ATTACHMENT 5

AMENDMENT C109

Review of the Land subject to Inundation Overlay and Special Building Overlay

OFFICER RESPONSE TO ISSUES RAISED IN SUBMISSIONS

Overview

The proposed changes to the boundaries of the SBO and LSIO are based on the best available information, best practice modelling and techniques developed over many years by experts in this field. The use of computer modelling is acknowledged as the only practical method to reliably map the extent of changes to the floodshape across the municipality.

Officer response to themes

This section provides the following in relation to each of the 14 issues identified:

- A short explanation of the issue;
- An officer response to the issue;
- Relevant commentary from previous Planning Panel reports where the issue has been previously considered.

Where a submission questions the accuracy of the modelling or raises a specific issue that cannot be categorised as generic, then a submission specific response has been prepared. These submission specific responses can be found in **Attachment 9.**

Issue 1 Individual properties have not experienced flooding in the past and should therefore not be subject to the overlays.

Explanation of issue:

Submissions objecting to the Amendment referred to previous flood events (or the lack thereof) in a local area. In this context, advice that their property had not experienced flooding was used to substantiate their position that the modelling must be incorrect.

Officer response:

- The shape of the overlay is based on the overland flow paths identified through best practice computer modelling. It is the most reliable, cost effective estimate that can be made from existing information and techniques.
- The lack of historical evidence about flooding on a particular site does not mean the property may not be inundated by overland flooding in the future.
- Storm events vary considerably and the factors that contributed to flooding in one storm event may not be repeated for the next.
- The SBO and LSIO maps are based on the forecasted overland stormwater flows associated with a 1 in 100 year storm event at a specific location, meaning that there is a 1 per cent chance that such an event could occur in any given year.
- Buildings and structures within the flow path may currently divert or otherwise hinder flood waters. If these structures were removed, then the flowpath would change and a property further down the flowpath may be impacted and experience flooding.

- Where this issue was raised in a submission, the Further Technical Review investigated and clarified if it was relevant to the floodshape on affected properties.
- Given the above, there is no justification to remove properties from the model simply because a submission has been made with this request.

Previous Panel findings

The Planning Panel in relation to Amendment C1 to the Bayside Planning Scheme considered the view of the Planning Authority that:

- *"The technical basis for the derivation of the SBO is appropriate and accords with industry practice.*
- *It is unlikely that a single storm event will cause the extent of inundation shown on the SBO. Flooding tends to be localised because a single storm event is unlikely to cover the whole of the SBO area at one time.*
- *Varying the input parameters of the models would result in relatively minor variations to the flood levels on which the SBO is based.*
- *The general absence of severe flooding in the past 80 years does not undermine the validity of the SBO.*
- *Application of more rigorous prediction methods is unlikely to result in a significantly different outcome."*

These points were also submitted to the Planning Panel in Amendment C18 to the Stonnington Planning Scheme:

"Melbourne Water stressed to the Panel that the SBO was not based upon a known or historical flood event. It was based upon the overland flows that would result from a storm event that occurs, on average, once every one hundred years. These overland flow paths were identified through computer modelling techniques."

In both cases, the Panel accepted these arguments and in relation to the latter case, the Panel noted:

"Whilst there may be no record of flooding on a property, however this did not mean that overland flows had not or would not occur at the site. Although flooding may not have previously been witnessed at the site, each storm event occurs independently of previous ones and it cannot be assumed that flooding has not previously or will not occur, on the basis that there are no records of such an event."

In Amendment C36 to the Boroondara Planning Scheme, the Panel made the following further points in relation to properties only marginally affected by the SBO and the need to maintain the integrity of the approach to flood mapping and controls:

"A number of the submitters sought the removal of these fringe elements of the SBO from their properties on the basis that no local knowledge existed to indicate that their land had been subject to flooding, even in recent heavy downpours. Others drew attention to constraining elements on their properties or adjoining properties that would serve to divert or withhold floodwaters from the natural flooding boundaries if the SBO flood levels were experienced. It

was contended that common sense consideration of these aspects should result in a decision to remove their property from the SBO…

The Panel can appreciate where a property is partially impacted by what some may view as a relatively small encroachment that these owners could experience a sense of frustration and view any variance that would relieve their property from the SBO as being an extremely minor variation, when viewed in context against the broad picture of the overall area impacted by any projected 1:100 flood. However if such variations were granted in a piecemeal approach then the whole integrity of the SBO would be challenged. It is important to appreciate that the SBO boundaries have been based upon rigorous application of both flood modelling and terrain modelling principles and each section of the SBO has been ultimately plotted and presented using prescribed and best practice of cartographic principles. To randomly vary boundaries without any substantial justification is inappropriate."

