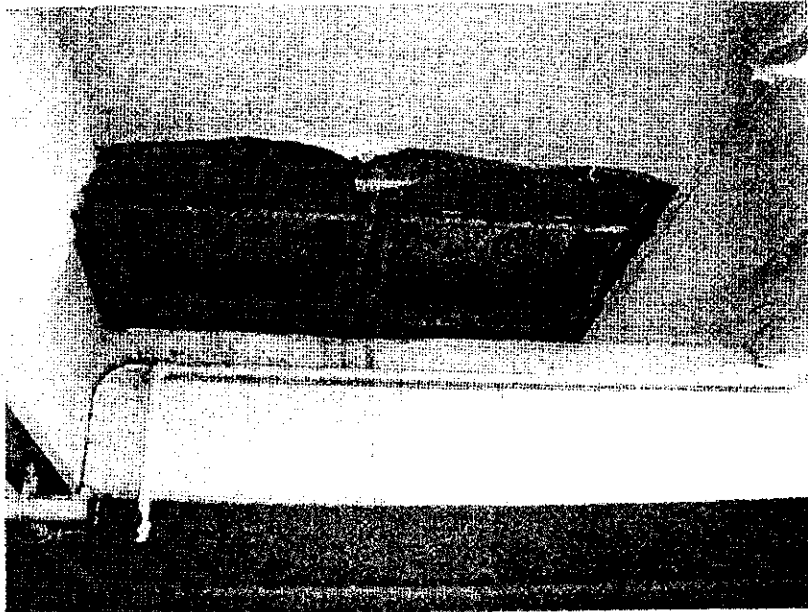


Photo 28b: Damage in P0 below mechanical vent.

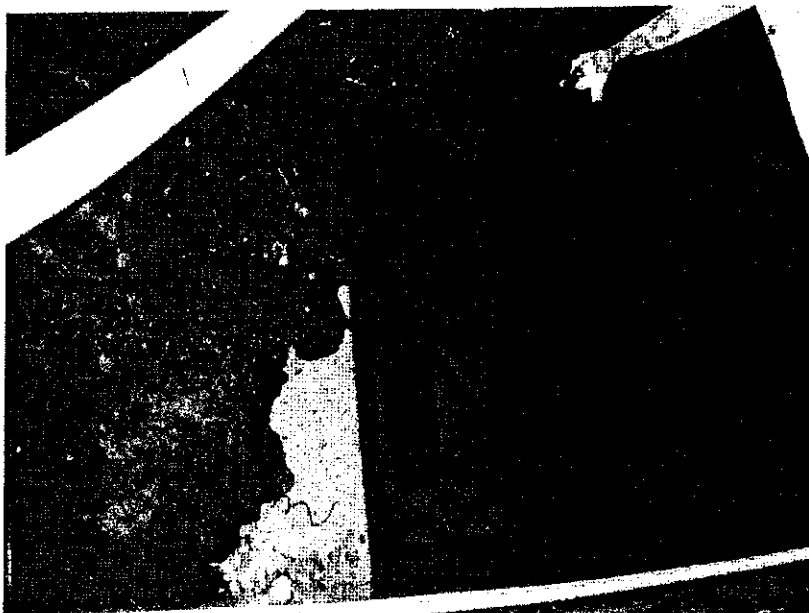


Photo 29: Ponding in planter - rear entrance.

## MORRISON HERSHFIELD

Suite 610, 3585 Gravelley Street, Vancouver, British Columbia V5K 5J5  
Tel. (604) 454-0402 Fax. (604) 454-0403 www.morrisonhershfield.com



July 31, 2007

MH Ref: 5075393.00

The Owners, Strata Corporation BCS 528  
c/o Joseph Tsang  
Senior Property Manager  
Rancho Management Services (BC) Ltd.  
701 - 1190 Hornby Street  
Vancouver, B.C. V6Z 2K5

Fax: (604) 684-1956

Dear Mr. Tsang:

**Re: 1055 Homer Street, Suite 705 Investigation**

Morrison Hershfield was retained to perform an investigation at unit 705, 1055 Homer Street to address the owner's concerns regarding excessive condensation and associated damage. This letter report outlines our observations and recommendations.

### 1. Background

The owners of the suite, Anthony Tom and Sharon Bahadursingh reported that they have experienced various moisture related problems with their units since they moved in after construction. These include:

- Excessive condensation at all exterior windows and patio doors in the winter months when the heat is on. The owners provided photographs of water streaming down the inside of the glazing units.
- Damaged window sills and interior gypsum drywall resulting from the above moisture.
- Mold at the base of walls, including mushrooms growing under carpet in bedroom. Again, owners provided photographs of damage.
- White lines appearing on the exterior face of the concrete, growing over the winter months.

The owners reported the problems to the developer and they undertook investigative work that included scoping the ducts to ensure that there was no blockage. No repairs to their unit were undertaken.

The city of Vancouver reviewed the unit in April 2007. During their inspection, the city noted signs of moisture at drywall, condensation on the windows in the bedroom and signs of moisture staining on the bedroom carpet. The city mandated an engineering report providing recommended remedial repairs. We submit this report in response to the City of Vancouver's letter dated May 1, 2007, attached as Appendix A.

## **2. Methodology**

Jacquelyn White, P.Eng. and Bereket Alazar of Morrison Hershfield inspected the unit on Monday July 9, 2007 as part of a warranty review (to be issued under separate cover). Ms. White returned on July 16 to perform test openings in the wall assemblies and again on July 19 to review the openings after a period of rain.

Exploratory openings consisted of cutting approximately 12" x 12" holes in the drywall, removing the poly and the insulation and observing the condition of the inside face of the exterior concrete wall and the steel stud wall assembly. Holes were temporarily repaired with tape. We have attached our observations from each test opening in Appendix B.

MH engaged KD Engineering to measure fan capacity of bathroom and dryer exhausts. Art Verkaik, ASCT. Of K.D. Engineering performed the tests on July 17, 2007. We have attached K.D. Engineering's report in Appendix C.

## **3. Observations**

We made the following observations during our investigation:

- Cracking at joint along sill stool at corners and along the back of the stool/frame interface;
- Drywall damage below window sill corners;
- Staining on the ceiling, NE corner of the living room;
- Staining and corroded fasteners on the carpet tack strip, NE corner of the master bedroom;
- Wet concrete and insulation at the top of the NE wall, adjacent to the balcony (test opening 2);
- Evidence of mold on the interior concrete at the base and top of wall in the master bedroom (test openings 4 and 5);
- No further water ingress was noted during our July 19<sup>th</sup> visit, during a period of rain;
- We did not observe any white lines on the exterior concrete. These were reportedly removed during a full exterior wall cleaning the previous year;
- Bathroom fan capacities of 44 CFM and 54 CFM (as measured by K.D. Engineering);
- Dryer exhaust of 29 CFM when connected to ducting. Exhaust of 80 CFM with dryer hose removed from vent (as measured by K.D. Engineering);
- Range hood was not operational at the time of K.D. Engineering's visit.

