

1) Assessment Provided By:

- a)
 - i) Married couple
 - ii) Owned house approx.
 - iii) Lived in for approx.
 - iv) We are the current property owners and occupiers
 - v) retired to Melbourne from to be near sick mother and our kids and grandkids.
- b) Address:
 - i)
- c) House:
 - i) Weatherboard – 2 story
 - ii) Fully renovated with back deck;
 - iii) 4 Bedroom, 2 bathrooms, fully equipped kitchen, laundry study.
- d) Garage:
 - i) Ground level Steel framed and clad garage;
 - ii) Front roller door
 - iii) Man-door West side front.
- e) Gardens
 - i) Front: Mature Garden well kept, lawn area, trees and shrubs;
 - ii) Rear: Mature Garden well kept, lawn area, trees and shrubs, rose garden, herbs and vegies.
- f) Fences
 - i) Front Fence – Wooden painted, new very good condition;
 - ii) Boundary fences - Shared standard wooden paling fences, average condition.

2) Pre-flood Information

- a) We were aware that the area had flooded in the past (1974) but that substantial work had been done on dredging and realigning the river in the ensuing period.
- b) Anecdotal advice was that a flood of the 1974 magnitude was very unlikely because of these works.
- c) Further advice was that the recommendation from flood control experts of the time to build the dam upstream had never been acted on and that the controversial construction of the Flemington racecourse flood retaining wall did go ahead as it was privately funded and supported with Engineering reports that stated it would not impact on upstream residents.
- d) In the time we owned the property there was never any hint that flooding might break the river bank let alone rise to the level (2.7 m) that it did.
- e) We did not have any advice from Melbourne water, Maribyrnong council or the real-estate agent at the time we purchased the property that flooding of the river would be a risk.

3) Pre-flood warnings

- a) Direct contact – I did not have any direct contact with any person in a position of authority before or during the flood event. I relied entirely on the news and word of mouth.
- b) SMS Warnings:
 - i) I was receiving multiple flood warnings every day from BOM and other sources including news over a long period before the actual event such that I did not place any credibility in them by the time the flood actually happened;
 - ii) My appreciation was that they were ultra conservative “arse covering” declarations just in case there was a flood. Clearly a case of the “boy who cried wolf”.
- c) I received no advice from Melbourne Water or council prior or after the flood regarding the likely height of the flood waters.

- i) This at least, when compared to the floor levels in my property would have given me credible targets for risk assessment, storing or raising furniture, valuables, etc.
- ii) As this did not happen it is a moot point but would have been a good starting point.

4) Preparation for flood

- a) Authorities should have had people door to door before the flood advising residents of the real risks and helping prepare houses and people for the event. This was not done.
- b) I had, I believed, a reasonable expectation that the authorities in charge of mitigating flood risks to my property, the state government for one, would have made preparations over the many years since the last major floods to limit inundation to residential areas as a matter of their responsibility.
 - i) This premise was not met by anybody or organisation involved.
- c) I feel that the authorities that manage the infrastructure that controls flooding risk to the Maribyrnong area were grossly negligent in their actions and assessments even with the benefit of hindsight from the 1974 and later floods.

5) Extent of flood areas

- i) Flood height and notification to affected homes as to what to expect was poor or at least ineffective in this case;
- ii) The speed of rise of the flood water was a big surprise.
- iii) The flooding that came across the parkland upstream of my place was unexpected and intense.
- iv) The final flood water level was much higher than I expected.
- v) The velocity of the river in the main stream was high and menacing.