Issue 2 The modelling is inaccurate and does not reflect real life flood events and/or or existing site/area characteristics such as existing topography.

Explanation of issue

Submissions questioned the fundamental of the modelling and questioned the data that was used as a basis for the modelling.

Officer response

- The use of computer based modelling has been consistently accepted by Planning Panels as an appropriate basis for application of the SBO and LSIO.
- The terrain map used as the basis for the model is based on aerial photography and LIDAR point data provided by Melbourne Water.
- Council and Melbourne Water have gone to great lengths to ensure that the boundaries of the LSIO and SBO are mapped as accurately as possible (including undertaking further analysis following exhibition).
- A further technical review (peer review) has been undertaken to investigate whether there are any anomalies with the floodshape on affected properties that have made a submission. If an anomaly is found, then it has been recommended that the floodshape be amended.
- Fully assessing the flooding impact to an individual property will rightly occur at the planning application stage; when more detailed, site specific information can be assessed. At that stage any specific conditions for development can be most appropriately determined.

Previous Panel findings

The use of computer based flood modelling has been consistently supported by Planning Panels in the past.

This position is clearly outlined in the Panel Report on Amendment C18 to the Stonnington Planning Scheme:

"It is important to appreciate that the SBO boundaries have been based upon rigorous application of both flood modelling and terrain modelling principles and each section of the SBO has been ultimately plotted and presented using prescribed and best practice of cartographic principles. To randomly vary boundaries without any substantial justification is inappropriate. This aspect is best appreciated by taking an instance where a development on a property may incorporate a proposed underground car park and it is intended to grade the driveway from the street alignment down to the car park. The presence of a sliver of SBO across the property frontage would bring under scrutiny the levels of the driveway and if it was revealed that the proposed grade change was to introduce a significant change in levels that could result in a dramatic extension of the SBO not only over the property under development but also an adjoining property, then the presence of the SBO has fulfilled valuable role."

It has been accepted by all Planning Panels that have considered this issue that a full assessment of the flooding risk to a particular property is most appropriately undertaken at the planning permit stage, where accurately surveyed levels are provided by the permit applicant.

In the *Final Report on the New Format Planning Schemes*, Chief Panel Member, Helen Gibson raised the following points in relation to the Land Subject to Inundation Overlay (and which are equally applicable to the SBO):

"In the Panel's view, if accurate flood mapping is not being completed by DNRE [Department of Natural Resources and Environment], the relevant flood plain management authority should determine what land is potentially or likely to be affected by flooding and that land should be included in a Land Subject to Inundation Overlay. It does not matter that the boundaries may not be accurate at the time the overlay is applied. The Land Subject to Inundation Overlay only requires that a permit be obtained for buildings and works. It does not prohibit either use or development. The time to examine the evidence in detail about where flood levels lie in fact is at the time a permit application is made. The same approach needs to be adopted even when flood levels have been verified by DNRE but individual landowners dispute their accuracy. Panels do not have the resources to examine in detail competing arguments about where the flood levels lie on an individual property when there is a lack of agreement about this. At the amendment stage it is usually irrelevant. It is a matter more appropriately sorted out at the time any permit may be applied for."

Issue 3 Council and/or Melbourne Water drainage works have already addressed any potential flooding impacts.

Explanation of issue:

A number of submissions have raised the issue that drains in the vicinity of the subject property have been upgraded in recent years to address potential flooding impacts and that the modelling must not have factored in these recent upgrades.