Refer to appendix B for complete observations and photographs at exploratory openings.



#### 4. Conclusions and Recommendations.

Based on our investigation, it would appear as though there are several separate issues at 705, which in combination are contributing to the observed and reported damage.

##### 1. Apparent leak in the building envelope.

Exploratory opening two indicated that there is water ingress into the wall system. The most likely source of water ingress at this location is a crack in the reveal at the cold joint. Both rain water and water runoff from the balcony above is entering the crack and wetting the concrete wall and the insulation. The water ingress has caused damage to interior materials evidenced by staining of the ceiling. It is likely that the observed white streaking on the exterior wall is caused by efflorescence from wetting of the concrete in the cracks, dripping out of the reveals and down the outside face of the concrete. This is a water ingress issue and should be repaired under warranty. Repairs would include routing out the cracks and sealing from the exterior. Interior repairs to the ceiling will be required.

It is possible that damage observed at openings four and five can be partially attributed to water ingress. All exterior walls should be closely inspected from the exterior for cracking, likely in the concrete reveals, and repair as indicated above.

##### 2. Elevated Humidity.

Condensation at windows, as seen on provided photographs, was over the entire window surface, not just at frames. Condensation at frames is fairly typical, however it is generally accepted that the condensation resistance of the center of double glazed window units is adequate for normal residential conditions, and condensation should not be observed to be "streaming" down the glass surface. The pattern of condensation suggests that there is either excessive humidity in the unit or isolation of windows from heat by drapes or blinds, not inadequate window performance.

Exploratory openings one and three were made at areas of gypsum drywall damage below windows. There were no signs of external moisture ingress in either location. This would indicate that damage at drywall is a result of interior moisture (condensation at windows pooling at the sill and overflowing down the wall).

Exploratory openings four and five both had evidence of mold on the inside face of the concrete. In addition, evidence of mold was found on the outside face of the gypsum drywall at exploratory opening four (base of wall). The mold appeared to follow the pattern of the steel studs and track. It was at this location that mushrooms had reportedly grown and carpet tack strips are stained with corroded fasteners. The poly, steel studs and insulation were clean and dry. The clean interior wall components in combination with the evidence and pattern of mold on the drywall would suggest that the source of moisture is again from the interior. The evidence of mold suggests that warm air is condensing at the cold surfaces such as the vapour barrier in contact with steel studs at the base of the wall and the concrete adjacent to slabs.

**MH**

While no measurement of winter relative humidity (RH) levels were done, the physical evidence documented above suggests that the interior RH values are well above what would be reasonably expected as "normal".

Additionally, the observed resistance in the dryer exhaust may be contributing to the elevated RH levels. It is possible that moisture from the dryer is not being adequately vented and there is some leakage back through the ducts.

Another contributing factor to the excessive condensation observed on windows is the use of blinds tight to the window surface. Warm air is unable to circulate behind the blinds and condensation can form on the cold glass surface.

To reduce the RH levels in the unit, we recommend:

- The installation of a booster fan for the dryer;
- The use of a dehumidifier in the winter months;
- The continued use of bathroom fans, cleaned regularly;
- Providing a space between the blinds and the window surface to allow air flow. Alternatively, keeping blinds several inches above the sill.

### 3. Insufficient Ventilation

The results of the fan capacity tests indicate that the bathroom fans are exhausting close to the VBBL requirements (50 CFM) and ASHRAE Standard 62 (15 CFM/person). However, the amount of fresh air being supplied is unknown. We recommend that a CO2 indicator be installed in the unit during the fall months to determine if sufficient make up air is being circulated into the suite.

However, ventilation effectiveness is typically poor in our climate as the outdoor air has high moisture content in winter months. The use of a dehumidifier will minimize the dependence on ventilation to lower RH values.

## 5. Summary

The results of our observations indicate that there is an exterior source of water ingress at cracks in cold joints/reveals, in addition to source(s) of interior moisture. We recommend that the exterior concrete walls be reviewed for cracking, and cracks sealed. Elevated humidity can be controlled with the use of fans, a dehumidifier and a dryer booster fan. Keeping furniture and drapes off of the exterior walls will encourage air flow, which should reduce condensation.

In our opinion, the extent of mold observed in the bedroom warrants remediation. We recommend that an industrial hygienist provide further comment. It is likely that the risk of exposure is small, however, it is not best practice to leave large amounts of mold in buildings. Remediation will include removing the drywall and cleaning the effected areas of concrete. The full extent of damage will need to be assessed, as we only performed a limited amount of openings.

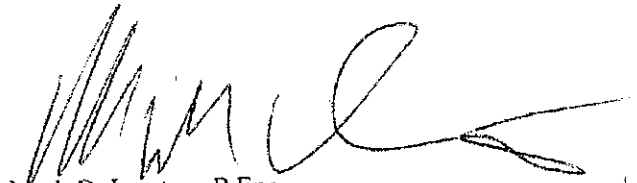
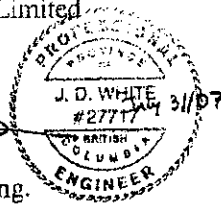


We trust that this report meets the Strata and the City's requirements. Please contact the undersigned should you have any questions.

Yours very truly,  
Morrison Hershfield Limited



Jacquelyn White, P.Eng.  
Project Engineer



Mark D. Lawton, P.Eng.  
Building Envelope Specialist, Principal

M:\PROJ\5075393\LEAK INVESTIGATION.DOC



**APPENDIX A**  
**Letter from the City of Vancouver**



CITY OF VANCOUVER  
COMMUNITY SERVICES GROUP  
Licences and Inspections  
Coordinated By-law Enforcement

PLEASE REFER TO:  
Mr. E. Neufeld  
Manager,  
Building Inspections Branch  
at 604.873.7560  
I.R. No. BI 31335/EN 037968

May 1, 2007

✓ The Owners, Strata Plan BCS528  
c/o Rancho Management Services  
701 - 1190 Hornby Street  
Vancouver, BC, V6Z 2K5

and

Sharon A. Bahadursingh and Kerwyn A. Tom  
705 - 1055 Homer Street  
Vancouver, BC, V6B 1G3

Dear Sirs/Mesdames:

RE: 1047, 1049, 1051, 1053, 1055, 1057, 1059, 1061 and 1063 Homer Street -  
(Suite #705 - 1055 Homer Street)

A recent inspection of Suite #705 - 1055 Homer Street in the above building revealed the following:

1. The area along the windows on the north wall show signs of moisture and the drywall against the window at the bottom is in a state of disrepair.
2. There is condensation on the windows in the bedroom.
3. The carpeting in the bedroom shows signs of rust from the steel stud plate, which would indicate quite a bit of moisture in the wall.