6) Flood Notification / Warning on the day of the flood

- a) My story of the flood
 - i) The first I heard about the flood was at about 5:55 am when the SES knocked on my front gate and shouted out. I was in bed, alone in the house, upstairs and by the time I dressed and came down they had moved up the street out of voice range. I did not get any direct advice from the SES during the whole of the day. I did see the SES them pass a number of times in a boat and indicated to them that I was OK but nothing more.
 - ii) At this stage the water had just breached the bank so did not alarm me significantly. Without better information I went back inside and changed then returned outside about 20 minutes later.
 - iii) The river was now at my front gate and flooding in the back yard.
 - iv) I made the pets, one dog and one cat safe upstairs and went next door to my elderly neighbours to make sure they were OK. I met up with my neighbour on the river side, [REDACTED] on the way and went up to see [REDACTED] and [REDACTED]
 - v) [REDACTED] were safe but could not easily move especially [REDACTED] so [REDACTED] and I decided to stay with them for the duration of the flood to help keep them safe. I moved the pets to their house so that I could keep an eye on them also.
 - vi) We spent the day with them from about 7 am to about 6:30pm without any direct contact from others.
 - vii) The SES came past a few times in a boat and I indicated there were four in the house and all OK. They moved on.
 - viii) During the day I waded into my place up to waste height and viewed the damage. I had half a meter over the floor and had moved what I could to higher levels.
 - ix) I would like to add that I am generally a level headed person and good at risk assessment but the stress of the day made me question my own decisions after I was out of the flood. In short given better warning and advice on flood risk and water height I would have acted very differently.

- x) The flood started to recede at the turn of the tide around 6pm and I decided to take my pets out loading them into my car (SUV). I am a very experienced 4x4 driver so opted to negotiate the falling waters, without issues, heading West up [REDACTED] to my sons place for respite.

7) Day of the Flood

- a) I returned early the next day to survey the damage.
- b) Everything was covered in mud and displaced by the water.
- c) Flooding:
 - i) Water inundated house to approx. 0.4 m deep over lower floor, there was a layer of mud through the house and inside everything it touched.;
 - ii) The upper floor was not impacted;
 - iii) Water inundated garage to about 1.2m deep. It was a dishevelled mess.
 - iv) Water was approximately 1m deep at the front gate and 1.5m deep at the back fence.

8) After the flood

- a) The flood left river mud on everything it touched and about 50mm thick in places including under the house.
- b) On a positive note, the saturation of the ground did wonders for the garden with everything benefiting from the saturation.
- c) I am a strong person but seeing almost everything I owned trashed by the flood affected me deeply such that I struggled to go inside the house for may days after.
- d) A lot of the things that we had saved for all our lives for retirement were lost in the flood.

9) Clean-up

- a) This was very difficult and emotional.
- b) A number of agencies, the insurer, EPA, Council Health Dept and others I don't recall had, dropping in over the first week informed us that the water had been highly contaminated with sewerage and heavy metals and that anything it touched should be thrown away. Well, that is everything on the ground floor and garage!
- c) This was disconcerting because I had had to wade through the water many times in my attempts to save belongings.
- d) Also, when we were cleaning up it was impossible to not come into contact with the mud which after a while, we resolved was the price of the flood.
- e) Much later we were told by the EPA that the contamination levels were very low and that any health risk was minimal. This advice and the conservative "its dangerous" initial stance were very un-helpful.
- f) We had the EPA testing in the backyard at one stage and a number of different people representing various agencies and groups offering advice, it was confusing and again unhelpful.
- g) When we started the clean-up, we initially shunned help from volunteers as the work seemed very personal.
- h) We eventually allowed some help to move bigger items which progressed to lots of things.
- i) The main issue here is that we lost control of what was happening, the helpers, bless them, just carted it all out the trash and myself and my wife weren't in a position mentally to grasp the implications. Consequently, we were not sure of what we lost.
- j) There were plenty of vultures hovering around looking for opportunities so much of the stuff went, well who knows where.
- k) Community was, I found the biggest plus in all of the mess that was the flood response. Neighbours looking after and helping neighbours was a very big and welcome result. Help offered without being asked for.
- l) Local council services were very light on the ground, apart from free pizza which I did not find out about until after the event was about all I saw.

- m) Agencies offering boxes, drinks, food, cleaning gear, etc were very welcome.
- n) The police presence was welcome as there were a lot of dodgy types around coming door to door and spinning who know what. I sent most away.