Officer response

- Timing of any upgrades with respect to when the modelling was undertaken was considered. The drains in the ground at the time of the review were modelled.
- Council had to choose a point in time from which to proceed with the modelling using drainage infrastructure existing at that time, otherwise the modelling would still be unfinished due to the regular infrastructure improvements that are undertaken.
- Whether or not the submission property address is upstream or downstream of the upgrade is also important, as the property would not benefit from an upgrade if it was upstream of it.
- The Further Technical Review process involved interrogation of the drainage pipe GIS data in the surrounding area to the submission property to ascertain if an upgrade had taken place recently.
- The capital works records from the last few years were also scrutinised to identify possible upgrades that were not reflected in the GIS data.
- When a submission claimed that an upgrade had taken place, it could be one of the following scenarios:
    - The drainage upgrade was included in the modelling but the upgraded drains would not have the capacity to remove surface runoff entirely during a 1 in 100 year ARI event;
    - The upgrade was modelled (or not) but the submission property is upstream and does not benefit;
    - The upgrade was not modelled because it was undertaken after the modelling was done;
    - The upgrade was not modelled but should have been as it was undertaken before the modelling was done.

Issue 4 The Council/Melbourne Water drains have not been properly maintained and/or are inadequate.

Explanation of Issue

Submissions and enquiries have raised specific issues about drains blocked with leaves and other litter, or specific problems with the design of the local drainage network and have stated that poorly maintained infrastructure is partially responsible for the floodshape.

Office response

- Maintenance issues do not have any direct bearing on proposed Amendment C109 – noting however, the organisation's broader obligation to respond to these issues. The modelling was generated on the assumption that all infrastructure was free from litter and obstructions, and in perfect working order.
- Council and Melbourne Water continue to maintain and upgrade their respective drainage systems to ensure that drains continue to cater for the 1 in 5 year standard (design standard applied to the system).

- Council also provides regular street sweeping services to reduce the amount of leaf (and other) litter that could collect in the drainage system and responds to specific complaints or issues raised by customers about specific drains.
- Enquiries registered with Council that raised issues about drains blocked with leaves and other litter, or specific problems with the design of the local drainage network, are logged in Council's customer requests system.
- Actions may include cleaning out the relevant drain and if necessary marking it up for future or special attention and contacting the customer about the action taken.

Previous Panel findings

The Planning Panel in relation to Amendment C2 to the Moreland Planning Scheme provided the following points in relation to this topic:

"It is to be expected that the introduction of overlays will tend to draw from the community responses to perceived inadequacies in the existing drainage systems and submitters will endeavour to utilize the process as a forum for focusing on such matters. However the Panel has no power to deal with such concerns and it can do little but to draw such concerns to the attention of the Council administering the Planning Scheme."

Issue 5 Council and Melbourne Water should review and upgrade the drainage system to cope with overland flow and flooding from the one in 100 year flood event.

Explanation of Issue

Submissions suggested that the entirety of the drainage system should be upgraded to accommodate overland flows from the 1 in 100 year flood events. Some suggested that these measures should be undertaken in lieu of expanding the SBO to cover more properties.

Officer response

- The drainage system in Manningham was predominantly constructed prior to 1975, well before consideration of overland flows from 1 in 100 year flood events and was constructed to accommodate 1 in 5 year flood events which was the standard at the time.
- Upgrading the entirety of the drainage system in Manningham to a 1 in 100 year standard would not simply necessitate the use of drainage pipes with larger diameters, but in some areas it would also necessitate realignment and widening of existing roads, demolishing existing buildings and increasing the natural ground level of all properties that are affected.
- This would result in significant disruption and displacement for many residents – and a considerable financial cost to property owners and Council / Melbourne Water.
- The imposition of the SBO, requiring new buildings to be protected from flooding and for an assessment to be made about the impact of development on flowpaths, is comparatively less costly and disruptive than dealing with the damage caused by flooding events.

- Council has a strategic resource plan item for 2016/17 to review the current Drainage Strategy. This will use detailed flood mapping as a key input to understand the magnitude of and risk posed by flooding. This will enable a systematic approach to develop and prioritise management responses and interventions.

Previous Panel findings and background information

In Victoria, the use of the 1 in 100 flood level has been in effect since 1975 following the introduction of the *Drainage of Land Act 1974*. This provides the basis for declaring flood levels and flood areas and has since been incorporated into the *Water Act 1989* and the *Building Act 1993*. The standard and best practice prior to 1975 was for the drainage system to cope with 1 in 5 year flood events. This measure is also in the planning system, including the Special Building Overlay, which has as its stated purpose to:

"identify land in urban areas liable to inundation by overland flows from the urban drainage system as determined by, or in consultation with, the floodplain management authority".

