July 2006

Common Area Building Survey Report

Of

Levels Basement – Roof (parts of three private lots)

North Sydney

For

The Owners Corporation
Strata Plan No XYZ5X

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PART 1 REPORT INDEX

Table Of Contents:

LEGEND 3
PROPERTY DIRECTION 3
ABBREVIATIONS/ EXPLANATIONS LEGEND 3
INTRODUCTION 4
PRIORITISED SUMMARY OF DEFECTS / ADVICE ISSUES 5
PRIMARY REPAIRS/ ISSUES (not in priority order listing) 5
SECONDARY REPAIRS/ ADVICE ISSUES 6
1.0 Basement LEVEL 7

1.0 Basement - Photos 11

2.0 S.E Fire Stairwell 20

2.0 S.E Fire Stairwell Photos 21

3.0 G.F Lift Lobby & Main Entry 22
3.0 G.F Lift Lobby & Main Entry Photos 24

4.0 Lift Lobbies Level 1 - 3rd Flr LEVEL 28
4.0 Lift Lobbies Level 1 - 3rd Flr LEVEL Photos 31

5.0 Internal Units 302, 107 & 301 34
5.0 Internal Units 302, 107 & 301 Photos 39

6.0 External Elevations – Basement – 4th Flr LEVEL 49
6.0 External Elevations & Roof Photos 52

7.0 CONCLUSION 60

LEGEND

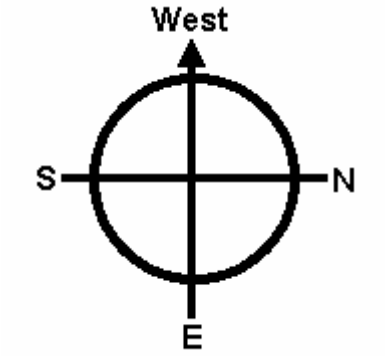
Poor = Inferior and in most cases requires significant repair / replacement.
Fair = Moderately good and in most cases either minor or smaller repairs will suffice
Good = Most advantageous, dose not require further work.

The **weather** just prior to and/ or during our inspections was;

Dry Sunny Light Showers ☑Raining

PROPERTY DIRECTION

The Miller St frontage of the property faces:



ABBREVIATIONS/ EXPLANATIONS LEGEND

A.C.	= Asbestos Cement	**H/wd**	= Hardwood
A/C	= Air Conditioner	**H.W.S.**	= Hot Water Service
AL	= Aluminium	**L.H.S.**	= Left Hand Side
Br/Wk	= Brickwork	**L.m.**	= Linear Metre
Co-ax	= Coaxial Cable	**M.D.F.**	= Medium Density Fibreboard
BCA	**=** Building Code Of Australia	**M.C.**	**=** moisture content (expressed as %)
C.I.	= Cast Iron	**M**	= Metre
C/W	= Cold Water	**m^2**	= Square Metre
D/P	= Down Pipe	**mm**	= Millimetre
D.P.C.	= Damp Proof Course	**P/Brd**	= Plaster Board
D/W	= Dishwasher	**Perps**	= Perpends
E.L.C.B.	= Earth Leakage Circuit Breaker	**R.C.D.**	= Residual Current Device
F.C.	= Fibre Cement		
FIB	= Fire Indicator Board	**R.H.S.**	= Right Hand Side or Rolled Hollow Section.
F.R.L	= Fire Resistance Level		
F.F.L.	= Finished Floor Level /Line	**S.C.**	= Solid Core
F.R.	= Fire Rated/ Resistance	**S.H.S.**	= Square Hollow Section
F.W.	= Floor Waste	**S.t.**	= steel trowel
G.I.	= Galvanised Iron	**S/W**	= Stormwater
G.P.O.	= General Purpose Outlet	**W/M**	= Washing Machine
G.F.	= Ground Floor. (**L.G.F**) = Lower Ground	**W/P**	= Waterproof
H.C.	= Hollow Core	**P.V.C.**	= Poly Vinyl Chloride
H /W	= Hot Water	**F.I.B.**	**=** Fire Indicator Board

INTRODUCTION

As per my 16.5.06 fee proposal we have undertaken and completed a detailed building survey of the accessible ***common areas*** (and within three private lots), for the client ***Owners Corporation of SP No XYZ5X***.

This building inspection report complies with ***AS 4349.1*** (Inspection of buildings - residential) and is based on the inspection of accessible and visible structures only and does not include the condition of inaccessible or concealed areas of buildings, nor the existence of pests or asbestos.

The report does not include specific reviews of the fire safety, mechanical, hydraulic, lift, electrical services and most structural and acoustic elements however I have nonetheless made some basic overviews and recommendations of some of these services.

No responsibility can be accepted for defects, which are latent or otherwise not reasonably detected on a visual inspection without interference with or removal of the structures, coverings or fittings of the building. I have not inspected woodwork on other parts of the structure which are covered, unexposed or inaccessible and we are therefore unable to report that any such part of the structure is free from defect. I have not inspected commercial spaces within the building or the basement level.

I referenced the builder supplied (to owners) handover documents which include certification and waterproofing warranty documents, however we were unable to obtain any project specification.

I undertook two inspections during June & July 2006 - commencing from basement level upwards. The weather on the first inspection date 5.6.06 was continuance rain and was dry and sunny during the inspection of the building external façade on 9.7.06.

I have not been made aware of the terms of the parties contract pertaining to the property however our overview relies on industry accepted ***good building practice***, the BCA and A.S. minimum requirements.

The summary of 'essential and non major repairs' at the front of this report is ***not a definitive listing of all major and non major repairs*** as the *whole of this report must be read* to fully determine same. I have attempted to list the various repairs in order of priority as requested by the chairman.

PRIORITISED SUMMARY OF DEFECTS / ADVICE ISSUES

PRIMARY REPAIRS/ ISSUES (not in priority order listing)

1. **Fire Safety Services*;*** recommend appointment of a fire engineer, to more comprehensively inspect the fire safety services, including ***wall and slab penetrations*** and determine ***timber flooring*** F.R.L acceptability, as noted. Rectification on non complying ***fire doors*** including, correct F.R.L tagging of doors, installation of rubber buffers, rectification of unacceptable gaps and/ or door warpage, so that compliance with **AS 1905.1 1997** is achieved. Removal of ***builder's debris*** from some service cupboard enclosures.
   Noted potentially non complying (for STC or Rw) ***unit separating wall*** penetration issues are likely to be rectified as part of fire safety services repairs.
2. **Unit 302 West balcony *balustrade rectification*** for compliance with the BCA as noted. Recommend other similarly built balcony balustrades also be checked for compliance and that this issue be taken up with Council and/or the Principal Certifying Authority (PCA).
3. **Unit 302 Bathroom** repairs as noted including ***leaking shower area.*** Suggest other showers be inspected for similar leaks e.g. refer ***Photo No43***.
4. I recommend Owners Corporation to undertake independent ***dye flood testing*** and reporting on noted seemingly defective balconies (waterproof membranes) and then the issue be taken up with the builder for rectification.
5. **Unit 302 noted balcony repairs** for leakages into eaves and weather fascia as noted
6. **Miscellaneous Maintenance**; ***remedial works*** required to ***G.F rear passage way,*** behind commercial premises, including rectification of ***floor potential trip*** edge as noted.
7. **Leakages & Damp;** Potentially ***significant damp remedial works required*** to ***falling damp/ leakages*** beneath ***G.F eastern balconies***, into garbage rooms and over head of Garage entry hall wall and damp/ leaking basement ***retaining wall/s*** and as noted. Review/ rectify potentially ***inadequate drainage*** on above noted balconies.
8. **Unit 107**; Rectify ***falling damp*** in balcony slab soffit and ***defectively drummy*** and cracked render.
9. **External Facade**; Potentially ***significant remedial works required*** to offset ***moisture ingress behind protective external paint film*** of the external facade walls, by sealing cracks and replacing drummy render, which had only be done after rectification of the above noted drummy render.
10. Recommend flood testing (for potential leaks) small ***flat membrane roof*** as noted in ***Photo No 68***
11. **Doors**; Paint sealing top and bottom edges of some internal doors (including fire doors) in accordance with manufacturers warranty requirements.
    Various noted damaged door replacements and miscellaneous door hardware repairs.
12. **Unit 302** internal and remaining noted repairs.
13. Suggest the Owners Corporation engaged a structural engineer to look at and report on noted cracking to the ***SE lower height retaining wall***.