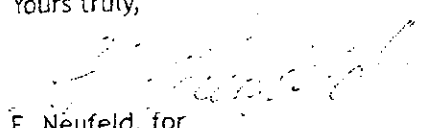
This is in contravention of the Vancouver Building By-law.

You are required to obtain the services of a Building Envelope Professional to investigate with regard to the moisture condition, submit a report and recommend remedial repairs.

In accordance with the By-law and to avoid further action, you are to:

1. Submit a report from a Building Envelope Professional concerning the moisture condition and the recommended remedial repairs to the attention of the District Building Inspector, on or before June 1, 2007.

Yours truly,



E. Neufeld, for  
City Building Inspector and  
Chief Building Official

EN/cf

**APPENDIX B**  
**Exploratory Openings**

### Opening No. 1

|                          |                                                                  |
|--------------------------|------------------------------------------------------------------|
| Location                 | East elevation, base of wall at north most window in living room |
| Detail Addressed         | Base of wall/window sill                                         |
| Reason location selected | Previous opening in drywall                                      |

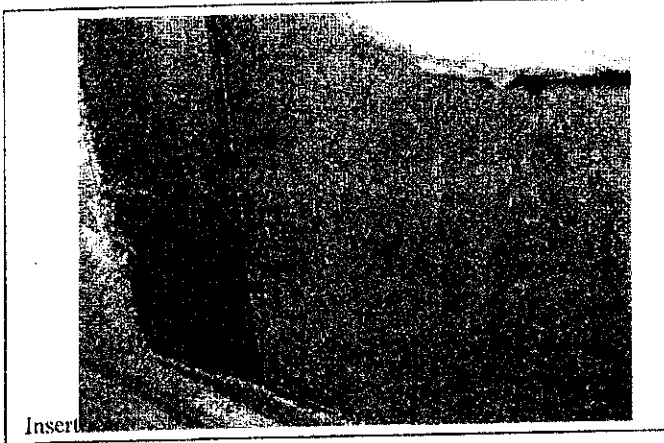


Photo 1

Opening clean and dry

**Construction: (interior to exterior)**

- Gypsum drywall
- Poly vapour barrier
- Steel studs with batt insulation
- Concrete

**Observations:**

- Drywall clean
- Poly intact
- Insulation clean and dry
- Steel studs clean
- Concrete clean and dry

## Opening No. 2

|                          |                                               |
|--------------------------|-----------------------------------------------|
| Location                 | North Elevation, top of wall, east of balcony |
| Detail Addressed         | Cold joint                                    |
| Reason location selected | Stained ceiling finishes                      |

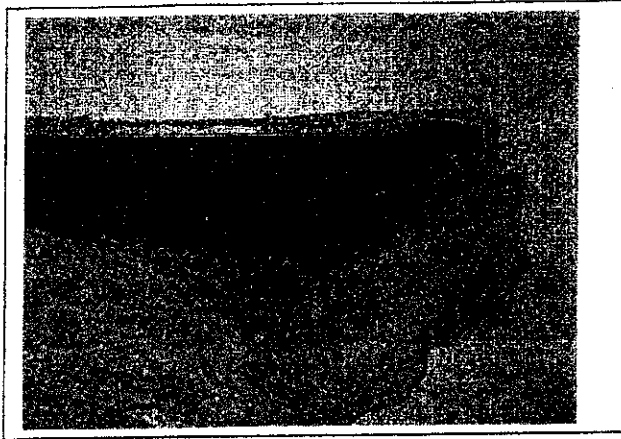


Photo 2a

Wet insulation and concrete

**Construction: (interior to exterior)**

- Gypsum drywall
- Poly vapour barrier
- Steel studs with batt insulation
- Concrete

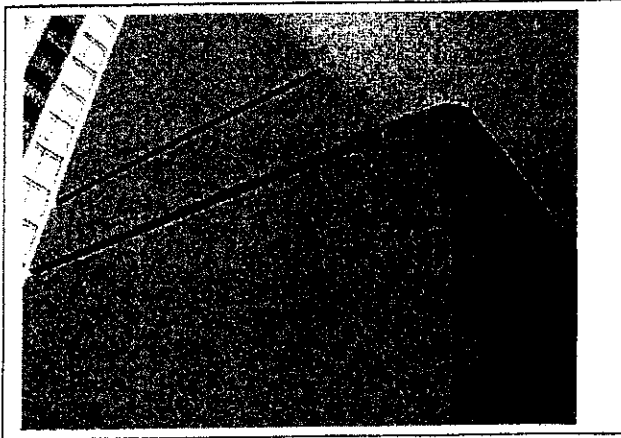


Photo 2b

Exterior reveals at location of opening

**Observations:**

- Drywall clean
- Ceiling stained
- Poly intact
- Insulation wet at top of wall
- Minor corrosion on outside face of top track
- Concrete wet to touch, Moisture content 80%
- Location of exterior reveals at cold joints
- Balcony above

### Opening No. 3

|                          |                                                                |
|--------------------------|----------------------------------------------------------------|
| Location                 | East elevation, base of wall, north sill of dining room window |
| Detail Addressed         | Base of wall, window sill                                      |
| Reason location selected | Damaged drywall                                                |

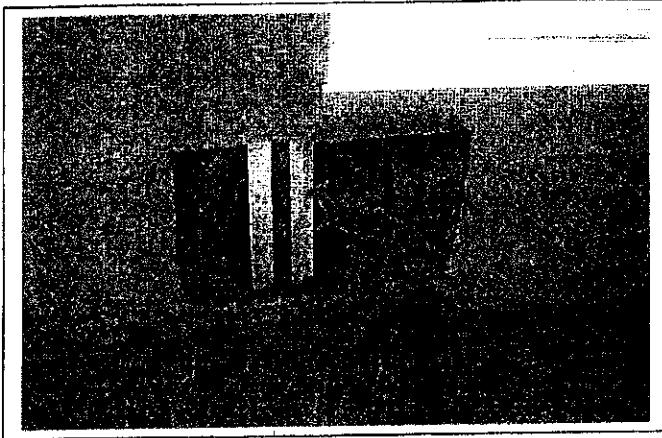


**Photo 3**

Clean and dry opening

**Construction: (interior to exterior)**

- Gypsum drywall
- Poly vapour barrier
- Steel studs with batt insulation
- Concrete

**Observations:**

- Drywall finishes blistered and cracked
- Exterior face of drywall clean
- Poly intact
- Insulation clean and dry
- Steel studs clean
- Concrete clean and dry
- Random pieces of wood in wall cavity with some signs of moisture, however these could be from construction

## Opening No. 4

|                          |                                                                                          |
|--------------------------|------------------------------------------------------------------------------------------|
| Location                 | Base of wall, north of bedroom window                                                    |
| Detail Addressed         | Cold joint, window sill                                                                  |
| Reason location selected | Reported mold in winter at base of wall, mushroom growth and signs of moisture at carpet |



