29TH March 2019

From: Darrell Bell
Address: [redacted]
Email: [redacted]
Mobile: [redacted]

THE BATHTUB EFFECT IN THE HAWKESBURY – NEPEAN VALLEY.

Thankyou for taking my email.

In my email I have attached two pages which describes the flooding in the Hawksbury-Nepean Valley Which has been compiled by the N.S.W. Government Department (NSW Office Of Water).
Please take note of what is described in the following items.

Item 1: The area the Hawksbury Nepean Valley covers

Item 2: The Insurance Council of Australia comments

Item 3: Wallacia Flood Area is marked as a Bathtub effect

Item 4: This describes what the bathtub effect is in the Hawksbury – Nepean Valley it says it is like turning five taps on at once in a bathtub with only one plug hole.

I am emailing you this information as I do not think you would have this information and it is just another important thing that affects Jerry's Creek Flooding of the Golf Course Property.
So could you please take this information into consideration when making your decision.
I hope for the residence of Wallacia Village that your panel says no to this Development.

[redacted]

29-3-19.

COMMITTEE E-MAILED

IPC E-MAILED

FLOODING IN THE HAWKESBURY-NEPEAN VALLEY

NSW GOVERNMENT

ITEM 1

The Hawkesbury-Nepean Valley

The Hawkesbury-Nepean Valley (the valley) covers 425 square kilometres of floodplain. It falls mainly within four fast growing local government areas in Western Sydney: Penrith City, Hawkesbury City, The Hills Shire and Blacktown City. It includes Penrith, Richmond, Windsor and many surrounding suburbs.

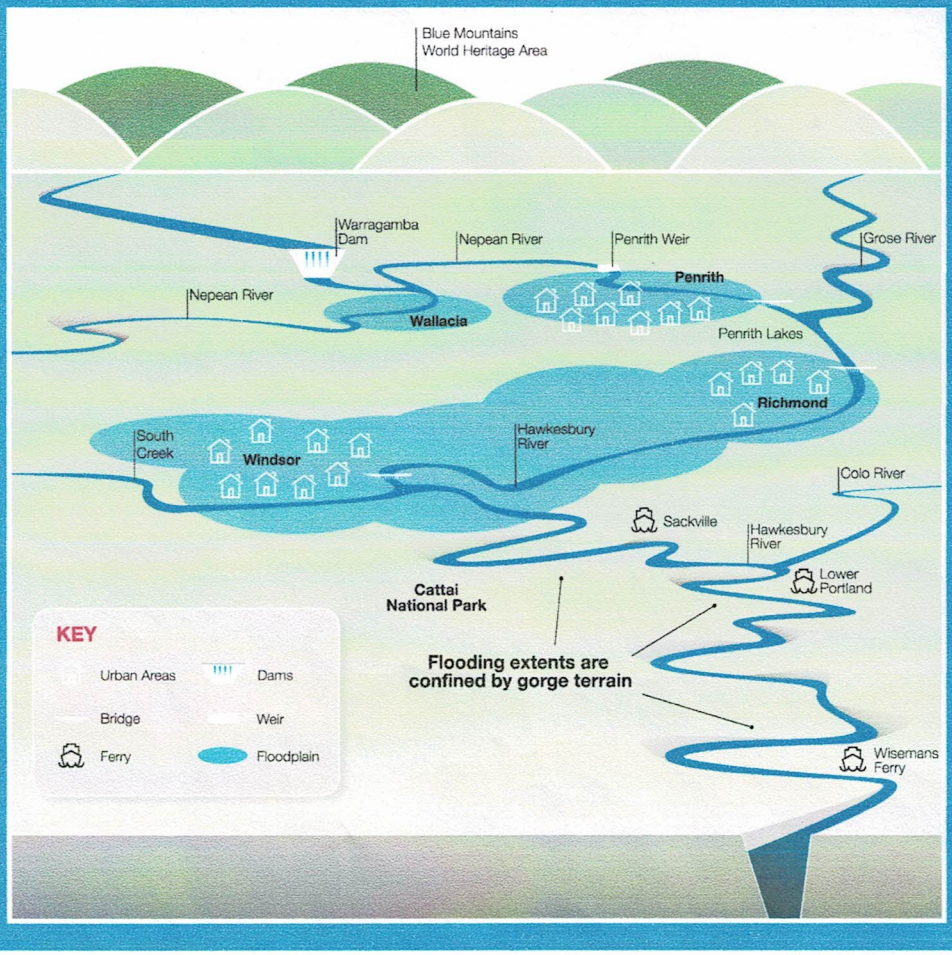
The valley is prone to rapid and deep flooding, with a long history of damaging and sometimes disastrous floods. The area also has a constrained evacuation road network and low levels of community awareness of flood risk.

ITEM 2

The Insurance Council of Australia considers that the valley has the highest single flood exposure in NSW, if not Australia.

ITEM 3

An unusual valley – the 'bathtub' effect



ITEM 4

Most river valleys tend to widen as they approach the sea. This is not the case in the Hawkesbury-Nepean River. Narrow sandstone gorges between Sackville and Brooklyn create natural choke points. The floodwaters from the five major tributaries back up and rise rapidly, causing deep and widespread flooding across the floodplain. It is much like a bathtub with five taps turned on, but only one plug hole to let the water out.