Planning Panels have regularly considered this issue and have consistently agreed with Melbourne Water's comments about the true cost of addressing this legacy issue:

"To upgrade the whole Metropolitan system to accommodate a 1% flood standard would cost billions of dollars. [Melbourne Water's] current budget provides for a capital expenditure of approximately $6-8,000,000 per annum on the main drainage system and therefore it is necessary to adopt other complementary approaches to deal with the issue."

"A massive injection of funds into improving stormwater drainage in settled suburbs would be at the expense of other community aspirations… it would not be reasonable to inhibit the normal expectations of owners to develop their properties, awaiting some future time when community priorities favour a massive injection of funds towards drainage improvements."

Issue 6 New development and the increase in density across Manningham has increased the level of overland flow and flooding.

Explanation of issue

A number of submissions have raised concerns with the impacts that increased densities in municipalities such as Manningham are having on existing infrastructure such as drainage, which in turn is increasing local flooding and overland flow impacts.

Officer response

- Manningham has a responsibility to allow increased densities in appropriate locations and Council actively requires developers to provide sustainable development and include on site drainage retention systems.
- Council's drainage system is designed for the 1 in 5 year flood and any excess flood water flows overland along roads and parks. Properties within areas that have limited or no overland flow paths are more prone to flooding.

- With increased urban consolidation, drainage services are being placed under increased pressure, affecting the quality, quantity and rate of flow of water emanating from new or intensified development and potentially causing flooding.
- Sustainable development that uses the principles of integrated water management can help address these issues. Integrated water management has three aims: reduce reliance on potable water supplies; reduce the amount of wastewater and stormwater generated; and improve water quality in water catchment ecosystems.
- Providing a drainage system that promotes the on-site retention and re-use of stormwater run-off and regulates overland flow to prevent flooding may assist in ameliorating an intensification of the impacts of flooding through inappropriately located uses and developments.

Previous Panel findings

The Planning Panel in relation to Amendment C2 to the Moreland Planning Scheme provided the following points in relation to this topic:

The occurrence of overland flows is due primarily to the limited capacity of the drainage infrastructure, which, in accordance with design standards of the time, was generally only required to be designed and constructed to the 1 in 5 year standard. Although incremental developments throughout the catchment may contribute to increases in runoff, this would only impact marginally upon what is an existing risk of inundation from the large storm events.

Issue 7 **Property values and property resale will be impacted, accordingly, Council rates should decrease or may increase as a result of the overlays and compensation should be payable.**

Explanation of issue

Submissions suggested that the inclusion of their property in the SBO and LSIO would negatively impact on the value of their property.

Officer response

- The flood prone nature of some land is an existing fact. Excess floodwater may still follow natural valleys and drainage paths that existed prior to the subdivision and development of the area.
- The LSIO and SBO have an important function to reflect this underlying condition of the land transparently to current owners and future purchasers of affected properties – so that they can make informed decisions about the property and about planning for their own safety during flooding events.
- Property values are determined by many different factors, including location, streetscape and amenity, the current economic conditions, as well as planning controls. It is therefore difficult to assign what effect, if any, the identification of land as liable to overland flows by the SBO and/or LSIO may have on the value of a property.

- Past Panels have not found evidence that the SBO and LSIO impacts on property values and have also determined this would not be a reason to avoid application of the controls – see below.
- The *Planning and Environment Act 1987* clearly sets out the circumstances where compensation is payable and is essentially limited to where land is reserved or required for a public purpose or where access is to be denied by the closure of a public road. It does not cover situations where controls such as the SBO/LSIO are imposed. Compensation would not be payable as a result of applying the overlay controls.
- The overlay does not cause or change the likelihood of flooding. While the overlay may identify the drainage conditions of the land, there is, appropriately, clear legislative indemnification from any claims arising out of the identification of land liable to flooding.
- In November 2016, Council appointed Charter Keck Cramer ('Charter') to provide advice on what, if any, impact the SBO will have on the values of those properties affected in the short and long term. Attachment 11 contains this report and the report concluded the following:

  "In undertaking this assessment Charter has not been able to establish that the application of the SBO will negatively impact the values of those properties to be affected. This is consistent with the findings of the study undertaken by Charter for the City of Stonnington in 2004.
  …it is Charter's opinion that the SBO will not negatively impact property values in the City of Manningham."