SECONDARY REPAIRS/ ADVICE ISSUES

1. **Warranty Provision;** Vendor to provide ***external paint film warranty***.
2. **Unit 302** internal repairs as noted including Study, Sitting Rm and Dinning Rm.
3. **Internal Painting**; noted painting/ plaster patching (including noted lift lobby). This excludes paint sealing top and bottom of doors.
4. Consider relocating Penthouse shade sail supports if they are found to be contributing to balustrade wall cracking.

1.0 Basement LEVEL

1.1 General Comments & Requirements

Comments:

The basement is the lowest floor inspected in the building and essentially incorporates private lot car parking spaces, many of which incorporate garage doors and enclosing walls and were locked at the time of inspection. Basement level also includes two garbage rooms, bicycles storage room, cleaners room, lift lobby, common area W.C., main switch room.

1.2 Note: Doors; **Door manufacturer** (of both fire and standard doors), state in their ***conditional warranty*** requirements that all their doors "***must receive two coats of paint" or sealer,*** including "***the top and bottom edges"***, "prior to hanging".
A similar sealing requirement is stated for their fire doors.
This requirement is to prevent excessive moisture gain, which can cause warpage and cupping.
Most manufacturers warrant to replace doors (up to 2100mm high) where **warpage is >5mm** but only when their requirements are met.

We refer you to the enclosed sample 'Corinthian 'door guarantee within **Annexure No 1**.

A.S 2689 1984 ~ (Timber Door Sets) allows a ***maximum gap*** between door and jamb of ***3mm*** all round with 8 -10 mm @ base unless undercut for ventilation.

1.3 Note: Fire Door Installation Requirements; The fire door sets have been tag certified by the installation contractor to comply with the minimum requirements of **A.S 1905.1 1997**.

In order that compliance with this minimum Standard is achieved, the following (not limited to) are required;

* Fire door & frame are to be separately tagged noting the specific Fire Resistance Level (F.R.L)
* Fire door frames are to be solid grouted (full perimeter).
* Rubber door buffers are to be installed on the door frames.
* Automatic door closers are required and must fully close the door.
* Gaps at base of doors cannot be ***>10mm*** and perimeter gaps cannot exceed maximum **3mm**. Refer ***Annexure No1*** **A.S 1905.1 1997 extract**.

N.B* Refer example Photo A of a fire door FRL tag

1.4 Note: Floor Slabs & Penetrations; We are not fire engineers and **recommend** that a fire engineer be appointed by the O.C to inspect this important service however we understand the various floors that separate one area from another (horizontal separation) are essentially required to achieve a specified Fire Resistant Level (F.R.L).
In order to do so all penetrations are typically required to be thoroughly sealed using approved fire resistant grout or fire pillows unless they are located within a fire isolated compartment.
It is good practice to provide some fire stopping at floor levels in addition to the fire enclosure.

1.5 Note: Separating Walls & Penetrations; We are not fire engineers and understand the various walls that separate one area from another (vertical separation) are essentially required to achieve a specified F.R.L.
In order to do so the walls are required to be continuous from slab to underside of slab and all penetrations should be adequately sealed using approved fire resistant grout, sealant or fire pillows.

1.7 Basement Level Common Area Comments Observations

1.8 Basement carpark roof slab soffit;

Comments and Noted Defects; we are not fire engineers however it appears that there are numerous service ***pipe penetrations*** within the basement slab soffit, which do not appear to have been adequately sealed for F. R. L. as follows;

Refer example Photo No1 at the end of car space No 304.

Refer example Photo No2 at the end of car space No 105, which has been sealed with cardboard.
50 mm diameter waste pipe over Main garage entry

Refer example Photo No3 of various redundant 20mm diameter penetrations at the southern end of car space No 305.

Various electrical cable penetrations through roof slab and southern end of car space No 205

Large mechanical ***ventilation duct penetration*** in slab soffit opposite basement lift lobby– ***Refer example Photo No4***.

100 mm diameter ***PVC pipe penetration*** in slab soffit opposite basement lift lobby – ***Refer example Photo No5***.

Multiple ***electrical cable penetrations*** in slab soffit over car space No 302— ***Refer example Photo No6.***

Copper water pipe penetration in slab soffit outside main switch room— ***Refer example Photo No7.***

Various ***A/C condensate and service lines*** in slab soffit adjacent to lift—***Refer example Photo No8***

Large roof slab penetration at southern end of car space 102

Large roof slab penetration (partly foam filled) at southern end of car space 202. —***Refer example Photo No9***

Recommendations; I **recommend** that a fire engineer be engaged to comment further on the adequacy of vertical and horizontal fire separation and provide recommendations.

1.9 Basement car park separating walls;

Comments and Noted Defects; we are not fire engineers however it appears that there are numerous service ***pipe penetrations*** within many of the basement separating walls, which do not appear to have been adequately sealed for F. R. L. as follows;

Refer example Photo No10 of various ***electrical cable penetrations*** in the upper separating wall at the southern end of car space No 304.

Various 50 mm diameter c***opper pipe penetrations*** in the upper separating wall at the southern end of car space 106 – ***Refer example Photo No11***.

Large mechanical ***ventilation duct penetration*** in the upper separating wall at the southern end of car space 106 – ***Refer example Photo No12***.

Various ***pipe penetrations*** through the upper southern separating wall of car space No 205 (locked at time of inspection).

Refer example Photo No13 of various ***electrical cable penetrations*** in the upper separating wall at the northern end of car space No 102.

Recommendations; I **recommend** that a fire engineer being engaged to comment further on the adequacy of vertical and horizontal fire separation issues.

1.10 Basement Damp and Water Penetration;

Noted Defects; 100mm diameter pipe at western end of car space ***No 207*** is significantly ***leaking Refer example Photos No14 & 14a***.

Recommendations; In my professional opinion said leak is most likely associated with a failure in the waterproof membrane directly around the stormwater pipe on the Level above and which requires rectification.

Refer Photo No15 of ***moisture related paint film delamination*** in the lower northern ***retaining wall*** (at the end of car space No ***105***) which was moisture meter tested and revealed ***high damp.***

Recommendations In my professional opinion said damp is likely to be caused by a failure in the external waterproof membrane of the retaining wall and which requires rectification.