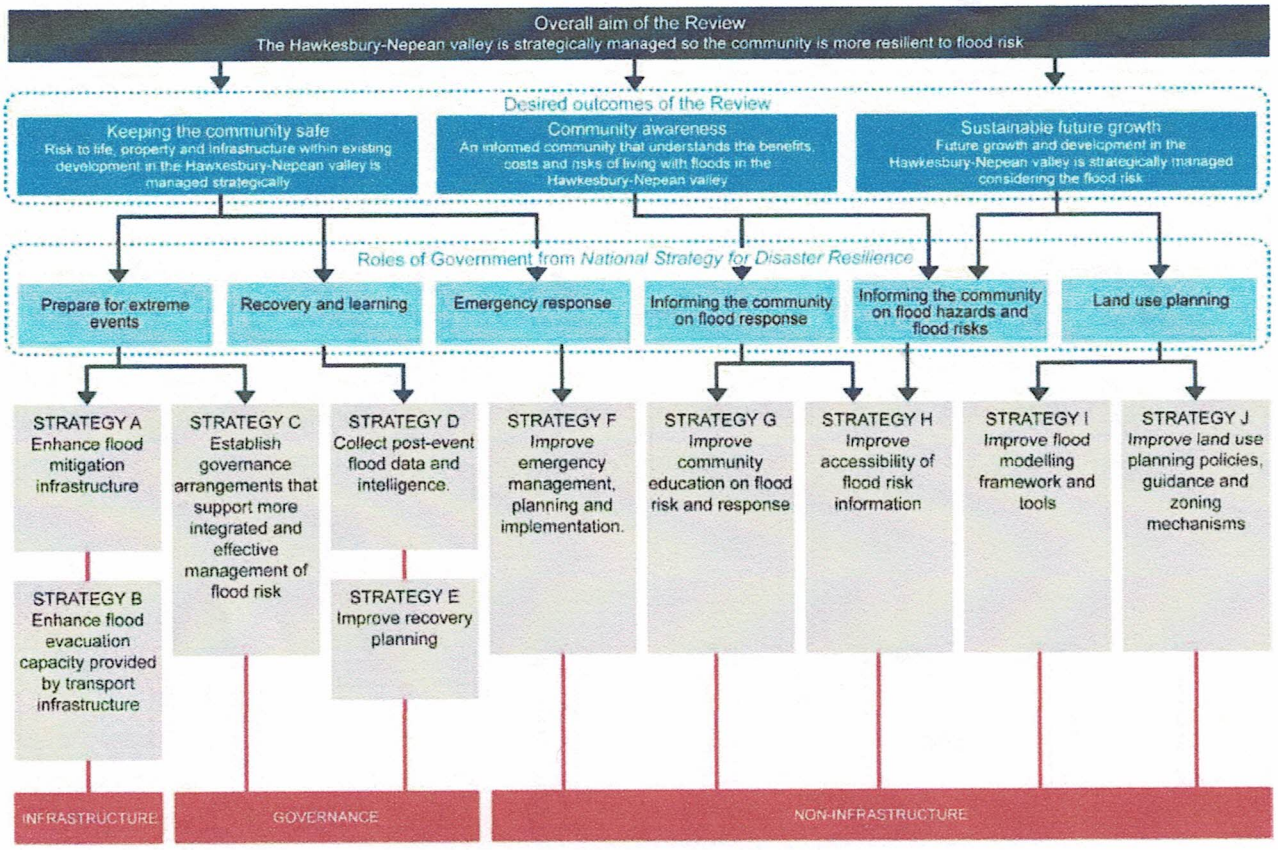


Figure 6: Structure of the Review Findings

Strategy A – Enhance flood mitigation infrastructure

The Review found that flood mitigation infrastructure can reduce, but not eliminate, the risk of flooding by lowering flood levels of particular sized flood event. The Review considered a number of flood mitigation options to hold back floodwaters or drain floodwaters from the basin more quickly. The options included:

- levees;
- downstream diversion channels
- dredging of the river
- raising Warragamba Dam
- changing the operation of current Warragamba Dam.

The Review found while the presence of Warragamba Dam and the Upper Nepean dams provide some flood mitigation, they are not designed or operated as flood mitigation dams, and there is currently no significant flood mitigation infrastructure in the Hawkesbury-Nepean Valley.

The Review considered two options for raising Warragamba Dam, by 23 and 15 metres. The Review found both options for raising Warragamba Dam had the most potential to reduce flood risk at both the Penrith and the Richmond-Windsor floodplains over other water infrastructure options. Raising of Warragamba Dam would not eliminate the need to evacuate as the floodplains will still be inundated in extreme floods, but raising the dam would delay the flood peak, allowing for evacuations to occur with more certainty and fewer false alarms.

1ST April 2019 **A084/18**

From: Darrell Bell
Address: [redacted]
Email: [redacted]
Mobile: [redacted]

Project: **Crown Cemetery Development Wallacia 2745.**

Attached: **Example of Simple Mistakes made by URBIS and other so called Professionals.**

Location: 13 Park Road Wallacia 2745
Size: Approximately 44 Hectares.
Local Government Area: Wollondilly.

- The Location is correct
- The size is Incorrect
- The Local Government Area is "Incorrect"
  It should read Penrith City.

I think Travers Bushfire and Ecology October 2017 were on the wrong Parcel of land an on the wrong side of the River by the above statement.

How many other mistakes are in all of the other Professional Reports URBIS and CMCT have submitted.

There could be large calculations mistakes –etc in their reports. Who is to know?

The only way to check these out is to have an Independent Professional Organisation check each individual report out.

I myself have found many other mistakes in these reports and I have used the above mistakes as a simple example to bring to your attention what I see as a problem that required the IPC to have these reports re examined.

Regards
Darrell Bell
[redacted]
1-4-19.

E-MAILED IPC

1.1 Proposed Subdivision Development

The proposed development involves the construction of the following built facilities on site:

- A multipurpose chapel (with crematorium below);
- A administration office;
- Reuse of existing building as function room; and
- Reuse of existing workshop building.

A road network has been designed to allow access to each of these facilities and access to the various burial and memorial sites throughout the development. Pathways are also provided. Please refer to Figure 2 for an illustration of the proposed road network and built facilities.

Aerial photography and mapping obtained from the NSW Land and Property Management Authority's (LPMA) *Spatial Information Exchange* (*SIX Viewer*) and *Near Maps* indicates that there are a number of dams and streams located within, and in the vicinity of, the site (refer Figure 3). Where required, measures need to be taken to provide appropriate riparian protection for any future development to maintain water quality and to conserve riparian vegetation and associated faunal habitat.

The basis of the following report was a detailed ground-truthing investigation in order to verify the presence and environmental value of any streams and to provide recommendations on riparian protection zones.

1.2 Background Details

Table 1 provides a summary of the planning, cadastral, topographical, and disturbance details of the subject site.

Table 1 – Site features

Location	13 Park Road, Wallacia
Size	Approx. 44 hectares
Local government area	Wollondilly
Grid reference	282400E 6250300N
Topography	The majority of slopes are gentle although there are some moderately steep short rises near to drainage lines.
Geology and soils	Bringelly Shale Formation covers most of the site except around Jerrys Creek which bisects the site near the western end. This geological unit Quaternary Alluvium. The south-western tip around the club house is located on the Blacktown Soil Landscape. Jerrys Creek and immediate surrounds is located on the Richmond Soil Landscape. The remainder of the site is located on the Luddenham Soil Landscape.
Catchment and drainage	Jerrys Creek bisects the site in the western portion. A tributary of Jerrys Creek runs close to the northern boundary of the site. Jerrys Creek joins onto the Nepean River approximately 500m to the west, but it meanders for approximately 1500m.
Vegetation	Natural remnant vegetation on site is shale or alluvium derived. Shale derived vegetation is Cumberland Plain Woodland, and alluvium derived is River-flat Eucalypt Forest on Coastal Floodplains.
Existing land use	Golf course.
Clearing	>90% of the natural vegetation has been cleared from the site.