10) Insurance Assessment

- a) We had never had to make a claim like this before so were very naive at the start as to what was required.
- b) Our insurer, ALLIANZ and their assessor CRAWFORDS have been very good. They were responsive and helpful from the start.
- c) Never having faced this before we did not know that the insurers needed lists of all the stuff lost complete with photos so that as time wore on and memory faded the extent of loss became harder to reconcile.
 - i) This should be the first advice to anybody in a similar situation, "document it all"!
- d) Regardless of the extent of our insurance and the reasonableness of the assessor, both of which were good, we have a feeling in the end of being well out of pocket when the deals are done and work well underway.
- e) My flood insurance before this event was approx. \$2,000 such that in my and my insurer's opinion damage by flood to my property as not a significant risk. I was comfortable in that notion.
- f) After the flood, my insurance went up to approx. \$15,500 telling me that my insurer had not done a rigorous risk assessment in setting the original premium and had then "over reacted" in setting the new premium.
- g) Rebuilding and furnishing what was in fact a new house in my [REDACTED] was not on my bucket list and has taken a year out of my life when there are only a limited number left. Very hard.

11) Post flood Assessment

- a) Analysis of contributing factors
 - i) Catchment Flood Modelling
 - (1) Current hydrological Engineering has the advantage of using computer modelling to accurately predict flood occurrence and levels.
 - (2) This does not appear to have been used or of use in this instance. WHY"
 - ii) Development in catchment - impact on runoff rates and time of concentration
 - (1) With that modelling, the ongoing impact of urbanisation and the associated runoff increases in the substantial developments upstream should have sent up some red flags!
 - iii) River realignment
 - (1) What impact did the river realignment have on the flood, originally it flowed further to the West and was realigned to allow the rowing club a straight section for events.
 - (2) Did this impact on the flood?
 - iv) River dredging
 - (1) The river was dredged and bank lining work carried out after the last major flood(s).
 - (2) In the ensuing period no dredging has been done leaving the actual capacity of the river substantially reduced as compared to the theoretical.
 - (3) Has this been considered?
 - v) River structures
 - (1) The VRC has, I believe the right to protect their own assets provided that work does not impact adversely on other assets.
 - (2) The river retaining wall constructed at the race course is, in my opinion, too far down stream to have impacted greatly on the flood level in Maribyrnong area.
 - (3) Further the large retaining basin on the West bank between the Fisher Pde bridge and Pipe Makers Park would have gone a long way to mitigating its impact.

(4) Having said that the original premise for the approval should be revisited as a minimum.

vi) River flood retention structures

- (1) The construction of the Arundel retarding dam upstream of the area would have had a positive affect on reducing the levels of the flooding in Maribyrnong without doubt. Again, this should be revisited as a minimum in the assessment of options.
- (2) The Arundel dam would have been influential in mitigating flows only in those tributaries that it captures making it unlikely as a panacea.

12) Issues

a) Residential flooding

- i) Property owner have an expectation that the government and their agencies will protect their assets from reasonable and predictable events that may cause damage. This was not the case here.
- ii) As a property owner my expectation is that I am in the care of the government and their agencies and that they will protect me and my assets. This is not the case here.
- iii) The clear case here is if we are not protected and as a result decide to live elsewhere then the area will die a slow death until memory fades, as it did for previous floods, the area revitalises. This is no good for current asset owners of the Maribyrnong council.

b) Casual users

- i) People who walk, ride, row, etc along the river are entitled to be protected in the case of flood though their risk can be minimised by excluding them from the area during the event.
- ii) The consideration for allowing them privileges should not be a factor in the long-term design solutions.
- iii) Provision for access by these users should be considered around any permanent structures that are proposed.
- iv) The rights of the residents must be heavily weighted against the rights of these casual users. They have no assets at risk in a flood and can simply observe from afar feeling lucky. This solution must be skewed to the asset owners.

c) Leisure assets

- i) Parks and leisure activity associated assets likewise managed.

d) Commercial assets

- i) Their position is the same as residential property owners, they have a right to be protected against this type of event.

e) Downstream risks

- i) Any permanent control measures constructed must take into account the down stream impacts of those assets. They should not be built at the expense of other areas but with the needs of those areas in mind.

