

<i>Name of Witness</i>	Diane ROBERTSON
<i>Date of Birth</i>	[REDACTED]
<i>Address and contact details</i>	[REDACTED] West End [REDACTED]
<i>Occupation</i>	Technical Writer
<i>Date signed</i>	30/09/2011

Diane ROBERTSON states;

1. I am Technical Writer by occupation and currently reside at [REDACTED] [REDACTED] West End. I purchased this property in early 2010 after it was constructed in 2009. The property is described as [REDACTED] on [REDACTED] [REDACTED] in the Parish of South Brisbane situated at [REDACTED] West End, Brisbane. The property falls under the Brisbane City Council area and the unit blocks are known as [REDACTED] and are zoned Medium Density Residential. [REDACTED] Street consists of residential apartment blocks and houses as well as some small businesses such as a sign factory, mattress supplier and paving supplier, a community association and a government agency. [REDACTED] Street runs in an easterly direction from the Brisbane River. The [REDACTED] Apartments are located about 100 metres from the Brisbane River. I am a committee member on the [REDACTED] Apartment Body Corporate.
2. The precinct is in transition from residential/commercial/industrial to medium density residential with limited commercial up along Montague Road. However, by approving twelve storey buildings in the next street, the Brisbane City Council is creating an area that is more high density living rather than the medium density we are currently zoned at.

Witness Signature [REDACTED] Signature of officer [REDACTED]
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3. [REDACTED] Apartments consists of 34, 2 bedroom apartments and 2 penthouses built across 7 levels and during the January, 2011 flood events, the [REDACTED] Apartments were affected by flood waters. I believe the flooding was caused at first through stormwater drainage and back flow of water from the river, which was then topped off by water that came over the bank of the Brisbane River between Waters Edge Apartments and Flow Apartments in Duncan Street and then over land across to [REDACTED] Road. Water did not come over the Brisbane River bank at the end of [REDACTED] Road where the height is between RL 6.5 and 7.0.
4. [REDACTED] Apartments were built in 2009 and did not experience flooding prior to the January, 2011 floods. During the January, 2011 floods, water entered our building just before 3am on Wednesday 12th January, 2011. The resident Building Manager for Arriva and [REDACTED] Apartments told me he came into the [REDACTED] car park basement about 2.20am on 12th January, 2011 and he saw water coming through the vents in Basement 1. (I understand the bottom edge of the vents to be around RL 4.4 metres, and they are below the ground floor, which is RL5.9 metres). Winton said he saw water beginning to flow towards the ramp down to basement 2, but the ramp was still mostly dry. He walked to the bottom of this ramp into basement 2 and saw that the water was bubbling up through one of the stormwater grates on his left and one of the lights on the stormwater panel control was indicating that one of the pumps had started up. He then left and came up to the street at about 2.40am.

There he saw water bubbling up through the stormwater drains in the street where [REDACTED] Road dips as you go further up towards Montague Road

5. Shortly after 3am the Building Manager announced over the PA system in the [REDACTED] building that water was entering the basements and people should evacuate the building. My husband and I went down to basement 1 and saw water pouring through the vents, but we did not go further down to basement 2.
6. By the time we evacuated the building just after 5am, we noticed that no water was going over the lip of the entrance to the driveway. Water was coming up through the stormwater drains in front of [REDACTED] but this water was not flowing in or around the building. I took a photo of this water pooling on the street.
7. At this time, the water that inundated the building came from along the back of [REDACTED] Apartments next door, a building that is between our building and Montague Road, and pooled in the well along the sides and back of our building and in the property next door on the western side of Aura where a construction business operates. No water came over the river bank at the end of [REDACTED] Road.

8. I did not see what was happening in basement 2; however I have a photo taken at 1.20am on 12th January, 2011 showing the water beginning to flow up through the sump pump grate and water beginning to flow across the floor in the [REDACTED] Apartments next door. I do not know what time water began to seep into the [REDACTED] basement, but I do know that at 5am the well on three sides of our building had water that was knee deep and I have learnt that our basement has pipes that let water outside into the basement because the walls are not strong enough to withstand hydrostatic pressure.
9. We also experienced sewerage overflowing in our building and coming up through the baths and toilets. I do not know the source of this sewerage; it could have come from elsewhere or could have come from those residents who never evacuated the building. I understand from my discussions with the hydraulic consultant that designed [REDACTED] that when people flush toilets when the flood waters are still present, it flushes straight into the flood waters below. I took a photograph on 14th January, 2011 which shows where water had only come half way up the toilet, but also shows clearly that dirty water had come up from inside the toilet and overtopped the bowl.
10. I, like most of the building occupants, did evacuate the building. We left just after 5am on 12th January, 2011 and returned to clean up on 14th

January, 2011, but we did not stay in our unit until ten days after the flood.