1ST April 2019

A084/18

From: Darrell Bell
Address: [redacted]
Email: [redacted]
Mobile: [redacted]

Project: **Crown Cemetery Development Wallacia**
Produced By: **SES NSW STATE EMERGENCY SERVICE HAZARD AND RISK IN THE HAWKSBURY – NEPEAN VALLEY.**
LAST UPDATED SEPTEMBER 2015-FLOODSAFE.

Please find attached twelve pages with Graphs-Maps-Statements-Flood Heights-etc with the relevant information
Highlighted on them for the Wallacia Village Flood Water information.

I hope the attached information helps you in your decision to say NO to the Proposed Cemetery Development on
the existing Golf Course.

Regards
Darrell Bell
[redacted]
1-4-19.

NSW STATE EMERGENCY SERVICE

HAZARD AND RISK IN THE HAWKESBURY-NEPEAN VALLEY

Volume 2 of the Hawkesbury-Nepean Flood Plan

Last Update: September 2015

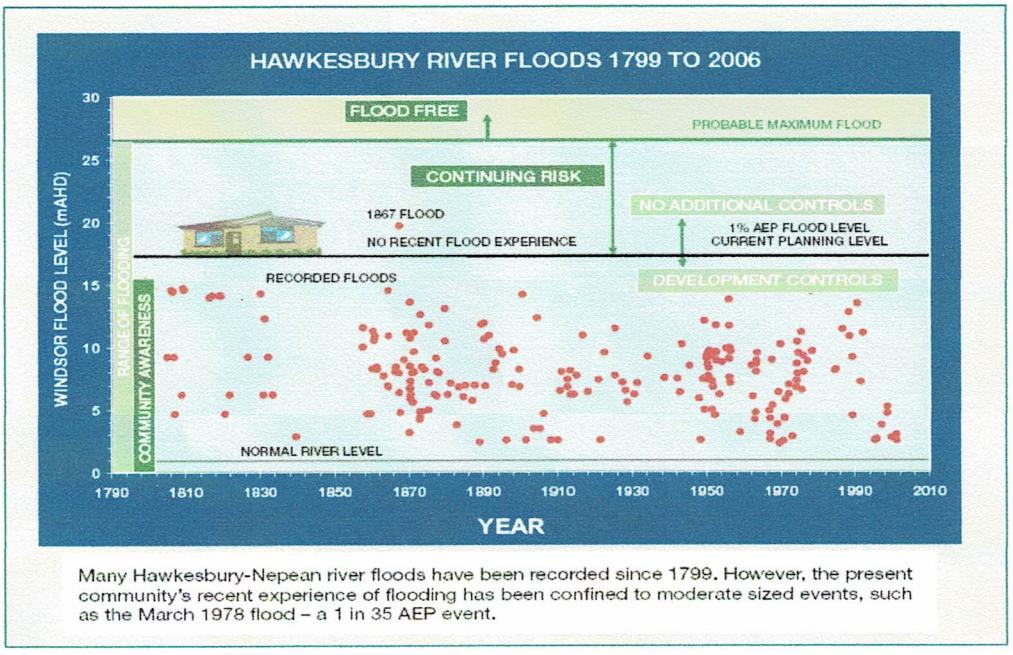
FloodSafe

So for western Sydney:

Table 2 - Flood Frequency Probability	Wallacia Flood Level (at Blaxland Bridge) m AHD	Penrith Flood Level (at Victoria Bridge) m AHD	Windsor Flood Level (at Windsor Bridge) m AHD
1 in 5 years = 20%	36.8	20.1	11.1
1 in 20 years = 5%	42.5	23.4	13.7
1 in 100 years = 1%	45.8	26.1	17.3
The 1867 flood, now estimated probability of 1 in 170 = 0.4%		26.1-26.9	19.2

Source: NSW SES, 2005. Hawkesbury/Nepean Flood Emergency Sub Plan, 2005. Hawkesbury/Nepean Flood Emergency Sub Plan, NSW State Disaster Plan (State DISPLAN).

Local Councils plan their development around the 1 in 100 year flood level – they use a depth of 17.3m at Windsor, and 26.1m at Penrith. Below this level, development controls are put in place, as can be seen in this diagram for Windsor, which also shows as red dots all the recorded floods:



Many Hawkesbury-Nepean river floods have been recorded since 1799. However, the present community's recent experience of flooding has been confined to moderate sized events, such as the March 1978 flood – a 1 in 35 AEP event.

Source: Managing Flood Risk Through Planning Opportunities - Guidance on Land Use Planning In Flood Prone Areas, prepared for the Hawkesbury-Nepean Floodplain Management Steering Committee, June 2006.

Source: NSW SES, 2005. Hawkesbury/Nepean Flood Emergency Sub Plan, 2005. Hawkesbury/Nepean Flood Emergency Sub Plan, NSW State Disaster Plan (State DISPLAN).

But what about Warragamba dam, built in 1960 – won't it save us from a major flood? The Sydney catchment Authority website says:

"Some believe that Warragamba Dam...protects the Hawkesbury-Nepean Valley from flooding. In fact, Warragamba was never designed as a flood mitigation dam... it can only mitigate floods to a limited extent."[3]

In fact the second and third highest recorded floods for river were experienced just after Warragamba was built in November 1961 and June 1964. In the 141 years from 1867 to 2005 there were 11 major floods – an average of 1 every 13 years.

Major Floods in the Valley: Year	Height at Windsor (m AHD)
1867	19.20
1961	15.00
1964	14.60
1864	14.40
1978	14.30
1956	13.61
1870	13.49
1990	13.36
1879	12.98
1988	12.65
1873	12.50
1949	11.96

Source: NSW SES, 2005, Hawkesbury/Nepean Flood Emergency Sub Plan, NSW State Disaster Plan (State DISPLAN).

[3] http://www.sca.nsw.gov.au/dams-and-water/major-sca-dams/warragamba-dam/warragamba-a-dam-full-of-myths

1.2 FLOODPLAINS AND GORGES

Floodplains are areas of land beside rivers that can be inundated by floodwaters up to the largest possible flood extent. They are normally reasonably flat fertile areas that are made up by the sediments that have been deposited during past flood events.

Whilst flooding is a natural process bringing with it many benefits, floods can have significant impacts on people living and working on these floodplains, their property and infrastructure.

Within the Hawkesbury-Nepean catchment the major flood risk areas are located on the floodplains and tributaries between Wallacia and Spencer. There are four main identifiable floodplains within this Hawkesbury-Nepean Valley area. These are the:

- Wallacia Floodplain;
- Penrith / Emu Plains / Castlereagh Floodplain;
- Richmond / Windsor / Wilberforce Floodplain; and
- Lower Hawkesbury Floodplain

An overview of these floodplains is shown on Map 2 and are further described below.