Refer Photo Nos16,16a, of ***significant leaks*** in and around two ***pipe penetrations*** in the ***upper western basement*** **retaining wall** (beneath Miller St frontage), which has lead to moisture related efflorescence and paint film bubbling – ***Refer example Photo No17.***
There is evidence of prior failed patch remedial works to the pipe penetrations.
Moisture meter testing of the adjacent wall revealed high damp.

This area incorporates a suspended ***gypsum plaster ceiling***, which I presume accommodates concealed services.
The ceiling was moisture meter tested and the majority of area was ***saturated*** and has very significant moisture related damage – ***Refer Photo No18 &18a.***
The high damp extends well back into the ceiling area at least up to the smoke detector location.

Recommendations; in my professional opinion it is likely that another service pipe (concealed in the space above) is leaking onto the ceiling.
I **recommend** that a ceiling access trap (approximately 400mm by 400mm) be installed and the void further inspected.
I **recommend** that the cause moisture entry be rectified and that this might be possible through epoxy injection. Upon completion of moisture entry prevention I **recommend** that the damaged ceiling be replaced

1.11 Carpark main entry & Garbage rooms;

Comments; the carpark main entry and both garbage rooms are located beneath G.F external balconies and are fully enclosed. I'm advised by the OC chair that the builder has recently undertaken some remedial works to the two balconies above the garbage rooms, which included sealant filling the perimeter balustrade wall/ floor joints.
New white sealant can be seen in the ***example Photos No19 & 19a of both these balconies.***
Additionally there was evidence of the very ***significant ponding*** occurring (***Refer example Photo No22)*** on both the balconies not least of which because they only incorporate a small 50mm central drain – ***Refer example Photo No20 &21.***

Noted Defects; **Northern garbage** room was inspected and ***a significantly leak*** was apparent in and around 50mm stormwater drain pipe (serving balcony above) – ***Refer example photo No23***
Refer example Photo No24, which show very significant moisture staining in the slab soffit, which when moisture meter testing indicated very high moisture content.
Evidence of very significant moisture staining and efflorescence in the upper external wall, which when moisture meter tested recorded very high moisture content.

Carpark entry slab soffit was inspected – ***Refer example Photos No25*** showing calcification stalactites, which have occurred as a result of long-term moisture gain in slab soffit over together with ***water flow***.
Refer example Photos No25a showing moisture related staining of the internal slab soffit edge.

Southern garbage room was inspected – ***Refer example Photos No26 &27*** which show very significant moisture staining in the slab soffit both at the internal and external edges, which when moisture meter tested recorded very high moisture content.
Refer example Photos No28 &28a, which show very significant moisture staining and efflorescence in and lower the upper external wall, which when moisture meter tested recorded very high moisture content.

Recommendations; in my professional opinion I consider that the waterproof membranes of both G.F balconies (over garbage rooms & carpark entry) are defective and require rectification.
It is likely that the inadequate balcony tiling falls (by way of ponding) is also contributory to the problem.

I **recommend** that these balconies be dye flood tested and the location of leaks determined.
Upon determination I **recommend** reinstatement of the waterproof membrane and improving the balcony tile falls.

1.11 Lift Motor Rm;

Noted Defects; entry fire door\frame have been F. R. L. tagged however the door frame does not incorporate ***rubber buffers***, which is not in compliance with A.S. 1905.1 (1997)

Recommendations; I **recommend** installation of rubber door frame buffers.

1.12 Bicycle Store;

Noted Defects; entry fire door to same does not incorporate any F.R.L tagging, which is not compliant with A.S. 1905.1 (1997).

The slab soffit over same has evidence of prior moisture leaks (evidence by calcification staining) and prior epoxy injection remedial works. Moisture meter testing of the roof slab revealed normal readings.

Recommendations; I **recommend** tagging of entry fire door.

1.14 Cleaners room;

Noted Defects; entry fire door to same incorporates F.R.L tagging however the door frame does not incorporate ***rubber buffers***, which is not in compliance with A.S. 1905.1 (1997).

Recommendations; I **recommend** installation of rubber door frame buffers.

.

1.15 Pump Rm;

Noted Defects; entry fire door leaf incorporates F.R.L tagging however the ***door frame*** does not, which is not in compliance with A.S. 1905.1 (1997).

Large mechanical ***ventilation duct penetration*** in upper northern separating wall has not been adequately sealed for F.R.L– ***Refer example Photo No30***.

100 mm diameter ***pipe penetration*** in slab soffit has not been adequately sealed for F.R.L...

The slab soffit over same as evidence of prior moisture leaks (evidence by calcification staining) and prior epoxy injection remedial works. Moisture meter testing of the roof slab revealed normal readings. — ***Refer example Photo No31.***

Recommendations; I **recommend** that a fire engineer being engaged to comment further on the adequacy of vertical and horizontal fire separation issues.

1.0 Basement - Photos

Photo No 1

Photo No 2

Photo No 3

Photo No 4

Photo No 5

Photo No 6

Photo No 7

Photo No 8

Photo No 9

Photo No 10

Photo No 11

Photo No 12

Photo No 13

Photo No 14

Photo No 14A

Photo No 15

Photo No 16

Photo No 16A

Photo No 17

Photo No 18

Photo No 18A

Photo No 19

Photo No 19A

Photo No 20

Photo No 21

Photo No 22

Photo No 23

Photo No 24

Photo No 25

Photo No 25A

Photo No 26

Photo No 27

Photo No 28

Photo No 28A

Photo No 30

Photo No 31

2.0 S.E Fire Stairwell

Fire Stairwell Observations

2.1 Comments:

This is a fire isolated emergency exit stair servicing all floors and exiting at basement level.
All door levels are separately keyed and are fire doors.

2.2 Fire stair well;

Noted Defects; ***Refer Photos No32*** showing evidence of ***moisture related efflorescence and damp*** staining in the ***lower southern external wall*** between basement and G.F Level.
Moisture meter testing of this area revealed moderately high spot damp readings.
It is possible that the noted damp could be as a result of a defective external flashing.

Level 2 fire stair well fire door; ***Refer example Photo No33*** showing that the gap at the base of this fire door exceeds 15mm, which is not compliant with A.S. 1905.1 (1997), which permits the maximum gap at 10 mm

Level 1 fire stair well fire door frame does not incorporate any rubber buffers and therefore is not compliant with A.S. 1905.1 (1997).
The lower internal face of this door has a ***>5mm warp i***n same and in my professional opinion is therefore defective.

Recommendations; I **recommend** builder inspect, test and rectify any moisture entry and damaged paint film.

I **recommend** that the gap below Level 2 fire door be reduced to a maximum 10mm.

I **recommend** that rubber buffers be installed to the Level 1 fire door frame and that the defectively warped door leaf be replaced.

2.0 S.E Fire Stairwell Photos

Photo No 32

Photo No 33

3.0 G.F Lift Lobby & Main Entry

G.F Lift Lobby Observations

3.1 G.F Lift Lobby Main Entry & Commercial Area;

Comments: the Ground floor comprises the main entry lobby, lift lobby entry to various units and the emergency exit from commercial spaces, together with public W.C.