11. On purchasing our apartment at [REDACTED] we first found out about the unit block being in a flood prone area when I had the valuation done by National Property Valuers on 18th December, 2009 to check whether our sale price offer was reasonable. National Property Valuers said that the property was in close proximity to the Brisbane River and may have flood issues in exceptional circumstances; however we felt that the bank at the end of our street was high enough for that to be unlikely. This assumption proved correct as the Brisbane River at the end of Ferry Road did not break its banks; instead the water topped the bank further along Riverside Drive, which runs parallel to the river and that was the water that eventually flooded our building. We had no information about flood controls in the area.

12. At the time we purchased the property we were given copies of building plans that showed conformance with Brisbane City Council flooding immunity levels for the locality. Subsequent events have shown these to be inadequate and the vents into our first basement mean that our property is vulnerable at around 4.4 metres.

13. I recall Monday 10th January, 2011 our building managers for Aura Apartments advised residents to move their cars and valuables out of the basement car park due to possible flooding.

14. My husband and I moved our car up to Montague Road with some possessions in the car and also moved some possessions out of our garage and into our unit to the 6th floor until late at night, when we went to bed. At about 3am on Wednesday 12th January, 2011 we were awoken by the Building Managers over the building PA system advising that the basement of the building was filling up with water and we should evacuate the building
15. On evacuating the building at about 5am we walked down the fire escape as the lift had ceased operating by then, and along a path beside the building carrying our dog through knee deep water to get to the stairs that lead up into the street. We then walked along [REDACTED] Road where we had to walk through water that was between ankle and knee deep in height at the dip in [REDACTED] Road where there are some stormwater drains. Then we went on up to Montague Road, West End, where we got in our car and drove away.
16. I have been given photos that show that at 10.29am water had still not topped the lip of the driveway car park; however, other photos show that by 1.18pm the water entered by that route and eventually the water rose in the area surrounding the building until it filled the two basements where we park our cars and store our personal possessions. Most residents do this in storage cages, but we have a double garage where we stored our possessions. Finally the water rose above the ground floor level to flood the pool and enter the four ground floor units by up to half a metre.

17. Issues relating to the [REDACTED] Apartments include:

- Our ground floor was not high enough to prevent flooding to the four ground floor units.
- Our two basements were not flood proof.
- We have vents into the first basement below the ground floor level, so we flooded at around 4.4 metres before flood waters reached the floor level of 5.9 metres.
- Initially the water that flooded the property came from stormwater drains that could not cope with the volume of water that inundated the drainage system. Our stormwater drains take water that comes down a hill with a base at the dip in [REDACTED] Road halfway up the street, but we also understand from discussions with the hydraulic consultants that designed the [REDACTED] and [REDACTED] Apartments that water may also have been back flowing from the river up the stormwater pipes.
- No water flowed over the river bank at the end of [REDACTED] Road at any stage and the two properties at the end of [REDACTED] Road were not affected; however water flowed over the bank beside the Water Edge Apartments, which are new apartments built at a lower level than the buildings at the end of [REDACTED] Road.
- We have a well around our building below the defined floor level that collects water and saturates the ground, encouraging a build up of hydrostatic pressure.

Witness Signature [REDACTED] Signature of officer [REDACTED]
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- We have services in our basements that were expensive to replace, such as a lift motor that could have been placed above the floor level, or the top of the lift shaft which has enough room to accommodate a lift motor.
- We have two basements and it was much more difficult and costly to pump out water from the second basement. It would have been easier to empty, if the building design had included a provision to easily get hoses into the second basement.
- Essential services, such as hot water, were not positioned above the defined flood level. For example, the hot water tanks were positioned in the sunken garden beside our building, so they flooded and had to be replaced. As well the Energex transformer at the front of [REDACTED] which both buildings rely on, had water enter the housing where it is located on the fence line in front of [REDACTED]. The transformer had to be turned off during the flood.
- Fire pumps and fire systems took some time to repair leaving residents vulnerable for some months from fire emergencies.
- Sewerage systems could not cope and spilled out into the flood waters.

18. Since the floods of January, 2011, I have taken a number of steps regarding the inundation of the [REDACTED] Apartments including:

- I have visited the office of my local State Government representative, Anna Bligh, as well as emailing (12 April and 2 August) and telephoning her office seeking information on flood compensation. (The emails are attached.)

