

# Submission to Queensland Floods Commission of Inquiry Order (No. 1) 2011

This submission addresses sections b), d) and g), which are listed as matters that the inquiry will address:

## **Private insurers and their responsibilities**

The problem of insurers and their responsibilities goes beyond their behaviour after the floods, although this behaviour is symptomatic of a wider problem. Relying on private insurers to cover risks in multi-storey buildings is becoming very unsatisfactory for unit dwellers for these reasons:

- » At Aura the Body Corporate Committee could not obtain flood cover even after they asked their Body Corporate Manager to seek such cover
- » Few insurance companies even offer insurance for buildings under strata title, particularly smaller buildings
- » Even fewer insurance companies are offering strata title insurance since the floods
- » Our current insurance policy for accidental damage includes exclusions for all the most likely events, leaving unit owners faced with the problem of no cover for damage that is most likely to occur
- » Aura's building insurance includes exclusions that make it difficult to understand what events are covered and what are not
- » Lack of clarity in the Body Corporate regulations has created confusion about who is responsible for insuring the walls and fixtures in the building, making it difficult to ensure the building is properly covered. For example, the ground floor unit owners in Aura were told by their insurers that they would not give them insurance cover for the walls and fixtures in their units, because these were the responsibility of the Body Corporate, but the Commissioner of Body Corporate and Community Management is now saying that the Body Corporate is not responsible for compensating those unit owners, if the Body Corporate does not have flood insurance.

## **Measures to manage the supply of essential services, and**

## **Land use planning**

(See the following Case Study for Aura Apartments, which suffered inundation from water during the January 2011 floods.)

# Aura Apartments: A Case Study for Reviewing Planning in Flood-prone Areas in Brisbane

36 Units in Ferry Road, West End, Brisbane



*Cleaning the mud outside Aura Apartments on 14/01/11 at 12.04 pm*

Aura Apartments were flooded in the January 2011 Brisbane floods up to approximately 0.5 metres above the ground floor level at RL5.9, badly damaging the building, furniture and contents of the common rooms, swimming pool, and four ground floor apartments.

With over \$400,000 damage (including the walls and contents of ground floor units), this Aura Case Study highlights the inadequacies of the regulations in relation to managing flood impacts. This document explains the impact of existing planning regulations in a flood affected area; the non-effectiveness of flood prevention and stormwater infrastructure in West End; and some thoughts on the reasons for flooding in West End around Riverside Drive.



*Damaged walls in the Aura foyer*



*Pile of damaged contents from Aura*



*Car and contents submerged in Aura basement*



## Impact of Existing Planning Regulations in a flood-affected area

The ground floor was built at RL5.9, a level approved under the existing regulations. This was inadequate for Aura as water rose up to around 6.4 metres in our building and street in the January 2011 floods. This implies a design Q100 flood level of RL5.4. This level was far too low in Riverside South, West End and may even have been below the 1974 flood.

A Q100 standard is not appropriate in this area if it relates to a level of rainfall intensity occurring in the local area rather than a riverine flood caused by intense rainfall in the upper Brisbane valley.



*Taken from Unit 32 at Aura on 12/01/11 at 5.13 pm looking towards the city*



*View of the carpark entrance with water still rising at 1.19 pm on 12/01/11*



*Carpark entrance with a mud line showing the height of the water*

## Impact of Existing Planning Regulations in a flood-affected area

The building has two basement carpark levels. It took 2 days to remove water from the first level, but another 7 days to empty the second level. Regulations need to stipulate building designs with access holes that make it easier to pump water out of second or lower level basements.

The building's normal de-watering system consists of a sump below the floor of Basement 2 with electric sump pumps under automatic level control. The power controls to the sump pumps are on the wall in Basement 2. Any basement de-watering fails when power is lost or when the control panel is flooded. Such control panels should be above the design flood level and buildings should have backup power in case of power outages.



*De-watering pump controls in Basement 2*



*Pumping out the mud from the sump pumps on 29/01/11*



*Pump truck needed to pump out Basement 2*



## Impact of Existing Planning Regulations in a flood-affected area

The Council approved building plans for grills for ventilation into the B1 carpark. These grills are well below the ground floor level of the building, and below the design Q100 flood level.