The various lift lobbies incorporate fire hose reel (FHR) cupboard and an electrical communication covered. The lobby ceilings incorporate a number of access traps all of which were opened and the ceiling voids above and upper unit separating walls inspected, where accessible.

3.2 Ceiling access traps and upper Unit Separating walls,

Comments: the various ceiling access traps were opened and where possible upper sections of unit separating walls were inspected.
We're not fire or acoustic engineers and provide the following comments as a guide only to possible deficiencies in the fire safety services and acoustic attenuation of unit separating walls.

Noted Defects; upper section of ***unit separating walls*** over units ***G. 01, G. 02 & G. 03*** entry were inspected and had evidence of various ***service pipe, mech ventilation and/or cable penetrations***, which did not appear to have been adequately sealed for F. R. L. & S.T.C (or Rw). ***Refer example Photos No 34- 37***.

The lack of adequate sealing may compromise the SRL and STC ratings of these walls.

A significant area of the lobby ceiling has been recently plaster set and requires sanding back and complete uniform repainting - ***Refer example Photo No38***.

Recommendations; I **recommend** that a fire engineer be engaged to comment further on the adequacy of vertical and horizontal fire separation issues.

I recommend that the ceiling be sanded and uniformly repainted

3.3 G.F Service Cupboards

Comments: we're not fire engineers and provide the following comments as a guide only to possible deficiencies in the fire safety services.

FHR cupboard;

Noted Defects; various service pipe penetrations in upper separating walls did not appear to have been adequately sealed for F. R. L. - ***Refer example Photo No39, 39a, 39b***.

The ***ceiling*** of this enclosure appears to have been constructed from timber based particle board flooring and it might be possible that this does not provide sufficient F.R.L. – ***Refer example Photo No40***.

Electrical communication cupboard;

Noted Defects; the ***ceiling*** of this enclosure appears to have been constructed from part fibre cement and part timber based particle board flooring – ***Refer example Photo No40***.
It might be possible that this does not provide sufficient F.R.L.

Various service pipe penetrations in upper separating walls did not appear to have been adequately sealed for F. R. L. - ***Refer example Photos No39-39b***.

Recommendations; I **recommend** that a fire engineer be engaged to comment further on the adequacy of vertical and horizontal fire separation issues.

3.4 Main Entry Stair & Ramp,

Noted Defects; evidence of moisture entry tracking across external column moulding and depositing onto northern side of entry steps, which could promote a slippery surface. ***Refer example Photos No41 & 41a***.

Recommendations; I **recommend** that a water stop be installed across the top of moulding to prevent rainwater tracking onto entry stairs.

3.5 Emergency Exit & Public W.C (rear commercial spaces),

Comments: an emergency exit corridor is provided that the rear of G.F commercial spaces and also incorporates a male and female W.C. We're not fire engineers and provide the following comments as a guide only to possible deficiencies in the fire safety services.

I did not inspect within the private lots of any of the commercial spaces.

Noted Defects; the fire door at entry to fire isolated passageway does not incorporate any F. R. L. tagging and rubber buffers are missing.

Refer example Photo No42 showing ***broken and dislodged floor tiles*** in this corridor, which could present a trip hazard and place the O.C public liability at risk.

Recommendations; I **recommend** that a fire engineer be engaged to comment further on the adequacy of vertical and horizontal fire separation issues.

I **recommend** that the noted broken tiles be reinstated to provide a smooth uniform finish.

3.6 Male W.C,

Noted Defects recorded.

3.7 Female W.C,

Noted Defects; ***Refer example Photo No43*** evidence of prior moisture damage to the underside of structural sheet flooring (around a floor waste) in the floor over the space.
I'm unable to accurately determine this defect but it is likely related to a wet area of the unit above

Recommendation; I **recommend** that the wet area of the unit above the fight tested to determine if a leak is current.

3.0 G.F Lift Lobby & Main Entry Photos

Photo No 34

Photo No 35

Photo No 36

Photo No 37

Photo No 38

Photo No 39

Photo No 39A

Photo No 39B

Photo No 40

Photo No 41

Photo No 41A

Photo No 42

Photo No 43

4.0 Lift Lobbies Level 1 - 3rd Flr LEVEL

G.F Lift Lobby Observations

4.1 Lift Lobbies;

Comments: the various floors comprise a lift lobby and entry area entry to units.
The lift lobbies incorporate fire hose reel (FHR) cupboard and an electrical communication cupboard. The lobby ceilings incorporate a number of access traps all of which were opened and the ceiling voids above and upper unit separating walls inspected, where accessible.

The penthouse Level 4 was not accessible for inspection

Noted Defects; evidence of significant movement noted within the structural sheet flooring (beneath carpet) particularly around lift lobby area and which is indicative of inadequate fixings within the flooring.

Recommendations; I **recommend** additional fixings being installed to the structural sheet flooring to make it secure.

4.2 Level 1 Ceiling access traps and upper Unit Separating walls,

Comments: the various ceiling access traps were opened and where possible upper sections of unit separating walls were inspected.
We're not fire or acoustic engineers and provide the following comments as a guide only to possible deficiencies in the fire safety services and acoustic attenuation of unit separating walls.

Noted Defects; upper section of ***unit separating walls*** over unit ***107,*** entry were inspected and had evidence of various ***service pipe, mech ventilation and/or cable penetrations***, which did not appear to have been adequately sealed for F. R. L. & S.T.C (or Rw). ***Refer example Photos No44***.

The lack of adequate sealing may compromise the SRL and STC ratings of this wall.

A significant area of the lobby ceiling has been recently plaster set and requires sanding back and complete uniform repainting - ***Refer example Photo No45***.

Recommendations; I **recommend** that a fire engineer be engaged to comment further on the adequacy of vertical and horizontal fire separation issues.

I **recommend** that the ceiling be sanded and uniformly repainted

4.3 Level 1 Service Cupboards

Comments: we're not fire engineers and provide the following comments as a guide only to possible deficiencies in the fire safety services. The serviced cupboard ceilings on this level have been constructed from concrete.

FHR cupboard;

Noted Defects; some of the service pipe penetrations in the slab soffit have been inappropriately sealed using expanding polyurethane foam, which may compromise the F. R. L. - ***Refer example Photo No46***.
A seemingly sewer pipe penetration in the ***floor slab*** does not appear to have been adequately sealed for F. R. L. - ***Refer example Photo No47***.

Recommendations; I **recommend** that a fire engineer be engaged to comment further on the adequacy of vertical and horizontal fire separation issues.

Electrical communication cupboard;

Noted Defects; the ***service cupboard doors*** do not incorporate any FRL tagging and in my professional opinion I consider that they are likely to be required to be fire rated doors.

Significant quantities of ***builder debris*** sitting on floor should be removed.

Recommendations; I **recommend** that a fire engineer be engaged to comment further on the adequacy of vertical and horizontal fire separation issues and whether the electrical communication cupboard doors are required to be fire rated and tagged.

4.4 Level 2 Ceiling access traps and upper Unit Separating walls,

Comments: the various ceiling access traps were opened and where possible upper sections of unit separating walls were inspected.
We're not fire or acoustic engineers and provide the following comments as a guide only to possible deficiencies in the fire safety services and acoustic attenuation of unit separating walls.