Wallacia Floodplain

The Wallacia Floodplain is located within parts of the Penrith, Wollondilly and Liverpool local government areas and includes the township of Wallacia (Refer to Maps 2 and 3).

The Wallacia Floodplain is around 10km in length and is located between Bents Basin and Wallacia. The Nepean River runs through a very narrow sandstone gorge, known as Bents Basin Gorge until it reaches Bent Basin State Conservation Area where the floodplain widens.

Downstream of Wallacia the Nepean River narrows again through the Nepean Gorge to a point just upstream of Emu Plains. The Warragamba River joins the Nepean River in this gorge 3.5km downstream of Warragamba Dam.

Emu Plains / Penrith / Castlereagh Floodplain

From Emu Plains to Castlereagh there is another slightly larger floodplain located within the Penrith local government area.

This floodplain extends into Emu Plains and Leonay on the western side of the river to the foothills of the Blue Mountains (refer to Maps 2 and 4).

On the eastern side of the river the floodplain extends into parts of the Penrith, and the Penrith Lakes area before constricting again near Castlereagh through the Castlereagh Gorge (4).

Richmond / Windsor / Wilberforce Floodplain

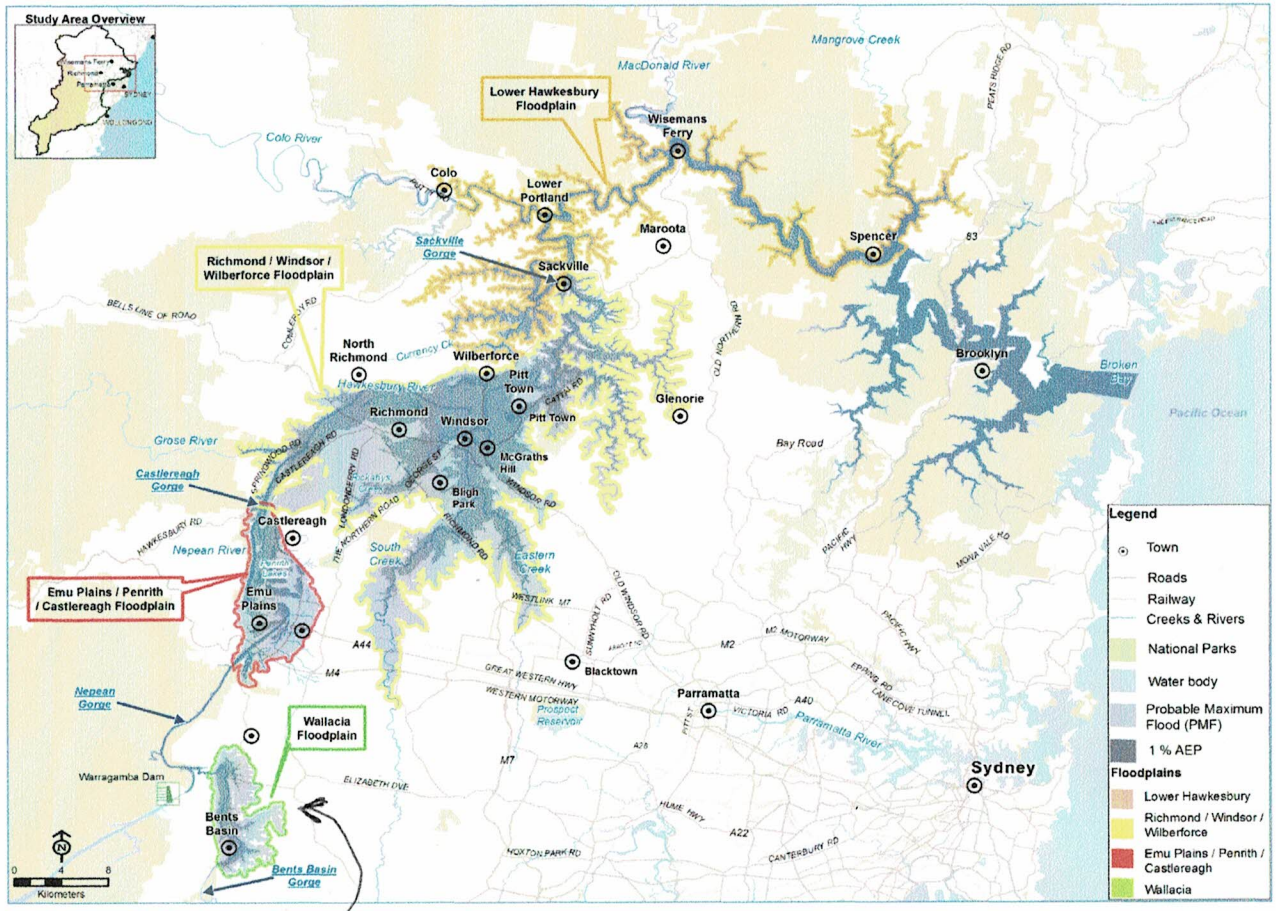
Downstream of the Castlereagh Gorge the River enters a distinct basin extending from North Richmond to Wilberforce. This is the largest of the floodplains covering parts of the Penrith, Hawkesbury, Blacktown and The Hills local government areas (refer to Maps 2 and 5). It encompasses:

- Richmond, Windsor, McGraths Hill, Bligh Park, Wilberforce, Cattai and Pitt Town;
- Rickabys Creek;
- The lower sections of South Creek (incorporating Eastern and Ropes Creek) including Marsden Park; and
- Bushells Lagoon, Wilberforce.