Photo 4a

Evidence of mold on exterior face of interior drywall

### Construction: (interior to exterior)

- Gypsum drywall
- Poly vapour barrier
- Steel studs with batt insulation
- Concrete

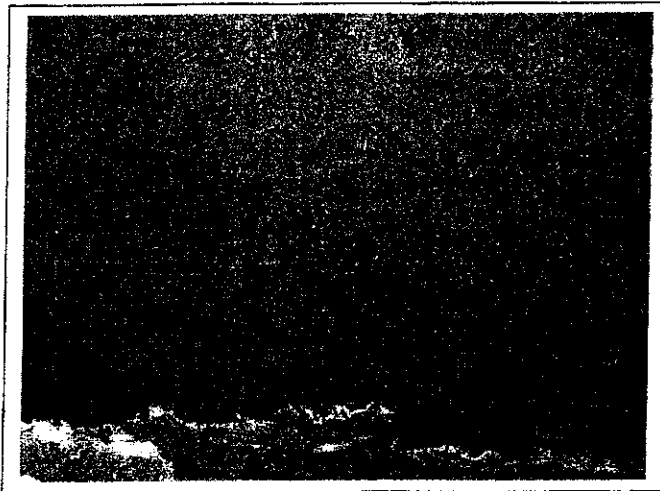


Photo 4b

Evidence of mold on concrete

### Observations

- Evidence of mold on exterior face of gypsum drywall. Mold appears to be present at steel stud locations only.
  - Poly intact
  - Insulation clean and dry
  - Minimal corrosion on bottom track
- Evidence of mold on concrete
  - Carpet tack strips were stained with corroded fasteners
  - Reported growth of mushrooms in this area

### Opening No. 5

|                          |                                      |
|--------------------------|--------------------------------------|
| Location                 | Top of wall, north of bedroom window |
| Detail Addressed         | Cold joint                           |
| Reason location selected | Random                               |



Photo 5a

Evidence of mold on concrete

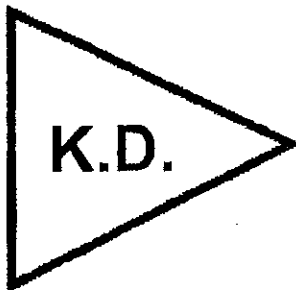
#### Construction: (interior to exterior)

- Gypsum drywall
- Poly vapour barrier
- Steel studs with batt insulation
- Concrete

#### Observations

- Gypsum drywall clean
- Poly intact
- Insulation clean and dry
- Steel studs clean
- Evidence of mold on concrete

**APPENDIX C**  
**K.D. Engineering Report**



## K.D. ENGINEERING CO.

MECHANICAL ENGINEERS AND TECHNOLOGISTS  
239 EAST 6th AVENUE, VANCOUVER, BC V5T 1J7

### SYSTEM ANALYSIS REPORT

PROJECT: 1055 Homer Street - Suite # 705 "Testing Of Suite Fans"

ARCHITECT: --- --- ---

ENGINEER: --- --- ---

CLIENT: Morrison Hershfield Ltd

#### Certification:

THE SYSTEMS HAVE BEEN TESTED & VERIFIED  
WITH REFERENCE TO THE REQUIREMENTS OF THE  
SPECIFICATIONS. THE RESULTS OF THE SITE  
INVESTIGATIONS ARE TABULATED WITHIN THIS  
DOCUMENT.



KD PROJECT #: 1107370

BY: Art Verkaik, AScT.

DATE: July 18, 2007

APPROVED BY:

*[Signature]* A.Sc.T.  
A. TATTO, AScT.

*[Signature]*

**Field Notes**

**Date:** July 17, 2007

**Re:** 1055 Homer Street – Suite # 705 "Testing of Suite Fans"

As requested the fans in the above named suite have been tested to determine their performance. Please note the following:

1. The washroom and ensuite fans were measured in two conditions. They were measured with both the suite windows and doors open, and with the doors and windows shut. At present they are exhausting 44 CFM and 54 CFM with the doors and windows shut. We noted that the fan wheels in these washroom fans were dirty which could affect their performance. Please also find attached the manufacturers performance sheet and our "spread" Sheet which indicates our measured performance for the various conditions.
2. The air exhausted by the dryer was measured by Pitot Tube traverse of the dryer vent. It indicated that the dryer was exhausting 29 CFM. The discharge pressure was measured to be 0.22" W.G. With the dryer hose removed from the vent, the dryer fan by itself was measured to be exhausting 80 CFM.
3. The Range Hood exhaust fan could not be tested as it was not operational at the time of testing. The occupant indicated that the motor needed replacing.

# K.D. Engineering Co.

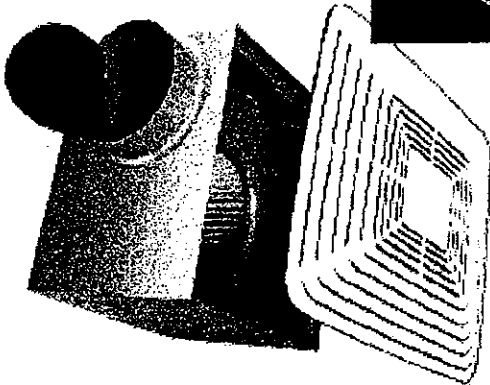
## Grille & Diffuser Sheet

Job # 1107370

Location: 1055 Homer Street - Suite 705 "Testing of Suite Fans"

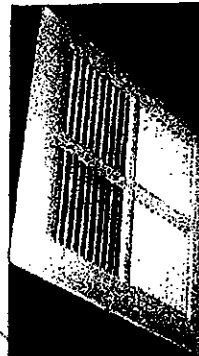
|                     | Outlet/<br>Inlet |                                    |  |  | Spec.<br>CFM | Final<br>CFM | % |  |  |  |  |
|---------------------|------------------|------------------------------------|--|--|--------------|--------------|---|--|--|--|--|
| <b>Washroom Fan</b> |                  | outside windows & doors open       |  |  |              |              |   |  |  |  |  |
|                     | 1                |                                    |  |  | -            | 44           |   |  |  |  |  |
|                     |                  |                                    |  |  | -            | 44           |   |  |  |  |  |
| <b>Washroom Fan</b> |                  | outside windows & doors shut       |  |  |              |              |   |  |  |  |  |
|                     | 1                |                                    |  |  | -            | 35           |   |  |  |  |  |
|                     |                  |                                    |  |  | -            | 35           |   |  |  |  |  |
| <b>Ensuite Fan</b>  |                  | outside windows & doors open       |  |  |              |              |   |  |  |  |  |
|                     | 1                |                                    |  |  | -            | 54           |   |  |  |  |  |
|                     |                  |                                    |  |  | -            | 54           |   |  |  |  |  |
| <b>Ensuite Fan</b>  |                  | outside windows & doors shut       |  |  |              |              |   |  |  |  |  |
|                     | 1                |                                    |  |  | -            | 58           |   |  |  |  |  |
|                     |                  |                                    |  |  | -            | 58           |   |  |  |  |  |
| <b>Dryer Vent</b>   |                  | Hose attached to dryer vent        |  |  |              |              |   |  |  |  |  |
|                     | 1                |                                    |  |  | -            | 29           |   |  |  |  |  |
|                     |                  |                                    |  |  | -            | 29           |   |  |  |  |  |
| <b>Dryer Vent</b>   |                  | Hose not attached to dryer vent    |  |  |              |              |   |  |  |  |  |
|                     | 1                |                                    |  |  | -            | 80           |   |  |  |  |  |
|                     |                  |                                    |  |  | -            | 80           |   |  |  |  |  |
| <b>Range Hood</b>   |                  | not operational at time of testing |  |  |              |              |   |  |  |  |  |
|                     | 1                |                                    |  |  | -            | 0            |   |  |  |  |  |
|                     |                  |                                    |  |  | -            | 0            |   |  |  |  |  |