Noted Defects; upper section of ***unit separating walls*** over unit ***201 entry*** does not appear to be continuous to the underside of the slab soffit- ***Refer example Photos No48 &49.***
The lack of a continuous separating wall may significantly compromise the SRL and STC rating of same.
Upper section of ***unit separating walls*** over unit ***202 entry*** has evidence of and inadequately sealed ***service pipe penetrations (adjacent to sewer the trap)***, which may significantly compromise the F. R. L. & S.T.C (or Rw) of same. ***Refer example Photos No50***.

Recommendations; I **recommend** that a fire engineer be engaged to comment further on the adequacy of vertical and horizontal fire separation issues.

I recommend that the ceiling be sanded and uniformly repainted

4.5 Level 2 Service Cupboards

Comments: we're not fire engineers and provide the following comments as a guide only to possible deficiencies in the fire safety services. The serviced cupboard ceilings on this level have been constructed from concrete.

FHR cupboard;

No notable defects recorded.

Electrical communication cupboard;

Noted Defects; the ***door lock*** was defective and I was unable to open and inspect this area.

Recommendations; I **recommend** that the defective door lock be rectified.

4.6 Level 3 Ceiling access traps and upper Unit Separating walls,

Comments: the various ceiling access traps were opened and where possible upper sections of unit separating walls were inspected.
We're not fire or acoustic engineers and provide the following comments as a guide only to possible deficiencies in the fire safety services and acoustic attenuation of unit separating walls.

Noted Defects; upper section of ***unit separating walls*** over units ***302*** & ***305*** entry were inspected and had evidence of various ***service pipe, mech ventilation and/or cable penetrations***, which did not appear to have been adequately sealed for F. R. L. & S.T.C (or Rw) including orange electrical cables.

The lack of adequate sealing may compromise the FRL and STC ratings of these walls.

Recommendations; I **recommend** that a fire engineer be engaged to comment further on the adequacy of vertical and horizontal fire separation issues.

I recommend that the ceiling be sanded and uniformly repainted

4.7 Level 3 Service Cupboards

Comments: we're not fire engineers and provide the following comments as a guide only to possible deficiencies in the fire safety services.

FHR cupboard;

Noted Defects; The ***western enclosing wall*** is not continuous up to the underside of slab soffit and there are various ***service pipe penetrations*** through same and slab soffit, have not been adequately sealed– ***Refer example Photo No51*** .

Recommendations; I **recommend** that a fire engineer be engaged to comment further on the adequacy of vertical and horizontal fire separation issues.

Electrical communication cupboard;

Noted Defects; The ***western enclosing wall*** is not continuous up to the underside of slab soffit and there are various ***service pipe penetrations*** through same, which have not been adequately sealed– ***Refer example Photo No52 &53*** .
It is quite possible that this does not provide sufficient F.R.L.
The ***service cupboard doors*** do not incorporate any F.R.L tagging and in my professional opinion I consider that they are likely to be required to be fire rated doors.

Recommendations; I **recommend** that a fire engineer be engaged to comment further on the adequacy of vertical and horizontal fire separation issues and whether the electrical communication cupboard doors are required to be fire rated and tagged.

4.0 Lift Lobbies Level 1 - 3rd Flr LEVEL Photos

Photo No 44

Photo No 45

Photo No 46

Photo No 47

Photo No 48

Photo No 49

Photo No 50

Photo No 51

Photo No 52

Photo No 53

5.0 Internal Units 302, 107 & 301

Unit 302 & 107 Internal Observations

5.1 Comments:

I inspected part of the internal and both balconies of Unit 302, the balcony of Unit 107 and western balcony of unit 301 as part of this report.

5.2 Unit 302 Sitting Rm/ Dining/ Study

Noted Defects; ***Refer Photo No54*** showing evidence of prior moisture related swelling in the **Sitting Rm** ***MDF skirting*** below external sliding door, which the owner-advised me occurred due to previous water entry from the outside (builder rectified) however the builder has never replaced the moisture damaged skirting

Refer Photo No55 showing peaking in ***Dining Rm carpet*** which in my opinion has occurred due to lack of leveling of the structural sheet flooring beneath and is causing accelerated wear in the carpet. There was further evidence of inadequate floor fixings as movement in the flooring was apparent in this area also.

Refer Photo No56 showing evidence of prior moisture related damage to the ***Study window*** sill reveal, which the owner-advised me occurred due to previous water entry from the outside (builder rectified) however the builder has never rectified the moisture damaged paint.

Recommendations; I **recommend** that moisture effected MDF skirting be replaced and re painted.

I **recommend** that the flooring joints beneath peaking carpet be sanded so that a smooth flush finish is achieved and that additional floor fixings be installed to prevent floor movement.

I **recommend** that moisture effected Study window sill reveal paint finish be reinstated.

5.3 Unit 302 North Balcony;

Noted Defects;

Refer example Photo No57 showing evidence of with ***moisture related*** paint film delamination on the ***eaves lining***, possibly associated with water entry from the roof over.

Refer example Photo No58 & 59 showing evidence of moisture related paint film deterioration of a Sitting Rm ***timber trim and exposed fascia***, which I consider has occurred due to poor detailing of a drip edge and lack of adequate protection.

No 2 off ***paver's*** rubber supports have displaced and resulted in paver's movement.

Evidence of minor to ***moderate horizontal cracking*** in the external render and protective paint-film, which is likely, is allowing moisture in behind the paint-film, ***Refer example Photo No60***.

The ***Penthouse external balustrade*** masonry wall was partially inspected from this balcony and it was apparent that there were multiple minor to moderate cracks in the balustrade hob and protective paint film, which are likely to be allowing water entry in behind the protective paint film and has led to render delamination and dislodgement in some instances - ***Refer example Photos No 61-62& 63***

Recommendations; I **recommend** that all the external cracks are sealed and the protective paint film reinstated.

I **recommend** that the source of moisture entry (in metal roof) be determined, rectified and the moisture effected paint film of eaves lining be re instated.

I **recommend** installation of a colorbond capping over the entire exposed Sitting Rm fascia to protect exposed timbers.

I **recommend** reinstatement of pavers rubber supports so that the effected pavers sit flush and securely.

5.4 Unit 302 West Balcony;

Noted Balcony Balustrade Defects; ***Refer example Photos No63 & 63a showing*** the ***balustrade hob and balustrade,*** which shows a lower rendered brick balustrade type wall having a height of ***<500mm*** (above balcony FFL and as measured in three separate locations) and incorporating a horizontal ledge, with an aluminium balustrade handrail atop this.
Refer example Photo No64 showing the ***overall balcony balustrade height as being <1000mm*** at the northern end.

The balcony floor is more than 4 m above the surface beneath, namely Miller St.
This type of balustrade construction appears to be similar in type as for some other units however I did not measure any other unit handrails.

I consider that the above noted balcony handrail falls under the requirements of **BCA Part 1 Clause 2.16 Balustrades or other Barriers**
(a) a continuous balustrade or other barrier must be provided along the side of ….. a balcony if
(i) it is not bounded by a wall **(ii)** its level above the surface beneath, is more than **(B)** 1m in any other case
(f) The height of a balustrade or any other barrier must be constructed in accordance with the following;
(ii) (A) the height is not less than 1m above the floor of any access path, balcony…..
g (ii) (B) for floors more than 4 m above the surface beneath, any horizontal or near horizontal elements between 150 mm and 760 mm above the floor must not facilitate climbing.