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Signature of office

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- I have spoken to, telephoned and emailed my local Councillor, Helen Abrahams, many times since the flood seeking information about river heights, stormwater pipes, rainfall data, soil tests, hydrology information, and flood prevention. I have also forwarded general information of interest. Helen Abrahams has been very helpful in suggesting where to get answers or forwarding my questions on to the appropriate people in Council; however, as yet, I have received no useful data from the Council.
- I have met with the hydraulic consultant who designed the hydraulic systems for [REDACTED] and another hydraulic consultant, who designed our sister unit block [REDACTED] to discuss our water problems.
- We have met on site with the architects, hydraulic consultant, and developers, Reggi Developments to discuss the vents for the first basement which are located below the ground flood level of 5.9 metres and which let water into the basement at 4.4 metres.
- I have met and emailed other West End Body Corporate representatives that were flooded to share knowledge about the flooding.
- I have communicated our concerns to the Brisbane City Council regarding the multi-storey development over the road from our apartments in Duncan Street which was approved just prior to the floods. My husband and I objected to that development as we think that twelve storey apartments with inadequate parking provision are not appropriate for our area. A limit of seven storeys is more appropriate. We have emailed the Council and the Minister for Planning and Infrastructure regarding the issue and we have also spoken to and emailed our local Council member, Helen Abrahams. In addition, I believe that the construction of this new apartment block will contribute to future flood problems in our area, if many people have to evacuate should flood waters once again flow over that area as they did in the January 2011 floods.

- This could happen as the Council rejected our objection and approved the development, saying that they did not need to abide by the draft neighbourhood plan because it was just a draft. Our submission and various letters to the Council are attached.

I now produce a series of emails to Councillor Helen Abrahams regarding issues relating to the 2011 floods.

19. I was told that the Pradella Construction Group who were responsible for the construction of the 'Waters Edge Apartments' located at 45 Duncan Street, West End was given permission by Council to lower the river bank for the development of 'Waters Edge.' It is from this location that the Brisbane River overtopped the bank and contributed to the flooding of [REDACTED] Apartments. Since the floods extensive stormwater work has been done beside 'Waters Edge Apartments'. I do not know who authorised this work as the Council has not answered any of my questions, including those about stormwater. Nor do I know if a study was done to ensure this work would minimise future flooding issues rather than just increase flooding problems by making it easier for water to backflow into the area.

RECOMMENDATIONS:

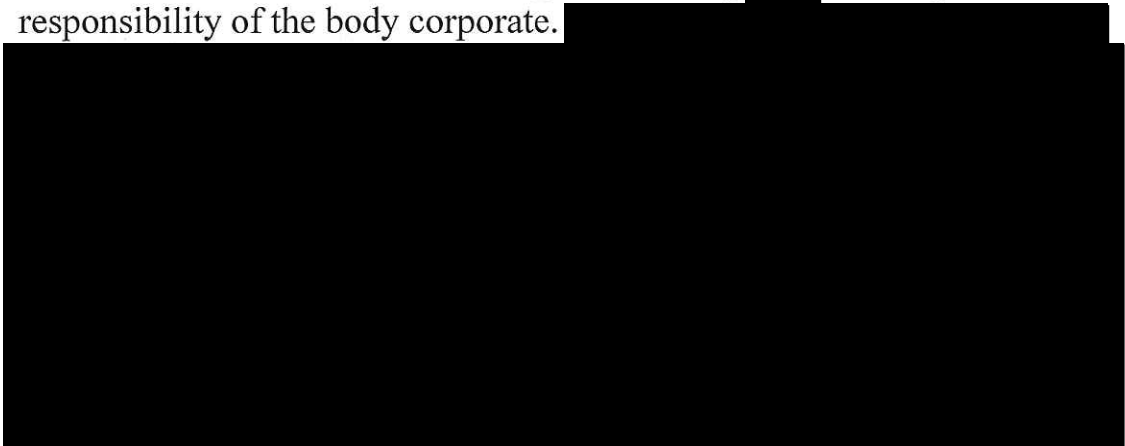
20. Some suggestions for ways to minimise or prevent flooding in the surrounding area include the following:

- Investigating the merit of backflow valves in West End not just the three suburbs currently being investigated.

- Investigating levees, something mentioned in the Council Flood Inquiry report.
- Considering the impact on stormwater drains from the construction of multi-storey apartments in this area of West End.
- Ensuring that the most appropriate developments occur in flood plains.
- Locating essential services (such as electricity, gas, lift motors, and control panels for sump pumps and CO2 systems) above the defined flood.
- Investigating what legislation may need to be put in place to ensure buildings in flood-prone areas are of an appropriate standard.
- Ensuring that Certifiers who approve ventilation systems in basements are appropriately qualified and do not pass designs, such as the vents in [REDACTED] Apartments that do not meet regulations.
- Ensuring that Body Corporates are included in eligibility for compensation from any publicly subscribed disaster relief funds. Body Corporates did not qualify for any of the compensation for the common building and contents offered for the recent January 2011 floods, unlike businesses, not-for-profit organisations and individual home owners, a list that unfortunately covers everyone except Body Corporates, who do not fit neatly into any of these categories. And it was especially difficult for individual owners in multi-storey buildings whose units were above the flood level to qualify. Nonetheless, individual owners suffered loss and damage to common property and contents, living spaces shared by all multi-storey residents in the building. And the Body Corporate had to fully fund the quarter million dollars of damage from the flood with possibly another \$150,000+ to come.