# **QCF-110** ULTRA SUPER QUIET EXHAUST FAN 1.0 SONES



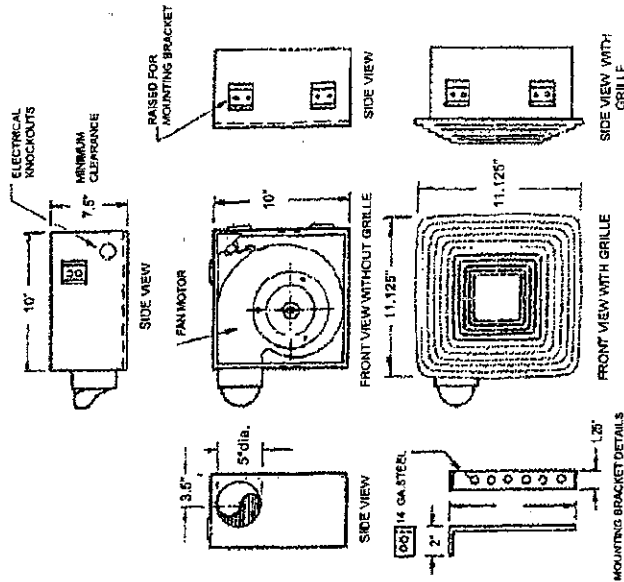
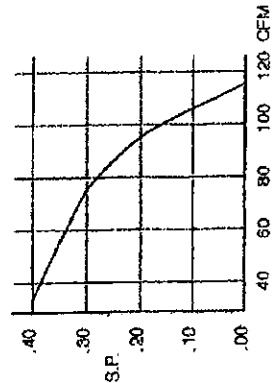
WHITE HIGH IMPACT STYRENE GRILLE

- ACCESSORIES**
- STANDARD
  - INSULATED HOUSING
  - WHITE GRILLE
  - DAMPER
  - MOUNTING BRACKETS
  - ALUMINUM OR
  - STYRENE GRILLE
  - OPTIONAL
  - VARIABLE SPEED
  - CONTROL
  - ALUMINUM BACK
  - DRAFT DAMPER



THE QCF-110 FAN IS DESIGNED FOR HI PERFORMANCE AND QUIET OPERATION. THIS FAN IS EQUIPPED WITH ESPECIALLY DESIGNED MOUNTING SLOTS THAT ALLOW FOR EASY INSTALLATION ON CONCRETE CEILING OR WOODEN JOISTS. THE QCF-110 IS CONSTRUCTED WITH CORROSION RESISTANT, HEAVY GAUGE SATIN COAT STEEL.

OFF WHITE ALUMINUM GRILLE



## **FAN DATA**

| FAN<br>MODEL | MOTOR<br>120 VAC 60 Hz |      | CUBIC FEET PER MINUTE |      |      |      |     |     |     |     |     |     |     |     |
|--------------|------------------------|------|-----------------------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|
|              |                        |      | RPM                   | AMPS | HP   | S.P. | 0   | .05 | .10 | .15 | .20 | .25 | .30 | .40 |
|              |                        |      |                       |      |      | CFM  | 115 | 110 | 105 | 100 | 95  | 90  | 85  | 80  |
| QCF110       | 0.6                    | 1/80 | 1050                  | 0.6  | 1/80 |      |     |     |     |     |     |     |     |     |

RPM (Revolutions per minute) shown is nominal and performance is based on actual speed of test. Unit was tested with inlet grille, backdraft damper and outlet duct.

## **SOUND RATING**

| OCTAVE                                     |    |     |     |     |      |      |      |      |
|--------------------------------------------|----|-----|-----|-----|------|------|------|------|
|                                            | 1  | 2   | 3   | 4   | 5    | 6    | 7    | 8    |
| CENTRE FREQUENCY HZ.                       | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| FULL-OCTAVE BAND SOUND PRESSURE LEVEL (dB) | 93 | 47  | 49  | 45  | 44   | 33   | 33   | 24   |

HVI CERTIFIED RATING 1.0 SONE

## MORRISON HERSHFIELD

Suite 610, 3585 Graveley Street, Vancouver, British Columbia V5K 5J5  
Tel. (604) 454-0402 Fax. (604) 454-0403 [www.morrisonhershfield.com](http://www.morrisonhershfield.com)



November 16, 2007

MH Ref: 5075219.00

The Owners, Strata Corporation BCS 528  
c/o Joseph Tsang  
Senior Property Manager  
Rancho Management Services (BC) Ltd.  
701 - 1190 Hornby Street  
Vancouver, B.C. V6Z 2K5

Fax: (604) 684-1956

**Re: Townhouse Building Envelope Warranty Review  
Domus - 1055 Homer Street, Vancouver, BC**

Morrison Hershfield (MH) was retained by the Owners of Domus (Strata Plan BCS 528) to undertake a visual review of the building envelope of their building complex located at 1055 Homer Street, Vancouver. The purpose of the review was to identify possible deficiencies that may be covered by the five-year warranty, which expires October 28, 2008. A letter report itemizing deficiencies, dated August 14, 2007 was provided, however, the owner of townhouses 1051, 1053, 1061 and 1063 had some concerns and requested further review.

Jacquelyn White of MH performed the review of the townhouses on November 8, 2007 in the company of Joseph Tsang (Rancho) and the homeowner, Combiz Jelveh.

### **Building Description and Project History**

Domus consists of one 26-storey tower and eight townhouses for a total of 134 residential units over a three level underground parking garage. The townhouses are brick clad, concrete framed 2 storey units. The glazed systems consist of thermally broken aluminum framed windows and sliding doors. Each townhouse has a patio/deck. The configuration of the building is such that above the townhouses is a combination of living space and roof top decks/walkways and planters. The roof system is an inverted 2 ply SBS membrane protected with insulation, ballast and/or pavers.