I am advised by DIPNR that the specific BCA requirements of subclause **g (ii) (B)** came into effect under Amendment No 3 of the BCA which was instituted on **1.7.98** and that such requirements were deemed necessary at the date of Building Approval or issuance of the Construction Certificate and not a development application stage.

The unit No 302 balustrade has a horizontal element located between 150 mm and 760 mm (i.e. <500 mm) and which would facilitate climbing and the O/A height of the northern balustrade is <1000mm.

Based on the above it is my contention that the as built balustrade/ handrail of unit ***No 302*** is ***non-compliant with the minimum requirements of the BCA***, which came into effect on 1.7.1998.

Recommendations; I **recommend** that the O.C clarify that no Building Approvals or Constructions Certificates relating to balcony balustrades were issued prior to 1.7.98 with Nth Sydney City Council.

I **recommend** inspections should be done of other similarly constructed unit balcony balustrades for potential similar non-compliance, where the balcony is located 4 m above the surface beneath (e.g. ***Refer Photo No65)***.

Report any non compliant balcony balustrades to the project PCA for action seeking a letter of intent to issue an order to rectify.

5.5 Unit 302 West Balcony;

Noted Defects; ***Refer example Photo No63, 65*** showing external northern end of this ***balcony hob edge*** and evidence of minor to moderate cracking and drummy render and external moulding, around this area, together with moisture related paint film deterioration.

The ***Penthouse external balustrade*** masonry wall was partially inspected from this balcony and it was apparent that there were multiple minor to moderate cracks in the balustrade hob and protective paint film, which are likely to be allowing water entry in behind the protective paint film and has led to render delamination and dislodgement in some instances - ***Refer example Photos No 61-62***..

Refer example Photos No66, 66a & 66b showing ***No2*** off significantly displaced and ***cracked pavers*** at base of Study door, which has occurred due to the lack of adequate rubber supports beneath same.

Refer example Photo No67 showing a displaced ***pavers*** at NW balcony corner, which has occurred due to the lack of adequate rubber supports beneath same.

Refer Photo No68 showing a flat roof (from this balcony) ponding of water and what appears to be a ***delaminated water proof membrane.***

Refer Photo No69 showing the aluminium ***Study exit door*** which the owner advises me is binding on door jamb due to thermal expansion***.***

Recommendations; I **recommend** that all delaminated render and moulding be rectified, that all external cracks are sealed and the protective paint film re instated.

I **recommend** reinstatement of cracked pavers and installation of adequate rubber supports so that the effected pavers sit flush and securely.

I **recommend** flood testing of noted flat roof membrane to establish if any leaks are occurring through deteriorated membrane.

I **recommend** that the Study external door be re hung with adequate clearances to prevent binding under heat expansion.

5.6 Unit 302 Main Bathroom;

Comments: I'm advised that this bathroom/ shower recess is fairly typical for the types of bathrooms in this development. I undertook a brief water test (not flood test) by turning on the shower with eth shower door closed. I pulled back the hall carpet at bathroom entry and inspected the tile bed and concrete floor.
I used a Protimeter pin resistance type moisture meter on the bathroom tile bed outside of the shower area.

Noted Defects; the shower floor recess has ***negative falls*** at the external screen corner and water ***pooled*** in this area and leaked out from under the shower screen. ***Refer Photos No70-73***

Moisture meter testing of the bathroom floor ***tile bed*** outside of the shower area revealed that it was ***saturated***, similar saturation and prior evidence of ***leakages*** was apparent at the bathroom entry where carpet was pulled back .There was evidence of ***rust*** in the lower metal bathroom ***door jamb***, which I consider has been caused by the saturated tile bed in which it is in contact with. ***Refer Photos 70-73.***

In my professional opinion I consider that the shower area ***floor falls are defective*** and not compliant with A.S 3740 (1999) as an area of tiles has negative falls water ponds on the floor. Additionally I consider the ***water proof membrane/ water stop has failed*** and allowed built up moisture to migrate out into the greater bathroom floor and into hallway.

Hairline ***cracking*** is apparent to approx No2 off wall and No2 off floor ***tiles*** - ***Refer Photos No74***

Recommendations; I **recommend** that other unit owners be surveyed as to the possible presence of similar bathroom leakage problems possibly by pulling back carpet at their bathroom entry doors and checking for any signs of leaks.

I **recommend** that the shower area floor tiles and water- stop be removed, and a new water proof membrane / water stop installed with adequate floor falls so as to prevent ponding.

I **recommend** replacement of cracked tiles.

I **recommend** that the rusted door jamb be rust paint treated.

5.7 Unit 107;

Comments: I inspected the balcony of the subject unit (during heavy showers).
The balcony balustrade height and type was checked and is considered compliant with the minimum requirements of the BCA.

Noted Defects; evidence of ***water penetration (i.e. falling damp)*** through balcony slab soffit, at wall/ floor junction of unit balcony over. ***Refer Photos No75.***

Refer Photos No76 showing minor to ***moderate vertical cracking*** in the external render, which I'm advised by the owner continues in the balcony over. The render around this crack was significantly ***drummy***.
It is possible that such cracking has ruptured the balcony water proof membrane leading to aforementioned leaks

Refer Photos No77 showing minor to ***moderate horizontal cracking*** in the external render and protective paint film, of adjacent unit window sill, which is likely to be allowing water entry in behind the protective paint film and may lead to render delamination.

Recommendations; I **recommend** that the defective water proof membrane of the unit balcony over No107 be reinstated to prevent further falling damp.

I **recommend** that all delaminated / drummy render be rectified and that an expansion joint provision be installed in same prior to re application of protective paint.

5.8 Unit 301;

Comments: I inspected the western balcony of the subject unit (during fine weather).
The balcony balustrade height and type was checked for compliance with the minimum requirements of the BCA.

The owner of the subject unit advised me that the builder was still undertaking remedial works to the balcony ***waterproof membrane*** – ***Refer example Photo No78 & 78A*** and that these works were incomplete.
There was evidence of balcony ceiling replacements noted on two balconies beneath unit 301 as seen in ***example Photo No79***.
I'm advised by the owner that the builder has undertaken this balcony ceiling repairs.

Noted Balcony Balustrade Defects; ***Refer example Photos No 80 & 80A*** of a NW ***balustrade hob and balustrade,*** which shows a lower rendered brick balustrade type wall having a height of ***<505mm*** (above balcony FFL and as measured in a central location) and incorporating a horizontal ledge, with an aluminium balustrade handrail atop this.
Refer example Photo No80B showing the ***overall balcony balustrade height as being <1000mm*** above balcony F.F.L.

Refer example Photos No81 showing a SW ***balustrade hob and balustrade,*** which shows a lower rendered brick balustrade type wall having a height of ***<515mm*** (above balcony FFL and as measured in a central location) and incorporating a horizontal ledge, with an aluminium balustrade handrail atop this.
Refer example Photo No81A showing the ***overall balcony balustrade height as being >1000mm*** at the northern end.

The balcony floor is more than 4 m above the surface beneath, namely Miller St.
This type of balustrade construction appears to be similar in type as for some other units however I did not measure any other unit handrails.