Previous Panel Findings

The Planning Panel, in relation to Amendment C18 to the Stonnington Planning Scheme concluded that:

"Panels have consistently found that there is no justification for setting aside of any SBO amendment on the basis of requests for compensation, loss of property value and possible increase in insurance premiums."

The Planning Panel, in relation to Amendment C50 to the Moreland Planning Scheme stated that:

"The value of any property is determined by the complex interplay of many different factors such as overall economic conditions, public economic policies, location, streetscape and amenity, and it is difficult to assign what effect, if any, the identification of land as liable to overland flows may have on the value of a property. This view is consistent with the conclusions of the Planning Panels for Amendment C3 to the Yarra Planning Scheme and Amendment C18 to the Stonnington Planning Scheme. These Panels generally found no correlation between the application of the SBO and property values. Melbourne Water also reported that the Stonnington Council commissioned Charter Keck Kramer (CKC) to review

the effects on property prices of the application of the SBO. CKC examined property prices in the City of Port Phillip and found no correlation. The Panel was not provided with any contrary evidence and concludes that the SBO or the LSIO are highly unlikely to affect property prices, and that it is appropriate that the condition of the land be recorded and available to interested people."

Specifically, the Charter Keck Kramer study concluded (as reported in the Panel Report to Amendment C18 to the Stonnington Planning Scheme):

"There is a general purchaser awareness of the SBO within the City of Port Phillip, and that purchasers understand the consequences that some properties affected by the Overlay may, in the course of renovation and extension, have to meet special planning and building requirements that would otherwise not apply. Notwithstanding, the pattern of sales and analysis, gives no evidence or cause to believe that the application of the SBO to any of the properties has had a measurable effect on the value of those properties when offered to the market on normal reasonable terms and conditions. Simply stated, the application of the Overlay within the City of Port Phillip appears to have had no adverse impact on the property values. For the reason that there is a strong socio-economic and demographic similarity between the City of Port Phillip and the City of Stonnington, and as many of the properties affected in the City of Port Phillip are of a similar style, construction mode and market value range as many of those likely to be affected within the City of Stonnington by the proposed introduction of the SBO, we consider it reasonable to anticipate that the introduction of the SBO in Stonnington will, similarly, have no measurable impact on the value of properties to which it will apply."

Issue 8 Insurance costs/premiums will be impacted.

Explanation of Issue

Submissions suggested that the inclusion of their property in the SBO and LSIO would result in higher insurance premiums.

Office response

- The potential impact on insurance premiums is not a matter that should have any bearing on the application of the LSIO or SBO.
- The application of the overlays does not cause or change the likelihood of flooding, but recognises the existing condition of land.
- The Insurance Council of Australia has advised Melbourne Water that most insurance policies provide coverage for storm damage, include cover for damages resulting from overland flows. However, this needs to be confirmed by the property owner's individual insurance provider.
- Previous Panels have consistently determined that the potential impact on insurance premiums is not a matter that should have any bearing on the application of the SBO or LSIO.

Previous Panel findings

The impact on insurance premiums has been consistently dismissed as a relevant issue by previous Panels. Whilst other panel reports generalised and combined these issues, in Amendment C1 to the Bayside Planning Scheme there was a significant discussion on this topic. Both the Council and Melbourne Water put the following to this Panel:

"This is not a relevant consideration in the determination of whether a development overlay should apply. Insurance contracts have always imposed an obligation of disclosure on policy holders. The application of an SBO does not cause or change the likelihood of flooding, but recognises the existing condition of land. Insurance companies would continue to calculate their premiums on the basis of what is known, and the properties identified in the overlay would still be subject to flooding in a 1 in 100 year rain event. The Insurance Council of Australia has advised Melbourne Water that most insurance policies that provide coverage for storm damage, include cover for damages resulting from overland flows. However this would need to be confirmed by the household's individual insurer."