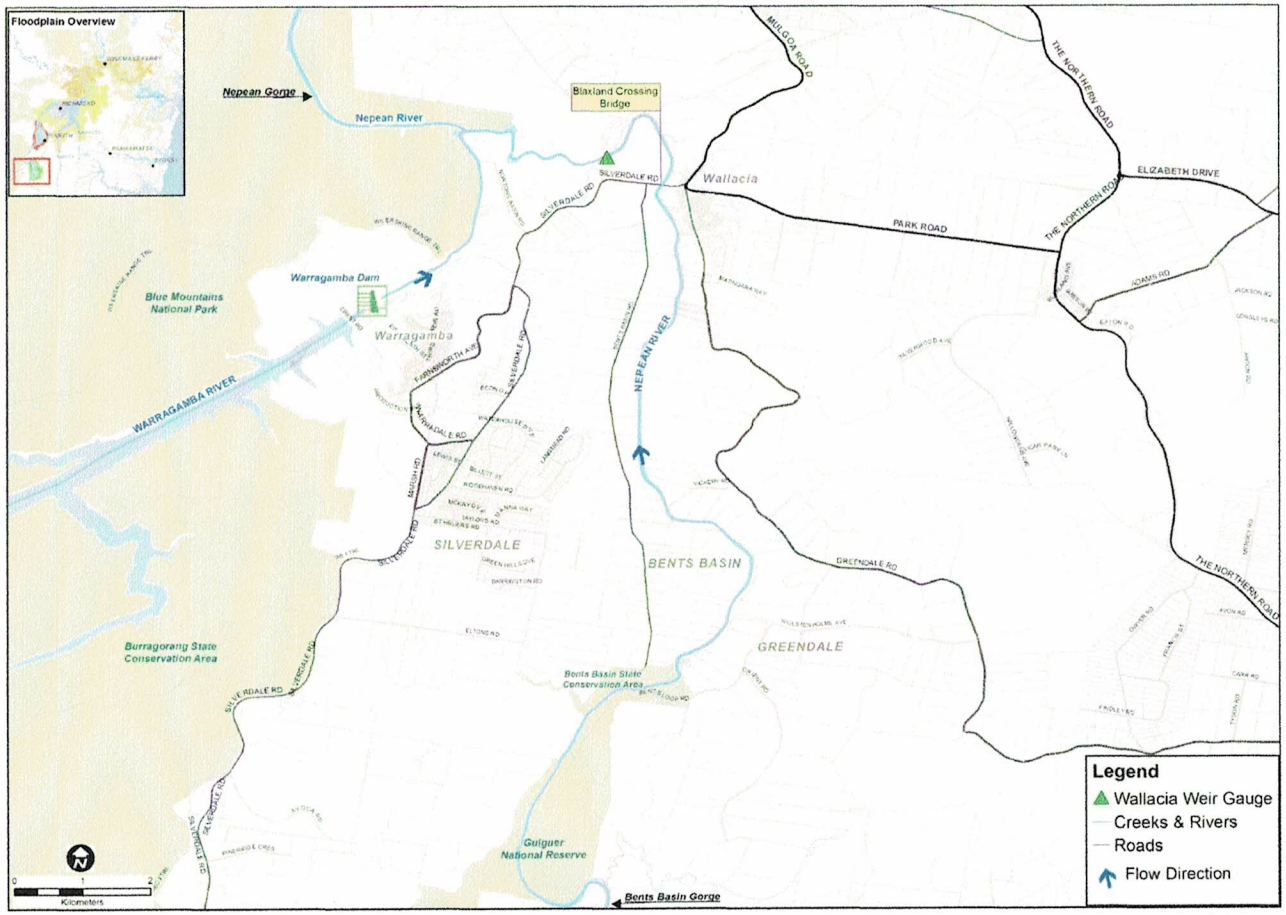
Lower Hawkesbury Floodplain

The remaining floodplain is comparatively narrow. It starts where the river constricts near Ebenezer and takes in the area downstream to Spencer (Refer to Maps 2 and 6).

This area is generally referred to as the Lower Hawkesbury and is located within parts of The Hills, Hornsby and Gosford local government areas.



Map 2: Hawkesbury-Nepean Floodplains



Map 3: Wallacia Floodplain

Table 2: Hawkesbury-Nepean Flood Frequency at various gauge locations

Probability		Wallacia Flood level (at Blaxland Bridge)	North Richmond Bridge	Penrith Flood level (at Victoria Bridge)	Windsor Flood level (at Windsor Bridge)	Sackville Ferry	Lower Portland	Leets Vale	Webbs Creek
AEP %	ARI Chance per year	m AHD	m AHD	m AHD	m AHD	m AHD	m AHD	m AHD	m AHD
20%	1 in 5	36.8	12.5	20.1	11.1	7.4	5.5	3.8	3.2
10%	1 in 10		14.0	21.6	12.3				
5%	1 in 20	42.5	15.3	23.4	13.7	10.2	7.5	5.2	4.4
2%	1 in 50		16.4	24.9	15.7	11.7	9.1	6.5	5.6
1%	1 in 100	45.8	17.5	26.1	17.3	12.9	10.3	7.6	6.7
0.4%	1 in 170			26.1-26.9 *					
0.5%	1 in 200		18.9		18.7				
0.4%	1 in 250				19.3 *				
0.2%	1 in 500		20.4	27.5	20.2				
0.1%	1 in 1000 (c)		22.1	28.6	21.9				
0.002% PMF	1 in 45,000	56.9 (b)	26.5 (b)	32.1 (b)	26.4 (b)	23.0 (b)	22.3 (b)	17.9 (b)	16.3 (b)

Source: Hawkesbury Floodplain risk Management Study and Plan (2012) (5)

Notes:

- * 1867 Flood of record

Floodplain	Area (Sector / Sub-sector)	Flood Classification	Last Road Cut m AHD	Submersion Height m AHD	Comments
Emu Plains / Penrith / Castlereagh	Penrith / Peach Tree Creek West	Low Flood Island	22.1m at the Penrith gauge (22)		Road cut at Ladbury Avenue. Some possibility to leave by overland route through Tench Reserve, but this way out also gets cut at Jamison Rd close to Anakai Drive at 23.6m AHD.
	Penrith / North Penrith A	Low Flood Island	22.3m at the Penrith gauge (22)		This contains Industrial / Commercial areas.
	Penrith / Regentville (ID 56 road point ID)	Low Flood Island in parts	23.2m at the Penrith gauge (22)		Cut at Factory Road isolating a number of properties near the Nepean River which can be flooded in larger events (22).
	Emu Plains / Emu Heights	High Trapped Perimeter	23.8m at the Penrith gauge (22)	>PMF	Properties become isolated when Wedmore Road close to Alma Crescent is cut (22).
	Emu Plains / East	Low Flood Island	25.7m at the Penrith gauge (22)	28m	River Road is initially cut at Jamison Creek, then along its entire length.
	Emu Plains / Central West	Low Flood Island	25.7m at the Penrith gauge (22)	31m	This area becomes isolated around a 1% event (26m AHD or 11.9m at the Penrith gauge).
	Emu Plains / Leonay E, W, S, N and Central	Overland Escape	34.35m AHD locally (28)		Road evacuation route cut on Leonay Parade at Knapsack Creek culvert.
Wallacia	Wallacia / Bents Basin	Overland Escape	33.9m AHD locally (21)		Bents Basin Road is cut at Baines Ck early during flooding isolating the area. Properties may be flooded during larger flood events. Overland escape may be possible up the hills to the west.
	Wallacia / Sth Wallacia (WA1) (15) and (23) road point ID	High Flood Island	61.5m locally (39.8m main evac route cut)	>PMF	The Park Road Evacuation Route is cut at 39.8m AHD. The alternative route is through a private property on a dirt track. Many properties would be flood affected in a PMF.