I consider that the above noted balcony handrail falls under the requirements of **BCA Part 1 Clause 2.16 Balustrades or other Barriers**
(a) a continuous balustrade or other barrier must be provided along the side of ….. a balcony if
(i) it is not bounded by a wall **(ii)** its level above the surface beneath, is more than **(B)** 1m in any other case
(f) The height of a balustrade or any other barrier must be constructed in accordance with the following;
(ii) (A) the height is not less than 1m above the floor of any access path, balcony…..
g (ii) (B) for floors more than 4 m above the surface beneath, any horizontal or near horizontal elements between 150 mm and 760 mm above the floor must not facilitate climbing.

I am advised by DIPNR that the specific BCA requirements of subclause **g (ii) (B)** came into effect under Amendment No 3 of the BCA which was instituted on **1.7.98** and that such requirements were deemed necessary at the date of Building Approval or issuance of the Construction Certificate and not a development application stage.

The unit No 301 balustrade has a horizontal element located between 150 mm and 760 mm (i.e. <500 mm) and which would facilitate climbing and the O/A height of the NW balustrade is <1000mm.

Based on the above it is my contention that the as built balustrade/ handrail of unit ***No 302*** is ***non-compliant with the minimum requirements of the BCA***, which came into effect on 1.7.1998.

The ***Penthouse external balustrade*** masonry wall was partially inspected from the roof and it was apparent that there were multiple minor to moderate cracks in the balustrade hob and protective paint film, which are likely to be allowing water entry in behind the protective paint film and has led to render delamination and dislodgement in some instances - ***Refer example Photos No 82 &82 a***.
The ***shade sail steel post fixing*** on the western balcony (***Refer Photo No83***) possibly contributed to the adjacent cracking in balustrade wall render.
Refer example Photo No84 of the lower the western balcony balustrade which shows evidence of ***moderate damp and paint film delamination.***

Recommendations; with respect to the balcony waterproof membrane I recommend that the owners Corporation request the builder to undertake a ***dye flood test*** of the completed membrane.

I **recommend** that the O.C clarify that no Building Approvals or Constructions Certificates relating to balcony balustrades were issued prior to 1.7.98 with Nth Sydney City Council.

I **recommend** inspections should be done of other similarly constructed unit balcony balustrades for potential similar non-compliance, where the balcony is located 4 m above the surface beneath (e.g. ***Refer Photo No65)***.

Report any non compliant balcony balustrades to the project PCA for action seeking a letter of intent to issue an order to rectify.

5.0 Internal Units 302, 107 & 301 Photos

Photo No 54

Photo No 55

Photo No 56

Photo No 57

Photo No 58

Photo No 59

Photo No 60

Photo No 61

Photo No 62

Photo No 63

Photo No 63a (unit 302 West balcony balustrade)

Photo No 64 (unit 302 West balcony balustrade)

Photo No 65

Photo No 66

Photo No 66A

Photo No 66b

Photo No 67

Photo No 68

Photo No 69

Photo No 70 (unit 302 shower)

Photo No 71 (unit 302 shower)

Photo No 72 (unit 302 shower)

Photo No 73 (unit 302 bathroom entry door)

Photo No 74 (unit 302 cracked bathroom tiles)

Photo No 75 (unit 107 balcony falling damp)

Photo No 76 (unit 107 drummy balcony render)

Photo No 77 (cracked external render/paint)

Photo No 78 (Unit 301 west balcony)

Photo No 78A (Unit 301 west balcony)

Photo No 79 (repaired balcony ceilings below Unit 301)

Photo No 80 (Unit 301 west balcony balustrade)

Photo No 80A (Unit 301 NW balcony balustrade)

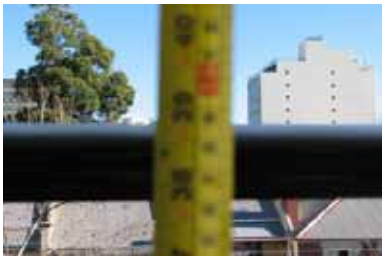


Photo No 80B (Unit 301 NW balcony balustrade)

Photo No 81 (Unit 301 SW balcony balustrade)

Photo No 81A (Unit 301 SW balcony balustrade)

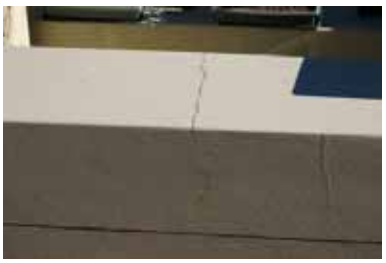


Photo No 82 (Penthouse western balcony balustrade)

Photo No 82A (Penthouse western balcony balustrade)

Photo No 83 (Penthouse western balcony balustrade)

Photo No 84 (Penthouse western balcony damp)

6.0 External Elevations – Basement – 4th Flr LEVEL

External Elevation Observations

6.1 Comments:

Using field glasses I inspected all of the external elevations from ground level and took photographs of the various areas I inspected.
I did not gain access to the various noted external unit balconies (as observed from ground) and have made a number of informed assumptions as to likely damp related damage.
So that a definitive review of the exact causes of seeming leaks can be made I **recommend** that all of the noted balconies be independently dye flood tested (with photographic report – refer example attached dye flood test report) and if necessary that the O.C pay for this testing.
In the likely event that the balcony membranes are defective then this becomes the liability of the builder.

6.2 Eastern Elevation:

Noted Defects; Refer example Photo No85, which shows ***moderate vertical cracking*** in external wall render, as previously noted under the unit 107 balcony section of this report, continues in the same wall of the balcony beneath (i.e. crack continues over at least three floors).

Refer example Photo No86 showing evidence of ***minor hairline cracking*** in the external render of uppermost roof balustrade wall, which could be permitting unwanted moisture entry in behind the paint film Such minor hairline cracking is apparent in approximately No4 off locations on this elevation and in my professional opinion it is those which are located on horizontal surfaces that require the most immediate attention and unless the render is drummy I consider the sealant filling of same to be an Owners Corporation maintenance liability issue.

Balcony slab soffit likely waterproof membranes failures.

Refer Photo No87 showing evidence of ***moisture related damage*** to a ceiling soffit lining of second-floor unit balcony (bulging ceiling lining).

Refer Photos No88 & 88a showing evidence of ***moisture related damage*** to a ceiling soffit lining of second-floor unit balcony (cracked the ceiling lining and moisture related paint film bubbling).

Refer Photo No89 showing evidence of ***moisture related damage*** to a ceiling soffit lining of first-floor unit balcony (minor paint bubbling including around drainage pipe).

The balcony slabs are concealed via ceiling linings and therefore I was unable to determine the exact cause of falling damp however in my professional opinion it is most likely associated with a failed waterproof membrane.

This type of moisture related damage to balconies ceiling slab soffits was fairly common throughout the building and is considered to be a potentially very significant defect.

Refer Photos No90 & 90a of minor to ***moderate cracking and slight rotation*** in the lower height brick ***retaining wall*** at the SE corner of the property. I'm not a structural engineer and was unable to determine the exact cause of cracking and rotating which could be related to settlement\movement and/or tree root intrusion.
I inspected the recently installed concrete driveway slab and noted evidence of minor hairline cracking in same, which I do not consider to be defective – ***Refer example Photo No91***.