The Panel agreed with these points and added:

> *"The Panel agrees that [the impact on insurance] is not a matter which should affect the imposition of the overlay. Such a position, if accepted, may also affect the imposition of other overlays such as the Wildfire Management Overlay. The inclusion of the overlay in the scheme represents an important piece of information for property owners and potential purchasers and developers."*

Issue 9 Buildings or structures on a property are unaffected by the proposed overlays, and therefore the overlay will impact the site unnecessarily.

Explanation of issue

A number of submissions have raised the issue that the overland flow path does not impact land where there is a building or structure, there will be no flooding of the house or garage in a 1 in 100 year flood event and therefore application of the overlay is irrelevant.

Officer response

- It is important to note that future buildings or development may not necessarily be in the same location as existing buildings or structures.
- The function of the LSIO and SBO is therefore to ensure that any future development within an affected portion of the site is designed appropriately in response to the identified flood potential.
- The removal of the SBO or LSIO could result in inappropriate development that increases flood risk to adjoining properties, or has an insufficient floor level or basement entrance that would be at risk of flooding.

Previous Panel findings

The Panel in relation to Amendment C2 to the Moreland Planning Scheme stated:

"The purpose of the Overlay is to identify land affected by flooding or overland flows as a result of a 1 in 100 year rainfall event. The Panel accepts that a prime function of the

overlay is to ensure that any future development within the affected portion of the site is appropriate in terms of the identified flood potential. The removal of the overlay could result in a development application that may seek to introduce a floor level that has an inappropriate relationship with the flood level."

Issue 10 There will be a financial or administrative burden for future development – including additional costs associated with seeking planning permission and raising floor levels.

Explanation of issue

Submissions stated that the inclusion of their property in the LSIO and/or SBO would be an administrative burden and could result in increased costs associated with future redevelopment or extensions to existing buildings.

Officer response

- A planning permit is only triggered if the proposed buildings and/or works fall within the area of land covered by the SBO and LSIO. In many cases (45% of affected properties), a planning permit would already be required under other provisions of the Planning Scheme.
- Costs associated with redevelopment in LSIO and SBO areas will vary depending on the site context, how the overlay covers the site and the proposed design of the development.
- Any additional costs of increasing floor levels should be considered as a safeguard against the cost incurred as a result of potential flood damage to new buildings.

Previous Panel findings

In relation to the issues associated with redevelopment, the Planning Panel for Amendment C50 to the Moreland Planning Scheme has highlighted that the SBO is a necessary planning mechanism to ensure that development responds to flood risk at the permit stage. It stated:

"The Panel notes that under the Overlays, a planning permit is required for buildings and works, and applications are referred to Melbourne Water. Upon application for a permit, each site can be investigated further, and a detailed assessment be made. Melbourne Water's requirements generally relate to the raising of floor levels or changes to site layout. The Overlays ensure that development proposals are tested prior to being implemented. This process ensures the proposed development is safe and minimises the risk of personal injury or property damage that may arise from periodic inundation. Often the referrals process is likely to improve the design of the development. The Panel also notes that applicants have the right to seek a Review by VCAT if they consider that the Responsible Authority or referral authority are being unreasonable."

Issue 11 The proposed overlay will only have a minor impact on the property due to a minimal incursion, or the overlay falling over an existing easement or driveway and should therefore be removed.

Explanation of issue

A number of submissions have questioned the relevance of the overlay as it only applies to a very small section of their property and is often located along the boundary or across an existing easement.