13) Risk Assessment

a) Define the problem and contributing factors

- i) Design for an acceptable flood return period (1 in 100 years or 1%)
- ii) Develop a model that can predict flooding on:
 - (1) Proactively – using meteorological data
 - (2) Reactively - using actual catchment rainfall and tributary flow data
- iii) Understand the factors most likely to contribute to a major flood such as:
 - (1) Rainfall intensity
 - (2) Rainfall duration
 - (3) Rainfall locations and extent
 - (4) Per event conditions – catchments saturated
 - (5) Catchment conditions and changes – forested, pasture, residential, etc

- (6) Tributary conditions – well maintained, poorly maintained, flow rate, retention times, etc
- (7) River condition – open waterway, silting, vegetation of banks,
- (8) Tidal conditions
- b) Define goals
 - i) Define the acceptable flood level as defined for the design return period
 - (1) This should be to keep the river flow within its banks either current or as modified.
 - ii) Show how all assets below the acceptable flood design level are protected with retaining structures permanent or temporary

14) Solutions / Actions

- a) DO NOTHING
 - i) This is without doubt the most likely outcome. The resolve of the state and federal governments through their agencies will be as it always is, that is to placate the noisiest groups. Our community does not fit into this model, we are small by comparison and just average voters looking for support.
 - ii) The result of this is that we will get what we always got” more unnecessary flood damage and personal loss.
- b) PROCRASTINATE OVER EXTENDED TIME
 - i) Chewing this over and over and holding ground without any commitment is the general battle plan for our government in this situation.
 - ii) They will be testing the changes in attitude of the voting public as this issue matures;
 - iii) Also testing the change in drivers and need over time as threat and memory of this flood fades with time as previous events did;
 - iv) This is the mechanism that is used to justify the previous action plan.
- c) Short term Solutions (Immediate)
 - i) Solutions should be sought for a short-term fix to offer immediate reduction in flood risk and hence the impacts on residents.
 - ii) These may include:
 - (1) Removable water tight barriers over all areas that were inundated between the Afton St bridge and Pipe Makers Park
 - (2) Stormwater drainage pipe back flow restriction gates at all discharges
 - (3) Permanent pump stations along the dry side of the temp or permanent levy to return leakage to the river during flood;
 - (4) Erosion protection on the river banks of the levy;
- d) Long Term Solutions
 - i) Solutions should be sought for a long-term fix that offers security with the reduction in flood risk to an acceptable level for all stake holders.
 - ii) The long-term solution or solutions will be less localised and may include:
 - (1) LEVY
 - (a) Permanent water tight levy bank (maybe 2m high on existing top of bank levels) along all areas that were inundated between the Afton St bridge and Pipe Makers Park
 - (b) Stormwater drainage pipe back flow restriction gates at all discharges
 - (c) Permanent pump stations along the dry side of the temp or permanent levy to return leakage to the river during flood;
 - (d) Erosion protection on the river banks of the levy;
 - (e) Walking paths on the top of the permanent levy;
 - (2) Retarding dam(s) upstream of the area to collect and return flood flow to the river in a controlled manner;
 - (3) Dredge river and widen river to improve flood flow capacity

- (a) Improvements on river alignment, depth, silting, bank erosion protection, etc aimed at allowing the largest flow rate in the river possible under flood conditions.
- (4) Diversion via pumping of normal flow and flood waters during for use in a hydroelectric dam storage bank.
- (5) Buy-back of “at-risk” properties by the government allowing the land over time to be turned over to parkland for all users.
- e) Global warming
 - i) Consideration must be given to the impacts of global warming and the higher storm frequency and intensity that will result.
 - ii) Ultimately the works undertaken and the resolve of Governments for areas like Maribyrnong will become the blueprint for the works that many, many more areas will be requiring as the global problem deepens.
 - iii) This issue cannot be overstated as if this problem is pushed under the “high street carpet”, rest assured there will be those astute enough to take up this crusade with sharpened swords at hand.
- f) Tidal flood
 - i) Tidal back flow retarding structures working to reduce the accumulative impact of a high tide on flood level in the lower areas.

15) Actions to be considered for the NEXT FLOOD event.

- a) Authorities should have had people door to door before the flood advising and helping prepare houses and people.
- b) All assets within the flood zone need to be made aware of the likelihood and probable extent of potential flooding so that they can make an informed decision regarding whether or not to stay in the area.
- c) Support and resources to help / guide residents in preparing properties for a flood event;
- d) Elderly people in the flood zone need to be given special consideration. They are the most vulnerable and probably least likely to seek help.
- e) Language issues can complicate the message.
- f) Understanding of and accepting or otherwise the level of risk is another issue.
- g) Mental health must be put high on the to do list, people may feel strong but are actually very fragile under this kind of stress.

<https://yoursay.melbournewater.com.au/maribyrnong-river-flood-review>