The building was developed by Qualex Landmark Developments and constructed by Intertech Construction Group under the direction of Rafii Architects. Domus was substantially completed on October 24, 2003.

Based on the information provided to us, the following warranties are applicable for this project:

1. St. Paul Travelers 5 year Building Envelope Warranty
2. Starline Windows 5 year building envelope warranty and 10 year structural defect warranty
3. Villa Roofing 5 year warranty against leakage (ground, podium, terraces and roofs)
4. Sonneborn HLM 5000 10 year warranty (material only) (waterproofing)
5. Soprema 10 year limited warranty (roof membrane)
6. Villa Roofing 5 warranty against leakage (parkade and balcony traffic membrane)

It is our understanding that past repairs to the roof membrane have been performed under warranty at the main roof, 3<sup>rd</sup> floor roofs and penthouse levels.

### **Observations and Recommendations**

**Townhouse 1051 and 1061:** Both of these units had shadow lines (ghosting) on the ceiling in the back northwest facing bedrooms. Unit 1051 also had ghosting along the exterior wall and ghosting at the ceiling was significant. Additionally, fasteners were observed along the ghosting lines. Refer to photographs 1 and 2.

Ghosting is caused by thermal bridging across the steel studs in the wall and ceiling cavity. Steel studs, due to their high conductivity, allow heat loss and uneven surface temperatures. Moist air and dirt particles are attracted to the cold surface. The ghosting is in fact dirt particles that have deposited on the wall/ceiling surface.

Ghosting is often seen in steel stud construction where all of the insulation is in the wall/ceiling cavity. It is recommended to install a portion of the wall's insulation outboard of the exterior sheathing. This keeps the steel studs warm and reduces thermal bridging across walls and ceilings. At Domus, the drawings indicate that there is some insulation above the concrete roof slab, and the level of ghosting observed, particularly at 1051, is unusual.

However, ghosting is predominately an aesthetic issue, and not a water ingress concern. We note that the ghosting can be removed with regular cleaning and reduced by eliminating the production of carbon emissions (burning of candles, incense and cigarettes). Furthermore, increased ventilation will reduce particle loads from settling at these locations. We recommend regular cleaning and repainting of the affected surfaces.

**Townhouse 1053:** A stain was observed mid ceiling in the second bedroom. Refer to photo 3. The location of the stain and the fact that this unit is completely below living space indicates that the stain is from an internal plumbing leak from the unit above. As such, this is not a water ingress concern.

**Townhouse 1063:** This unit has signs of a water leak in the corner of the back room. The drywall wall and ceiling appear to have some black mold at this location. Refer to photos 4 and



5. The condition has reportedly worsened from a yellow stain in March 2007 to the black mold observed during this review.

The damage is located under a concrete parapet curb and the intersection of the curb and concrete stairwell is adjacent. Refer to photo 6. The exterior wall close to this location houses an in slab exhaust duct. There has been a history of roof leaks at this complex and a breach in the membrane at the walkway or planter above (photo 7) is a possible cause of the leak.

Further investigation is required to determine the source of water ingress, and repairs required. This should be covered by the five-year water ingress warranty.

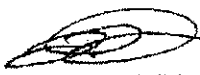
### Summary

Based on our review of the four townhouses, 1063 is the only one where the damage appears to be water ingress related. Ghosting is due to thermal bridging and would not be covered by a water ingress warranty.

We trust the above meets the Strata's requirement. Please do not hesitate to contact the undersigned should you have any questions.

Sincerely,

MORRISON HERSHFIELD LIMITED

  
Jacquelyn White, P.Eng.  
Project Engineer



  
Mark Lawton, P.Eng.  
Technical Director, Building Engineering

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**APPENDIX A:**  
**Photographs**

**114**

## DOMUS TOWNHOUSES

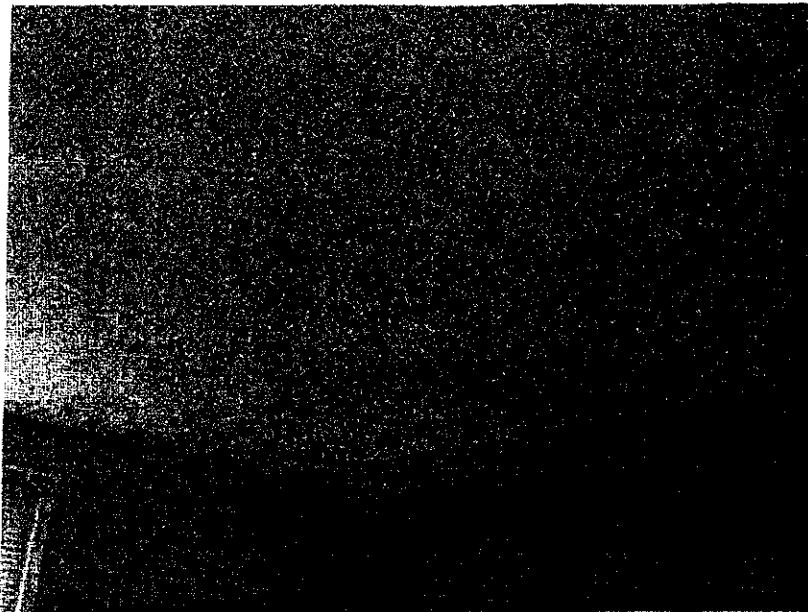


Photo 01 1051: ghosting evident on ceiling and wall.

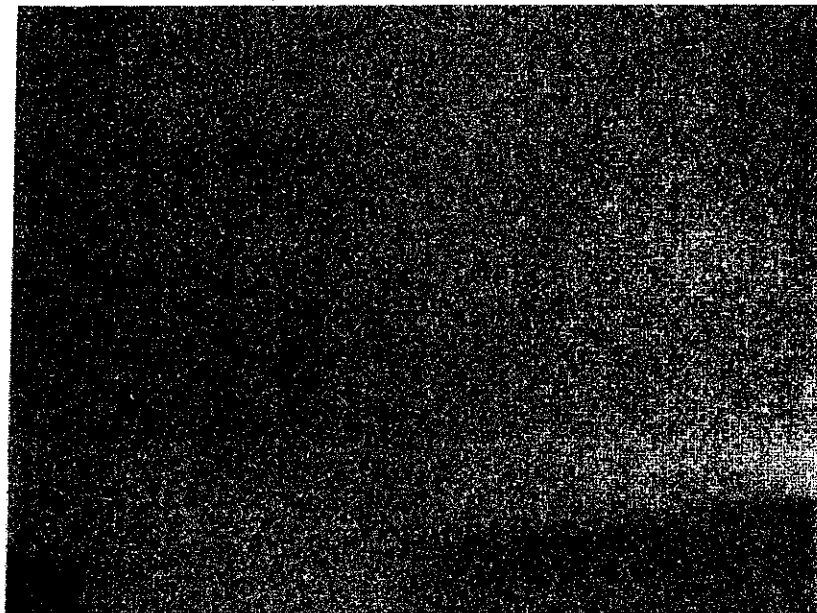


Photo 02 1061: Faint ghosting evident on ceiling.