- [REDACTED]
- Examining the strategy of designing multi-storey buildings to contain water if we have excessive rainfall runoff. The hydraulic consultants who designed [REDACTED] Apartments have told us that they use large pipes to cope with the removal of heavy rainfalls on the building, but these pipes then narrow to connect the Council drains. As a consequence, the well around our building fills with a pool of water on three sides, saturating the ground, and because the walls are not built to withstand hydrostatic pressure, water enters the basement through pipes designed for this purpose.
 - Ensuring that the sump pumps that remove water from basements in flood-prone areas have sufficient capacity to cope with large volumes of water, bearing in mind that if the flooding is too severe, no sump pumps will keep the water out.
 - Ensuring the de-watering system in basements is capable of sustained operation throughout a flood event with a backup solution, such as a spare generator running on alternate power, if the mains power is disconnected.
 - Ensuring that control panels are above the defined flood level, so that pumps can continue to run even if flood waters continue to rise, unlike in [REDACTED] Apartments where the control panel is in the lowest basement.
 - Making the basements in flood-prone areas flood proof with walls that can withstand hydrostatic pressure (which is very expensive because the walls need to be very strong and thick) or having no basements at all.
 - Designing basements so that water and mud can be easily removed, particularly for second basements, to minimise costs and dewater the basements more quickly. In [REDACTED] we had difficulty in getting the flexible riser pipes down into the basement to suck up the water as well as getting enough suction to pump up the water. We had no opening where we could feed the pipes directly into the second basement and the pipes had to wind around down the car park ramp before dropping down the lift shaft. We had to hire very high capacity

pump trucks to do the job, although for part of the time the fire brigade also did some pumping with their pump truck.

- Ensuring that security system control boards are above the defined flood level.
 - Ensuring that essential building services and controls, such as lift motors, sump pump controls, fire service systems controls and CO2 controls, are above the defined flood level.
 - Changing the legislation so we do not have a situation where the ground floor owners are responsible for paying for restoration of the inner walls and fixtures, even though these things are normally the responsibility of the body corporate.
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21. Some steps that body corporate committees with buildings already in flood-prone areas can investigate to minimise damage include the following:

- Developing an Emergency Action Plan for emergencies, such as flood.
- Relocating the control panel for the stormwater submersible pumps from the basement to an area that is above the defined flood level and adjusting those controls so that a generator can be plugged in if the electricity supply is cut off.
- Rewiring any electronic equipment in the basements so that it can be removed in the event of a flood.

- Putting in anchor bolts in bin rooms to prevent the bins causing damage if they float.
- Reorganising the ventilation in basements so that no vents allow water to enter at a level below ground floor level (as is the case at [REDACTED] Apartments).
- Investigating the relocation of lift controls from the basement to a place above the defined flood level.
- Designing electrical systems so that power to basements and ground floors can be easily isolated while these areas are restored yet allow power to upper floors following a flood.
- Designing fire stairs to have light after emergency lighting period of 2 hours has expired. After the flood, the fire stairs at [REDACTED] were pitch black because the stairs have no natural light. We had to use torches until temporary lighting could be rigged, something not easy to do because of how the building was wired.

I now produce a series of photographs depicting flooding at [REDACTED] Apartments in January, 2011.

I now produce a 2 page document outlining architectural design of [REDACTED] Apartments.

22.I have previously forwarded a submission to the Queensland Floods Commission of Inquiry in relation to the flooding that occurred at the Aura Apartments.

I now produce a copy of my submission to the Queensland Floods Commission of Inquiry.

D.ROBERTSON

Justices Act 1886

I acknowledge by virtue of section 110A(5)(c)(ii) of the Justices Act 1886 that:

- (1) This written statement by me dated 30/09/11 and contained in the pages numbered 1 to 15 is true to the best of my knowledge and belief; and
- (2) I make this statement knowing that, if it were admitted as evidence, I may be liable to prosecution for stating in it anything that I know is false.

.....Signature

Signed at Brisbane this 30th day of September 2011

Witness Signature
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Signature of officer

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