*Vents at the back of Aura with the sunken garden below ground level*



*Close up of vents where water spilled into the B1 carpark basement*



*Stairs from ground floor leading to back garden with vents where water spilled into B1 carpark*



*Basement 1 vents where water entered carpark*



*Basement 1 vents where water entered carpark*



*Basement 1 vents where water entered carpark*



*Inside view of one set of vents where water entered Basement 1 carpark*

## Impact of Existing Planning Regulations in a flood-affected area

The lift motors and controls are located in the Basement 2, so they were badly affected by flood water and they are very expensive to replace, costing over \$40,000. In Aura there is room for the lift to be placed at the top of the lift shaft, but relocating the motor and controls is very expensive at over \$250,000. Regulations requiring lift motors and controls to be put above flood water levels would have saved residents in Aura many thousands of dollars.



*Aura lift doors on Basement 2 with controls on the right*



*Aura lift control panel beside the lift in Basement 2 positioned at the lowest point in the building*



*Lift well in Aura in Basement 2 with the main lift motor behind the yellow door in the wall near the fire extinguisher*



## Impact of Existing Planning Regulations in a flood-affected area

The control panel for the CO<sub>2</sub> ventilation system is located in Basement 1, so this was another expensive service to replace. Repairs will cost over \$20,000. Not all parts of this system can be relocated, but the control panel could be. However, retrofitting this panel is expensive. In flood-prone areas buildings should have the control panel above flood levels.



*CO<sub>2</sub> Panel controls in Basement 1 beside the lift shaft*



*Metal ducts in the roof are part of the CO2 ventilation system*



*Part of the CO2 ventilation system*

## Impact of Existing Planning Regulations in a flood-affected area

The fire services in Aura were located below the RL5.9 level required for the ground floor. (The roof of the carpark seen in the photo below indicates the ground floor level.) As a result, the sprinkler system, the booster pumps and control board were badly affected by the flood waters and these cost over \$27,000 to replace.



*Inside the fire sprinkler system that was damaged by water*



*Two rooms either side of refuse room below ground floor beside the carpark entrance housing the fire sprinkler pump (left), the main fire pump and controls (right)*



*Main fire sprinkler and pump damaged by water*



## Impact of Existing Planning Regulations in a flood-affected area

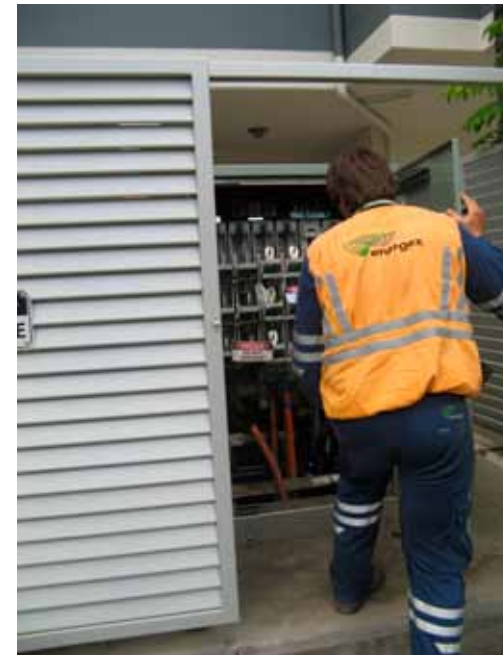
The Energex transformers for the Aura and Arriva Apartments are located in front of Aura's sister building next door and sit at ground floor level, so the transformers were affected by water inundation and had to be turned off when flood waters began rising. That meant that the pumps in the basements stopped working and residents could no longer live in the buildings, even if they were not directly affected by water. The regulations need to stipulate that vital services, such as energy supplies, should be well above any flood levels.



*View showing two of the three buildings (Aura on the right and Arriva on the left) serviced by the Energex transformers*



*Room on left under tree housing Energex transformer for Arriva & Aura Apartments where water entered*



*Energex inspecting transformer supplying electricity for Arriva and Aura*



## Impact of Existing Planning Regulations in a flood-affected area

The gas-fired water heaters and electric pumps were completely submerged and needed to be replaced. Residents did not have hot water for some time and then a limited service until units could be replaced. Located in the sunken garden, these heaters are well below the ground floor level of RL5.9.



*Street entrance down some steps at the side of the building leading to the fire stairs halfway along and showing the water heater room (white walls) in the middle*



*Room housing the water heaters beside the building and well below the building ground floor*



*Looking down on the water heaters from the entrance to the fire stairs at ground floor level*