Recommendations; I **recommend** that all of the noted balconies be independently ***dye flood tested*** (with photographic report – refer example attached dye flood test report) and if necessary that the O.C pay for this testing.

I **recommend** that all delaminated render and moulding be rectified, that all external cracks are sealed and the protective paint film re instated.

I **recommend** that a structural engineer inspect the noted retaining wall.

6.3 Northern Elevation:

Noted Defects;
Balcony slab soffit likely waterproof membranes failures.

Refer Photo No92 showing evidence of ***moisture related damage*** to a ceiling soffit lining of second-floor rearward unit balcony (slightly cracked ceiling lining and peeling paint).

Refer Photo No93 & 93a showing evidence of ***moisture related damage*** to a ceiling soffit lining of first-floor forward unit balcony (cracked ceiling lining and moisture related paint film bubbling).

Refer Photo No94 showing evidence of ***moisture related damage*** to a ceiling soffit lining of third-floor forward unit balcony (moisture related paint film bubbling around 100 mm diameter drain pipe).

Refer Photo No95 showing evidence of ***patched*** ceiling soffit lining of G.F forward unit balcony (over Thai restaurant), which has not been painted.

Refer example Photo No96 & 96A showing evidence of ***minor to moderate cracking*** in the external ***render*** of uppermost roof balustrade wall, and which appears to be ***drummy*** and is likely to be permitting unwanted moisture entry in behind the paint film. ***Refer example Photo No97*** showing significant cracking any external moulding beneath the balustrade wall.
In my professional opinion such drummy render (as opposed to hairline cracking) is considered a defect for builder rectification.

Recommendations; I **recommend** that all of the noted balconies be independently ***dye flood tested*** (with photographic report – refer example attached dye flood test report) and if necessary that the O.C pay for this testing.

I **recommend** that all delaminated render and moulding be rectified, that all external cracks are sealed and the protective paint film re instated.

I **recommend** that the builder reinstate paint finish on various front and side elevation balcony patched ceilings.

6.4 Western Elevation:

Comments:

As agreed I did not inspect any of the commercial space is nor their shop fronts. ***Refer to Photo No98*** showing a surface grated drain running across the front elevation.
In my professional opinion it is likely that the various drain pipes connected to same are likely to be the cause of pipe penetration as previously noted in the western basement retaining wall (Refer ***Photo No 14***).

Noted Defects;
Balcony slab soffit likely waterproof membranes failures.

Refer Photos No 99 & 99a showing very significant evidence of ***moisture related damage*** to a ceiling soffit lining of first-floor unit balcony above Convenience store (raised moisture related bulging in lining).

Refer Photo No100 showing evidence of ***repaired (replaced)*** ceiling soffit linings of 1st Flr & 2nfd Flr unit balconies (over Computer shop), which has not been painted.

Refer example Photo No 101 & 101a showing evidence of ***minor to moderate cracking*** in the external ***render*** of third floor unit balustrade wall, which appears to be ***drummy*** and is likely to be permitting unwanted moisture entry in behind the paint film. ***Refer example Photo No102*** showing significant cracking any external moulding beneath the balustrade wall.

Recommendations; I **recommend** that all of the noted balconies be independently ***dye flood tested*** (with photographic report – refer example attached dye flood test report) and if necessary that the O.C pay for this testing.

I **recommend** that all delaminated render and moulding be rectified, that all external cracks are sealed and the protective paint film re instated.

I **recommend** that the builder reinstate paint finish on various front and side elevation balcony patched ceilings.

6.5 Southern Elevation:

No Notable Defects recorded

6.6 Roof:

I inspected the accessible areas of the roof, which incorporates a flat torch on membrane type roof (beneath surface equipment and over lift shaft) and color bond metal deck roofing.

The roof area does not incorporate any ***fall arrest system*** or perimeter safety handrail, which is a typical requirement under OH&S. ***Refer Photo No103.***

During my preliminary inspection (May 06) significant ponding was evident on the flat roof membrane, which appeared to be due to lack of adequate roof drainage.
I note that it is acceptable for water to ponder on torch on type roof waterproof membranes and as such I do not consider is to be a defect.

Noted Defects;

Refer Photo No104 showing evidence of ***partial delamination*** of a liquid applied ***roof membrane*** located adjacent to a hot water service, together with rusting in the lower section of hot water service and ***debris***. The hot water service circa 1999 and likely to be near the end of its service life.

Refer Photo No105 showing a handrail fixing through torch on membrane, the ***fixing penetrations*** of which could be permitting the entry through the membrane.

Refer Photo No106 & 106A showing various ***debris*** lying on roof adjacent to the single grated drain, which should be cleared away.

Refer Photo No107 showing evidence of a leak within the ***mechanical ventilation ducting*** (connected to restaurant) which is permitting oil to drop onto the roof.

Refer Photo No108 showing evidence of ***moisture related paint film bubbling*** on the rear parapet wall (SE corner) beneath a barge capping, which is likely to be defective.

Recommendations; I **recommend** that the O.C have ***fall arrest anchor systems*** installed on the roof areas and keep a safety harness on site for use by maintenance staff.

I **recommend** that all delaminated roof membrane be patch repaired and fixing ***penetrations*** checked for adequate sealing and that all ***debris*** be removed from roof areas.

I **recommend** that the builder check the weather proof integrity of the noted ***barge capping*** at SE corner of roof and reinstate moisture damaged paint film.

6.0 External Elevations & Roof Photos

Photo No 85

Photo No 86

Photo No 87

Photo No 88

Photo No 88A (sample balcony soffit leak damage)

Photo No 89

Photo No 90 (SE retaining wall)

Photo No 90A

Photo No 91 (driveway hairline cracking)

Photo No 92

Photo No 93

Photo No 93A

Photo No 94

Photo No 95

Photo No 96

Photo No 96A

Photo No 97

Photo No 98

Photo No 99

Photo No 99A

Photo No 100

Photo No 101

Photo No 101A

Photo No 102

Photo No 103

Photo No 104 (roof)

Photo No 105

Photo No 106 (roof debris)

Photo No 106A (roof debris)

Photo No 107 (exhaust duct leak)

Photo No 108 (SE corner parapet leak)

7.0 CONCLUSION

7.1.1 With respect to the builders works, based on what I have seen and discovered and given my building experience, it is my professional opinion that most substantive 'as-built' defective elements, (constructed by the builder), were either executed poorly or not in accordance with good building practice.

7.1.2 The sealant filling of external façade minor cracking is deemed most likely an O.C repair under maintenance.

7.1.3 A number of the as constructed and certified elements should not have been certified compliant as they are not.

With respect to the noted the seemingly deficient fire safety services I recommend that the Owners Corporation appoint a suitably qualified fire engineer to inspect and more accurately report on same after been provided with a copy of this report. We can provide the name of a suitable consultant if required.

I recommend that the Owners Corporation determine who was the principle certifying authority (PCA) for the project and that the value of the non-compliant balcony balustrades be taken up with this authority in the first instance.

Based on my more than 25 years experience in the construction industry, the standard of works (as executed by the builder) was one of relatively modest quality compared with those that I have witnessed for a refurbished multi unit residential property.

The works necessary to complete repairs will be very substantial and in some instances quite disruptive for owners and should also involve dye flood water testing, which I suggest be undertaken by the O.C at their own expense using an independent contractor.