Caravan Parks

There are approximately 37 caravan parks located within flood prone areas of the Hawkesbury-Nepean Valley. The majority of these caravan parks are located along the banks of the Hawkesbury River downstream of Windsor with a mixture of long term, and short term caravan sites, holiday cabins and camping areas.

Many caravans are owned by people as holiday sites that can live some distance away. Some of these caravan parks are primarily accessed via the Windsor Bridge, and/or car ferries that are cut early during flood events. In the 1% AEP event several parks will be inundated by as much as 9m (5).

Access can be lost early for most of these parks therefore early notification of potential flooding is vital (5).

Correctional Facilities

There are two correctional facilities located within the Hawkesbury-Nepean Valley:

- The Emu Plains Correctional Centre is located on the floodplain at Emu Plains (31).
- The John Morony Correctional Complex incorporating the Dylwynia Correctional Centre (Womens) is located 5 km south of Windsor and is just on the edge of the PMF flood extent (31). Whilst it is not expected to be flooded its access and essential services may be affected.

Royal Australian Air Force Base (RAAF)

The RAAF base located at Richmond is the principal air transport facility for the Royal Australian Air Force. During the day there is expected to be up to 2350 people on the base, with around 800 people at night. However it can have up to 4610 people when at full capacity with Cadets (32). There is also a sewerage treatment plant on site (5).

The RAAF base begins to have some flooding from above a 2% AEP (1 in 50 year) flood event (around 16.4m at the North Richmond gauge).

Most of the base would be flooded in a 0.2% AEP (1 in 500 year) flood event (at around 20.1 to 20.4m at the Nth Richmond gauge) (5).

2.9 HEALTH AND WELFARE

Direct contact with floodwaters can result in people becoming sick due to raw sewage and other contaminants being present in the water (29).

The trauma and stress arising from being evacuated, losing property, cleaning up and having to cope with severely disrupted living conditions can in turn lead to the onset of stress induced illnesses, the aggravation of existing illnesses and in some cases premature death (29).

2.10 UTILITIES AND SERVICES

Flooding can impact on many utilities and services in both the flood affected and surrounding non-flooded areas (Refer to Table 7 and Table 8).

Electricity Supply

Electricity supply to Hawkesbury-Nepean Valley and surrounds is expected to be impacted by flooding due to damage to electricity network infrastructure as well as damage to the actual sub-stations. The amount of damage that is incurred will depend on the depth and velocity of floodwaters involved, as well as the amount of debris build up around them (29).

The first electricity outages to some rural customers are expected at moderate flood levels of around 8m to 10m AHD at Windsor and around 9.9m at Penrith (24m AHD) (29).

Above 14.5m at Windsor, electricity supplies are expected to be cut to the Northern side of the river.

Other electricity outages are expected to occur in both flooded and non-flooded areas as flood levels increase.

Following extreme floods some substations may need to be completely rebuilt, and electricity supplies may be disrupted for a number of months (29).

Communications

During flood events, land telephone systems are expected to be affected in some areas due to loss of electricity as well as inundation of telephone exchanges.

Telephone services will generally be able to be kept operational through the use of battery power for the first 6 hours, then the use of mobile generator power (29). However during major floods of above 22m at Windsor gauge and 13.9m (28m AHD) at Penrith land-line telephone services could potentially be disrupted for up to 2 to 4 weeks (29).

There is also likely to be a reduction of mobile telephone service availability within flooded areas, particularly above 18.6m AHD at the Windsor gauge and above 10.4m (24.5m AHD) at Penrith (29). However, mobile base stations could potentially be used to maintain some level of service if they are available.

Sewerage

There are a number of sewerage pumping stations within the floodplain which could potentially fail due to loss of power supply. This will result in raw untreated sewage being discharged into local waterways until power can be restored (29).

There are eight Sewerage Treatment Plants (STPs) potentially affected by flooding in the Hawkesbury-Nepean Valley. Of these, the Penrith, St Marys, Nth Richmond, Richmond and McGraths Hill STPs are expected to be damaged to such an extent that they will need to be completely rebuilt when flood levels reach 31m AHD at Penrith and 20.1m AHD at Windsor. In these cases reconstruction is expected to take up to 12 months to become fully operational (29).

Water Supply

Water supply could potentially be disrupted by flooding due to damage to pumping stations, loss of electricity or damage to the actual pipelines.

Once the Windsor and North Richmond Bridges are closed, water supplies will be cut off as pipelines over these bridges are closed as a precaution to protect against damage to the pipes (33).

2.11 TRANSPORT INFRASTRUCTURE

Major road bridge and rail closures within the Hawkesbury-Nepean Valley are detailed in Volume 3 Chapter 4 of this plan and within the relevant local flood plan.

Roads

Road closures including many road evacuation routes will occur throughout the floodplain at various flood levels as listed in Volume 3 Chapter 4. These road closures can isolate people in areas that may subsequently become inundated by flood waters.

Bridges

There are a number of bridges within the Hawkesbury-Nepean Valley that are inundated at various floods heights (ref to Volume 3 Chapter 4). These bridges will likely close prior to the listed heights dependant on debris and engineering assessments. They include (34):

- Blaxlands Crossing Bridge, Wallacia deck height 5.5m at Wallacia gauge (35.13m AHD);
- Yarramundi Bridge (Deck height 6.62m AHD (35));
- Windsor Bridge deck height 7.05m at Windsor gauge (7.2m AHD (35));
- North Richmond Bridge deck height 8.46m at North Richmond gauge (8.8m AHD (35));
- Victoria Bridge at Penrith deck height 15.7m at Penrith gauge (29.83m AHD (35)). However, damage to the Victoria bridge is expected at around 13.9m (28m AHD) at the Penrith gauge (29).
- Regentville Bridge over the M4 Motorway near Penrith deck height 32.79m AHD. Note, due to flood slope this bridge can be flooded during a PMF (35).

Whilst the Yarramundi, Windsor and North Richmond bridges have been designed to be

- Flooding could potentially impact on the small patches of remaining remnant native vegetation on the floodplain by uprooting or undermining trees and other vegetation, introducing weeds and depleting native fauna populations (29).