## DOMUS TOWNHOUSES

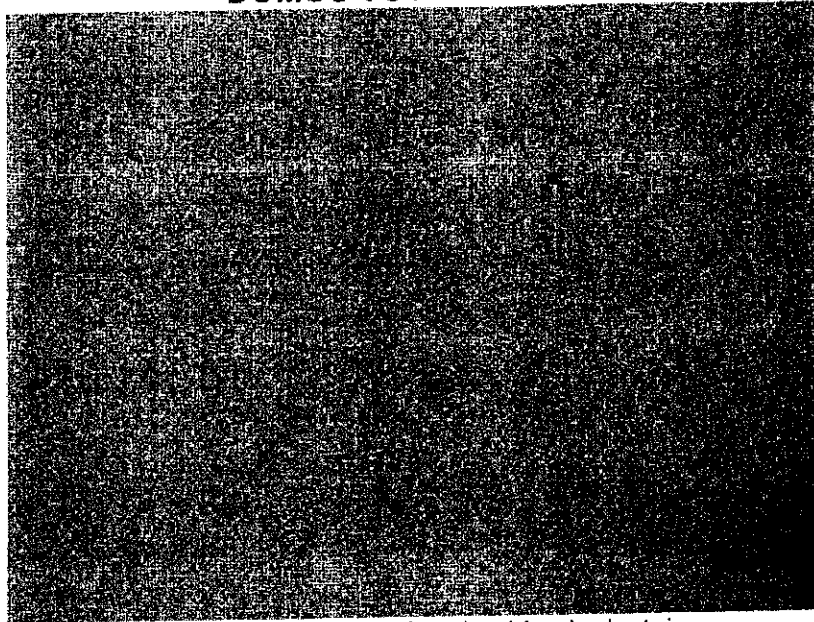


Photo 03 1053: Interior plumbing leak stain.

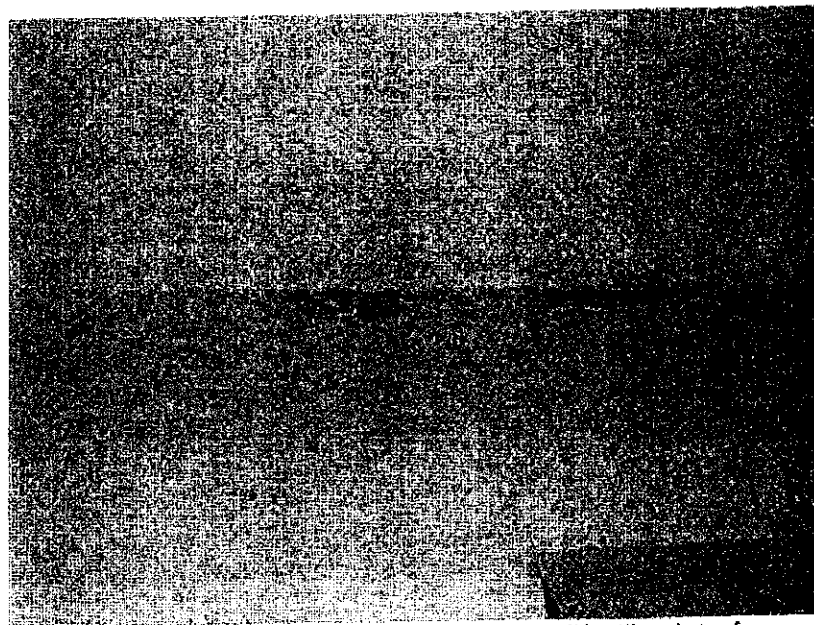


Photo 04 1063: Observed damage at wall/ceiling interface.

## DOMUS TOWNHOUSES

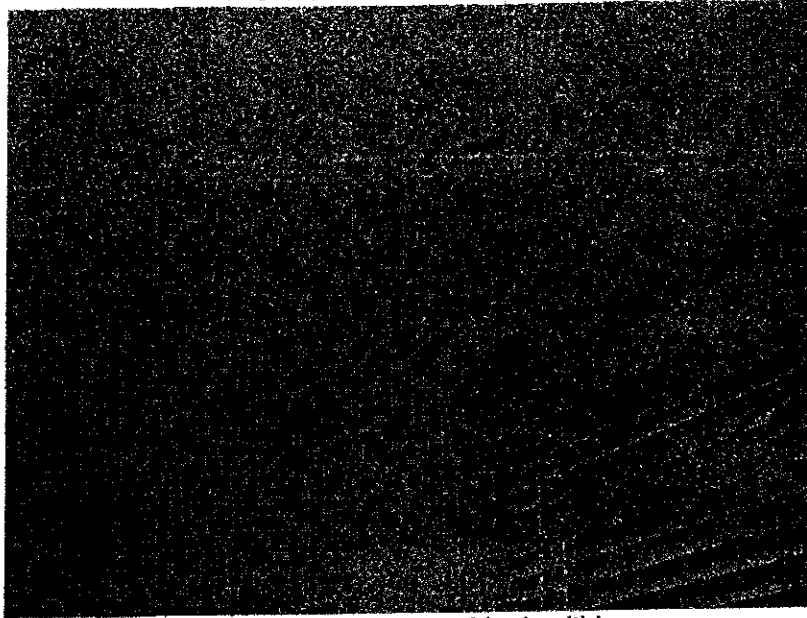


Photo 05 1063: Location of leak within room.

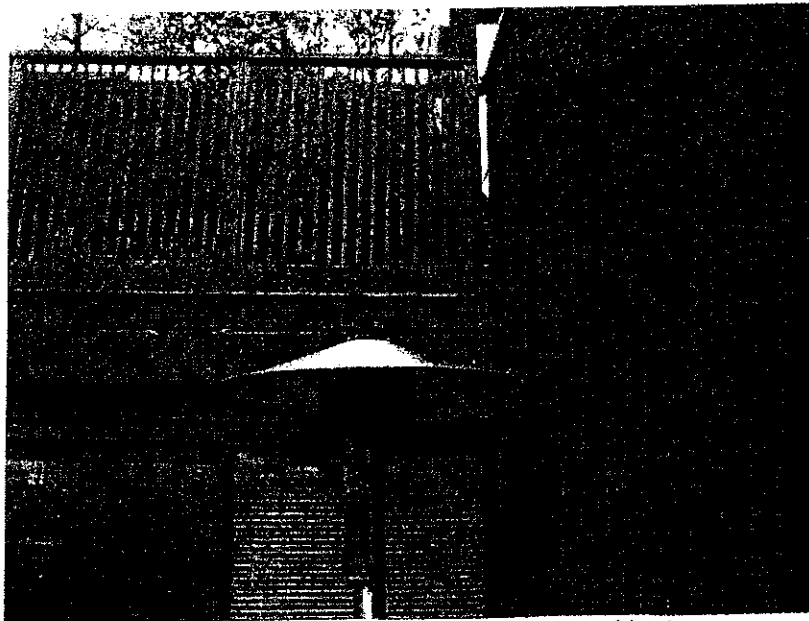


Photo 06 1063: Exterior at location of leak.