*Water heaters that were completely submerged and damaged beyond repair*



*Water heater controls that were completely submerged and damaged by water*



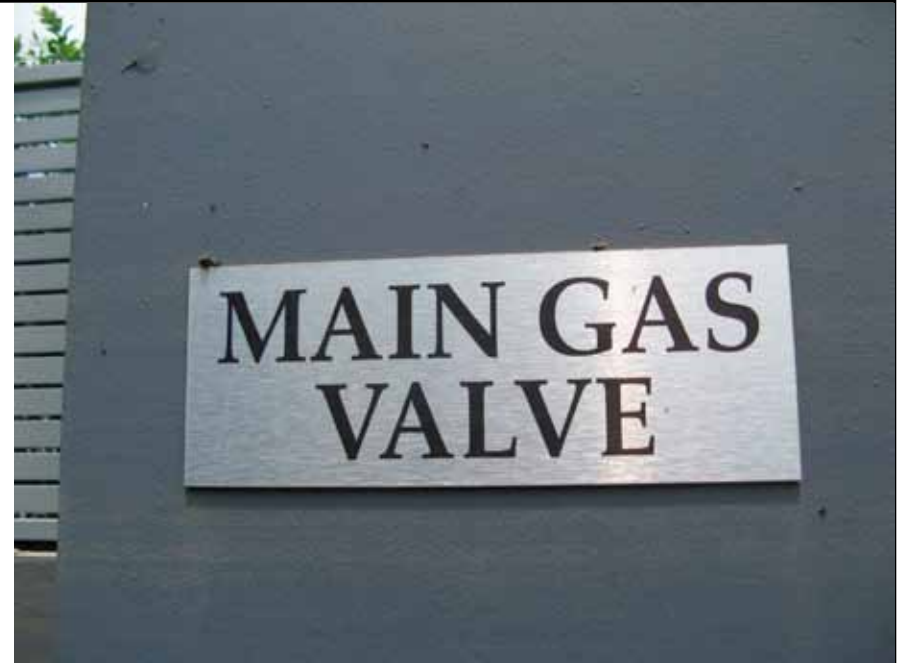
*Hot water recirculation pump that cost Aura \$450 to replace*



*Close up of hot water recirculation pump that needed to be replaced*

## Impact of Existing Planning Regulations in a flood-affected area

The gas valves in Aura are located in the sunken garden below ground floor level and were completely submerged by water.



*Main gas valve sign beside the stairs to the basements*



*Main gas valve*



*Looking down on the stairs leading to the carpark basements*



## Impact of Existing Planning Regulations in a flood-affected area

The Aura pool was inundated by flood waters, but the pool pumps and controls located under the pool in the B1 carpark were also damaged and repairs will cost around \$3000.



*Aura pool 14/01/11 at 12.12 pm*



*Close up of damaged pool controls in room with door raised on Basement 1*



*Aura carpark entrance showing room where pool controls are housed in room (left) on Basement 1*

## Impact of Existing Planning Regulations in a flood-affected area

The power, fire alarm, video and telephone cabling control panels in Aura are on the ground floor so they were only partially affected by water, unlike other multi-storey buildings in the West End, which had more major damage because their control panels were located in basements. The control panels in flood-prone areas should be above any flood levels.



*Power control panel inside Aura's foyer where partial damage occurred to the building power distribution.*



*Video cabling controls located on ground floor*



*The main isolator switch on the power board was located at the lowest point on the panel and was the most expensive power component to replace*



## Effectiveness of Flood Prevention and Stormwater Infrastructure in West End

The stormwater drain around Aura could not cope with the volume of water and the first inundation occurred from stormwater, which bubbled up through the drain with such force it lifted one of the grates. One resident then fell down into the open hole, which was under water. The Council needs to better design for stormwater runoff in West End.

This stormwater grate is located on the main emergency exit pathway from the fire stairs. The pathway was flooded to knee level at the time the building was evacuated. This is an unsafe design that should not be allowed by the building code.



*The large grate giving access to the stormwater drain at the side near the footpath gate on 14/01/11 at 1.04 pm, which can drown a person, if they fell in and could not get out*



*One of smaller grates giving access to the stormwater drain around Aura*



*Aura stormwater drain on 14/01/11 at 2.53 pm showing where water bubbling up has not allowed any mud to settle around the grate*



## Reasons for Flooding in West End around Riverside Drive

River water flowed over the bank in places along Riverside Drive and entered buildings and, possibly affected Aura. Instead of requiring developers building beside Riverside Drive to raise the bank, the Council allowed the developers of Waters Edge to lower the bank and this was one of the places where river water flowed over the bank.

The Council is not fully using substantial funds paid by developers in West End to Council to ensure the main stormwater drainage system is capable of controlling run off.



*Taken from Unit 32 at Aura on 12/01/11 at 5.13 pm looking towards the city*



*View of Riverside Drive at 6.33 pm on 11/01/11 showing Waters Edge on the right*



*View of water entering Waters Edge on 12/01/11 at 5.08 am*