2.14 TRANSITION TO RECOVERY

Because of the wide variation in flood behaviour between different flood events, it is difficult to predict how long homes might be inundated or areas isolated. However, an indication for some of the more severe events might be gained from the following:

- During a 1% AEP flood (17.3 metres AHD at Windsor), levels of flooding at Richmond and Windsor (above 10 metres AHD) could last for about 4 to 5 days;
- During a repeat of the 1867 flood (19.3 metres AHD at Windsor), river levels could remain above 25 metres AHD for a day at Penrith and above 16 metres AHD for about three days at Richmond and Windsor. Access to Windsor could be cut for an additional half day;
- During the PMF river levels could remain above 25 metres AHD for up to 3 days at Penrith and above 16 metres AHD for as long as 4 days at Richmond and Windsor. Access to Windsor could be cut for an additional half day.

Once floodwaters have receded, recovery operations and the restoration of services are expected to take some time. Depending on the size of the flood there will potentially be significant repairs that would be required of roads, bridges, utility services such as electricity transmission stations, water supply infrastructure and sewerage treatments plants, some of which may need to be completely rebuilt.

In addition, hundreds to thousands of houses may have been significantly damaged or destroyed (See Tables 5 and 6).

This will mean that large numbers of people could require temporary accommodation whilst their properties are repaired or rebuilt.

- During a 1% AEP flood event around 14,900 people would require temporary accommodation for between 2 and 5 weeks with 3,300 people requiring accommodation for up to 6 months (See Tables 5 and 6).
- Following a PMF, around 15,600 people are expected to require temporary accommodation for up to 6 months, with up to 65,000 people requiring temporary accommodation for up to 12 months (See Tables 5 and 6).

2.15 THE EFFECTS OF A PROBABLE MAXIMUM FLOOD

The Probable Maximum Flood (PMF) is an extremely rare event having a probability of around 0.002% AEP (see Section 1.10 Extreme Flooding) in the Hawkesbury-Nepean Valley. The effects of a flood of this magnitude define the upper limit of what could happen. The PMF would result in an estimated 28,500 homes being flooded, of which 23,000 are expected to be severely damaged (7) (See tables 5 and 6).

In the 72 hour PMF the following river levels could be reached:

- Wallacia – 59.6 metres;
- Penrith – 32.1 metres;
- Richmond – 26.5 metres;
- Windsor – 26.4 metres.

The main impacts at these flood levels are likely to be:

- 100% of Windsor flooded;
- 100% of Bligh Park flooded;
- 100% of Richmond flooded;
- 100% of McGraths Hill flooded;
- 100% of Pitt Town flooded;
- 100% of Agnes Banks flooded;
- 95% of Wallacia flooded;
- 90% of Emu Plains flooded;
- Substantial parts of Penrith, Jamisontown and Regentville flooded;

1ST April 2019

A084/18

From: Darrell Bell
Address: [redacted]
Email:
Mobile:

Project: **Crown Cemetery Development Wallacia 2745.**

NED McGovern's Presentation at the Public Meeting.

I am using what happened to NED McGovern during his presentation as example to what is happening to him and other residents in our community.

The arrogance of the CMCT in continually pushing the D/A to develop Wallacia Golf Course into a cemetery.
Below words used on their propaganda literature:

CARE: There is no care by the CMCT for the problems they are pushing onto the likes of Ned McGoven and others. The panel saw at the meeting what CMCT has pushed Ned into, a possible nervous breakdown.

COMPASSION: What compassion has the CMCT shown Ned and the people of the Wallacia Village? ABSOLUTLY NONE.

CHOICE: What choice have they given Ned and the Wallacia Village? **NO CHOICE**. If they had they would have backed out by now.

"THREE PROPERGANDA WORDS"

CMCT need to come clean and tell everyone this is a business venture to make money and STOP HIDING BEHIND RELIGION.

I am worried about Ned's health as I see this development dragging Ned down from a happy person to a worried unhealthy person.
Here is a honest person who has worked hard all of his life to create a nice place to live in his retirement and then CMCT comes along and takes it away from him. (Care-Compassion-Choice).
CMCT are all excited that the RMS has approved their Seagull design intersection at their main gateway to the development.
Don't worry about poor old Ned having cars stopping, turning and going into the Cemetery virtually in front of his driveway.
Think of the extra noise and pollution he is going to have to put up with let alone taking the privilege away of being able to turn right coming out of his driveway and not being able to turn right into his driveway when coming from the west down Park Road.

The CMCT are not worried about the problems they are creating for this man they just keep telling him How good it will be for him to have a Cemetery across the road from his retirement house, if he works with them.
"The CMCT is full of propaganda praising themselves" no wonder this man Ned McGoven is on the verge of a nervous breakdown, his and others health is in the CMCT hands.

CARE-COMPASSION-CHOICE HA HA!!! THIS IS A JOKE

Regards
Darrell Bell
[redacted]

E-MAILED

tPC

5th April 2019 **AO84/18**

From: Darrell Bell
Address: [redacted]
Email:
Mobile:
Project: Crown Cemetery Development Wallacia, 2745

Comments on
IPC Meeting With Greater Sydney Commission

Page 7

5-10-15-30 No rail service- long bus trip from Penrith- no train station at or near the proposed Wallacia cemetery. When the airport opens all the people and funeral processions coming from the north, south and east side of Badgerys Creek airport by car will have to navigate through and around all the airport traffic to get to the proposed Wallacia cemetery. Everyone can do without that hassel.

10-15 The CEO of Urbis did make a statement at the Sydney Western Public Meeting that the majority of people would prefer to be buried within fifteen kilometres of where they lived. So this would mean that most people on the north, south and east side of the new airport would not want to be buried at the Wallacia cemetery.

30-35 Most of this paragraph has not been considered.

40-45 Mr Woodhams states they have been talking to the Aboriginal Land Council because Deerubbin group has large land holdings that would be suitable for cemeteries, so why does the CMCT keep pushing Wallacia? Why can't Wallacia wait until these talks are completed?

Page 8

25-30-35-40 So does this mean they could not care less about the local residence properties being devalued by a cemetery anywhere?

Continued

IPC

Page 10

20 So he is saying Wallacia could suit a Jewish cemetery because there will not be a crematorium in this proposed development? But the all night lights and security could be a problem for the surrounding residence when used for a Jewish funeral.

Page 11

15 As I stated before, the funeral processions will have to navigate all of the congested traffic around the airport which is not good when you consider the traffic congestion around the world wide international airports has this traffic problem. So eventually it will be the same around the new Badgerys Creek airport.

I would like to ask the panels this question.
If there was a D.A. submitted for a cemetery to be put in the vicinity of an existing hospital, retirement village, convalescent home, a major sporting facility or shopping centre, would a cemetery be passed?

This cemetery proposal
Is NOT in the public's interest

Darrell Bell
[redacted]
5-4-19.