**MH**

## DOMUS TOWNHOUSES



Photo 07 1063: Walkway above location of leak.

Warranty Review Survey  
Summary of Comments  
Domus BCS528

|      | Mstr bthrm poor ventilation & mildew growth. Windows don't open                                                                                                                                        | master bath                 | Air leaks DR, K                                | a) c) h) i) M. Bath<br>b) kitchen, LR                                                                       |                       |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-----------------------|
| 300  | condensation on window & sliding door unless windows are kept open                                                                                                                                     | mildew in mstr bath & other | Den door difficult to lock                     | h) LR, Den                                                                                                  |                       |
| 301  |                                                                                                                                                                                                        |                             | patio door difficult to lock                   |                                                                                                             |                       |
| 302  |                                                                                                                                                                                                        |                             |                                                |                                                                                                             |                       |
| 303  | main bath fan always covered with dust. Window/Sliding doors very cold in fall and winter                                                                                                              |                             | LR, Mstrbdrm operating difficulties            |                                                                                                             |                       |
| 305  |                                                                                                                                                                                                        | Mildew M.Bath               |                                                |                                                                                                             | Previous leaks fixed. |
| 310  | Water pools on top of the dryer                                                                                                                                                                        | M. Bedroom                  |                                                | c) den, main bath, M bed                                                                                    |                       |
| 402  | No dryer; no parking stall                                                                                                                                                                             |                             |                                                |                                                                                                             |                       |
| 503  | M.Bath muggy; hallway ventilation poor, fans inadequate, window condensation; water damage to bathroom walls (soft) small stain on shower door. Bthrm sink water very hot, can't always get cold water |                             |                                                |                                                                                                             |                       |
| 601  |                                                                                                                                                                                                        | shower                      |                                                | e) i) LR, M.Bath                                                                                            |                       |
| 704  |                                                                                                                                                                                                        |                             |                                                |                                                                                                             |                       |
| 705  | Lots of mold and mildew at numerous locations including under carpet. Food odors from other units noticeable in M.Bath. READ COMMENTS                                                                  | LR, DR, Mbed, patio doors   | finishes deteriorated around interior of door. | c) h) LR, DR, M.Bed Rm, Other windows make loudpopping noise when temperature changes. mold Mstrbdrm window | Ceiling leak LR       |
| 802  |                                                                                                                                                                                                        |                             |                                                |                                                                                                             |                       |
| 902  |                                                                                                                                                                                                        | Mstrbdrm windows            |                                                |                                                                                                             |                       |
| 1001 | Bathroom fan makes scratchy sound                                                                                                                                                                      |                             |                                                |                                                                                                             |                       |

Warranty Review Survey  
Summary of Comments  
Domus BCS528

| Unit | Comments                                                                               | Location                                                 | Notes                                                                                     | Remarks                                        |
|------|----------------------------------------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------------------------------------|------------------------------------------------|
| 1002 | Cold wall in Mstrbrdm                                                                  |                                                          | c) M.Bd Rm - during cold weather                                                          |                                                |
| 1004 |                                                                                        |                                                          | h) LR, DR, M BED RM.                                                                      |                                                |
| 1049 | Ghosting on ceiling of Mstrbrdm                                                        |                                                          |                                                                                           |                                                |
| 1063 | water damage in bdrbm ceiling reported to Owner and Bldg Mngr in March                 |                                                          |                                                                                           | Leak reported at wall and ceiling in M.bedroom |
| 1051 |                                                                                        | needs paint                                              |                                                                                           | Leak reported at wall and ceiling in bedroom 1 |
| 1104 |                                                                                        |                                                          | waterstains in bathrooms & Mstrbrdm                                                       |                                                |
| 1106 | dryer vent needs cleaning                                                              |                                                          |                                                                                           |                                                |
| 1201 | dryer vents drips on balcony                                                           |                                                          | c) h) LR, K, Den                                                                          |                                                |
| 1306 |                                                                                        | sill cracks at the wall of solarium                      | h) LR, Bed 1, Solarium                                                                    | Main bathroom wall                             |
| 1406 |                                                                                        |                                                          | f)h) LR, Bed rm 2                                                                         | Unspecified ceiling leak                       |
| 1506 | condensation from dryer vent stains patio floor                                        |                                                          |                                                                                           |                                                |
| 1702 |                                                                                        | shower of M Bath                                         |                                                                                           |                                                |
| 2003 |                                                                                        | Interior door to suite sticks to door frame near the top |                                                                                           |                                                |
| 2101 | concerned about fitness of roof; concerned about monitoring of water ingress over time |                                                          |                                                                                           |                                                |
| 2103 |                                                                                        |                                                          | New Owner: water ingress from DR window to be repaired per sale agreement. Result unknown |                                                |
| 2203 |                                                                                        |                                                          | Page 1-2 of survey not submitted.                                                         |                                                |
| 2301 | Ceilings flaking in master bedroom                                                     |                                                          |                                                                                           |                                                |

Warranty Review Survey  
Summary of Comments  
Domus BCS528

| Unit | Comments                                                                                                                                                                            | Location | Findings                                | Recommendations                                                  |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------------------------------|------------------------------------------------------------------|
| 2401 |                                                                                                                                                                                     | balcony  |                                         |                                                                  |
| 2403 |                                                                                                                                                                                     |          | h) LR, Den, Bed rooms                   |                                                                  |
| 2501 | SEE Comments of Survey.<br>Smoking and cooking odors<br>come through from neighbor's<br>suite into master bath could not<br>sleep in Master bedroom. Design<br>or ventilation flaw? |          | air leaks and wind<br>noise M. Bed Room | Dining room wall and ceiling leak<br>Burst pipes in storage room |
| 2601 | SEE Comments on survey.<br>Previous leaks remain of concern<br>to this Owner                                                                                                        |          | e) LR, DR, kitchen, Bed2                | Ceiling leaks LR, DR, kitchen, den                               |
| 2603 | btirms steam up after showers.<br>Dust buildup around exterior<br>dryer vents; Not sufficient air<br>flow to units.                                                                 |          | cracks on edges of<br>window sills      |                                                                  |

Window Legend (from survey, section 3)

- a) water leaks
- b) air leaks
- c) condensation
- d) broken glass
- e) difficulty closing/locking
- f) misalignment
- g) wind noise
- h) deteriorated finishes