5th April 2019 **AO84/18**

From: Darrell Bell
Address: [redacted]
Email: [redacted]
Mobile: [redacted]
Project: Crown Cemetery Development Wallacia, 2745

Comments on
IPC Meeting With Infrastructure NSW

Page 3

No 35 (1) I have supplied evidence of this statement from Insurance Council of Australia, that the Hawkesbury-Nepean Valley has the highest single flood risk exposure in Australia.

(2) The one-in-one-hundred flood planning level does not count for the full range of flood risk. (I guess is the comment from Ms M. Abood).

(3) The 1867 flood is the worst flood "recorded" in the European settlement.
At least two metres above the current flood planning level.
Urbis's flood level model height does not even come up to the current flood planning heights.
Models are only as good as the information put into the computer by the person operating it.

Page 4

No's 5-10-15 All of this modeling basically has been done for setting up evacuation of the population downstream of Bents Basin.

It does not concentrate on mitigation to lower the flood levels and stop the pollution entering the flood waters from decomposing bodies in grave sites within 50 metres of the highest flood level height.

Ms M. Abood commented there are incredible flood depths in the Hawkesbury- Nepean Valley.

Page 4

No 30 Planning component of the area is very important of future growth.

Continued

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Page 5

No's 10-15-30-45 It has been stated if the dam wall is raised 14 metres it will not be a mitigation for controlling flood heights, etc, to lower the flood level, it will assist in giving extra time to evacuate the people downstream of the Bents Basin and reduce the frequency of the minor flooding in the Jerry's Creek area.

It does not matter how small the back pressure of the Hawkesbury high tide coming in is, it has to be taken into consideration. If you put a lot of small problems together they can make one large problem.

The tide must be taken into account as it was worse in the 1978 than Ms Abood is describing.

Page 6

No 25-30-35-40 As I have stated previously this 50 metre buffer zone has to be taken from the highest flood height, not from the bank of the creek, waterway or wetland.

Page 7

40-45 There is an aerial photo of the Wallacia 1964 flood and there are some quite good photos of the flooded house around the Jerry's Creek area which were supplied.

Page 8

20-25-40 There is another problem with the Park Road evacuation route and that is if we have heavy local rain then Park Road can get cut up past the Elizabeth Park exit gate on Park Road, where the causeway goes through the where the old nursery was, which becomes a waste of time trying to get out Park Road evacuation route.

The suggestion of a bridge is just a pie in the sky statement and entrance B is on the east side of Jerry's Creek in the flood height zone has nothing to do with lowering the flood heights or evacuation.

Again Ms Abood answers are about evacuation nothing to do with the flood heights around Jerry's Creek.

The chances of the Warragamba Dam being raised 14 metres are very slim at the moment, as there is a large amount opposing it. For example parks and wildlife, The Aboriginal Community, Blue Mountains heritage listing and residence.

The RMS do not have any plans at the moment to widen Park Road, so I am sure that they do not have any plans to put a bridge over Jerry's Creek on Park Road. When and if they decide to erect this bridge, it would have to stretch approximately from the maintenance shed to the fire station. I think we could say for certain they would not do this until they widen Park Road to four lanes.

Continued

My comments to this meeting are the main problems, which are going to have an effect, with developing a cemetery on this property have not been addressed.

(1) Flood heights with larger floods in Wallacia cannot be changed by all the information given at this meeting.
(2) Grave sites set back 50 metres from the highest "Flood Height" is essential.
(3) Pollutants seeping into the flood waters from grave sites if the 50 metres from the highest flood height is not implemented. Then settling at the bottom of the flood waters is silt and pollutants (over approximately 6 days) including the possibility of dead animals being caught on new designed walkway, handrails, etc.
(4) Entrance B is in the design as the entrance to the maintenance shed and would not be accessible "if" a new bridge was built over Jerry's Creek.
(5) From what I understand from this meeting is that nobody has a fool proof solution to accommodate this development without effecting health and wellbeing of all the people residents in the Hawkesbury- Nepean Valley flood plan, especially the Wallacia flood area.

This cemetery proposal
Is NOT in the public's interest.

Regards,
Darrell Bell
[redacted]
5-4-19.

5th April 2019

AO84/18

From: Darrell Bell
Address: [redacted]
Email:
Mobile:

Project: Crown Cemetery Development Wallacia, 2745

Crematorium

The CMCT has withdrawn their application for a crematorium to be built and operated on the proposed Wallacia cemetery site at this point in time.

Could I please request the IPC to ask Urbis and the CMCT the question if this development is passed, do they intend to lodge another application for a crematorium at a later stage in the development? If the answer is yes, at what stage will the application be submitted? If this is the case, it would be an around about way of sneaking the crematorium back into the cemetery development.

This development should never be passed
AND
Is NOT in the public's interest.

Regards,
Darrell Bell
[redacted]
5-4-19.

IPC
E-MAILED

5th April 2019 **AO84/18**

From: Darrell Bell
Address: [redacted]
Email:
Mobile:
Project: Crown Cemetery Development Wallacia, 2745

Extra Riparian Zone and Walkways in Flood Areas

I would like to bring to the IPC's attention land space design and comments by Florence Jaquet Landscape Architect cemetery specialist at the Wallacia public meeting.

Florence spoke about Riparian increase in the flood areas and wet lands.
She suggests more trees, other vegetation and timber platforms with handrails to form a larger Riparian zone.

Well this is all good but in a slow rising flood area at Jerry's Creek in my opinion I would suggest it would make the flood water in those areas worse. I compare it to this experiment; take a bucket and fill it with water then get an ordinary brick and place it in the bucket. What happens when you do this is the bucket overflows because you place more material in that area of water which was in the bucket in the first place. By placing more trees, other vegetation, handrails and walkways you will create a similar effect. The only difference is it will not make the flood water rise in height, but it will just push the floor water further back up stream, maybe flooding more houses and property.

Another down side to doing this is with the very slow moving flood water backing up Jerry's Creek in 1978 the water took three days to rise and another three days to subside. This is very slow and leaves behind silt and pollution on the ground the water has been covering for six days. What concerns me here is all the silt has settled on the walkways and the floating, rotting vegetation and dead animals could be caught on the handrails of the walkways. Know that the CMCT has stated that the cemetery will be open to the public to use at anytime. So what happens if someone slips over or catches disease from this? Will the whole of the cemetery be closed while all of the flood area is cleaned up? That would mean funerals would have to be cancelled while this clean up was completed and passed by the Council's Health Department.

These are the possible problems which could happen when you try to put a development on a parcel of land which are not compatible with each other. (Development on unsuitable land).

This development should never be passed
And
Is NOT in the public's best interest.

Regards,
Darrell Bell
[redacted]

IPC
E-MAILED