Officer response

- The extent of the proposed floodshapes affect properties differently. Some properties may only have .01% of their property affected by the floodshape, whereas other properties may be 100% affected. People will have different opinions about what is considered to be a minor incursion.
- Due to the flood mapping methodology, the flood extents generated from the flood model results may encroach slightly onto properties. As part of the development of the overlays, in cases where the flooded area of a property was entirely within 5 metres of a roadway and the percentage of the property affected was less than 10%, these areas were removed from the proposed overlay floodshape, prior to exhibition. These adjustments were considered appropriate given the low level of benefit associated with retention of these encumbrances in controlling future development.
- Several submissions have objected to the Amendment on the basis that their properties are only impacted by minor incursions. The City of Port Phillip Planning Scheme amendment proposed that in cases where incursions of 6% and 15sqm or less of the property area applied, the planning extents be removed from affected properties. Similar criteria has been developed as part of the Further Technical Review of submissions made to Amendment C109. In the case of Manningham, as the properties are generally significantly larger than the properties in Port Phillip (700sqm versus 300sqm), where the incursion is less than 30m2 and represents less than 6% of the property area and is not considered to be significant, then a recommendation may have been made to delete the overlay in the subject location.
- An assessment has also had to be made that trimming of the floodshape in such a way won't create a disconnect or significant impact on the connectivity of the floodshape.
- Consideration was also given to whether the minor flood shape incursion was associated with flow into or out of the property, based on the topography of the land. If the flood shape is associated with flow into the property, the flood shape is recommended to be retained.
- Consideration was given to the length of the incursion into the property. Incursions greater than 5 metres into properties are recommended to be retained.
- These requirements are in keeping with the adopted criteria for removal of minor incursions along the frontages of properties as part of the original filtering process, precedent associated with prior Panel processes and flood risk principles.

Previous Panel findings

In relation to Amendment C111 to the Port Phillip Planning Scheme, the Panel provided a response to this particular issue;

'the premise for the inclusion of a property for further technical review, i.e. that the SBO covers less than 15sqm, and less than 6% of the total site area of the site is regarded by the Panel appropriate in so far as there is consistency in procedure and approach across municipalities'.

Issue 12 **Built features (such as existing floor levels, on site drainage, retaining walls etc.) on the subject property and adjoining properties may currently divert water away or prevent water from entering a property. Therefore question relevance of overlay was questioned.**

Explanation of issue

Submissions have suggested that existing walls, buildings or fences (on their property or adjoining properties) currently protect their property from flood damage.

Officer response

- There is no certainty that development on a site or on adjoining sites will remain and continue to block the flowpath of water. If these structures are removed, then properties on the site or further down the flowpath may be affected by overland flows.
- In relation to existing buildings, once the flood water reaches floor level, the building is inundated and becomes part of the flow path.
- It is important to assess the impact of future development within the LSIO and SBO, particularly development that may impact on the flowpath.
- Adding further information to the terrain map in relation to the building locations, walls and fences and other structures and their impact on flows would be extremely complex and resource demanding (noting that the 'roughness factor' incorporated in the modelling already addresses the existence of obstructions).
- Therefore, a general depiction of the likely flooding impact is the most effective approach in deriving the LSIO and SBO boundaries.
- For all of these reasons, the presence of built form on an adjoining or nearby site, or on the site itself does not warrant removal of the property from the LSIO and/or SBO.

Previous Panel findings

In relation to Amendment C18 to the Stonnington Planning Scheme, the Panel provided a response to this particular issue:

"Whilst the model does embody some elements that deal with the recognition of flows in urban areas, the overland flow path projected by the model is based on the ground levels and assumes that no blockage of drainage infrastructure exists at the time of flooding and that structural barriers such as fences, houses and brick walls are less permanent [It is has been] consistently stressed in previous Panel hearings… that the SBO should be viewed as a

planning tool that aims to identify areas subject to the 100 ARI event… and it must be recognised that hydrological analysis was based on statistical concepts that were susceptible to change as more data became available. Consequently, hydraulic and hydrological analysis can be continuously refined."

Issue 13 Consultation process and information provided was inadequate.

Explanation of issue

Some submissions are critical of the exhibition process undertaken for the Amendment. Criticisms have included inadequate information and the exhibition period too close to Christmas.

Officer response

- Exhibition of the Amendment exceeded the statutory requirements specified under section 19 of the *Planning and Environment Act, 1987.*
- Exhibition of the Amendment also included non statutory communication measures as follows:
  - Interactive web tool
  - Information sessions
  - FAQs
  - Information on Council's web site
- The Amendment was exhibited for 6 weeks as opposed to the statutory requirement of 4 weeks under the *Planning and Environment Act, 1987*.
- Council received over 100 phone calls in the first two weeks of exhibition; attended to over 120 counter enquiries and every person who wished to speak to a Council officer directly had the chance to do so.
- All requests for an extension of time to submit and/or add to existing submissions was widely made known.
- Submissions were still being submitted after the closing date and can be received up until the panel hearing to consider submissions. The latest submission was received in December 2016.

Issue 14 Other issues

Explanation of issue

A number of submissions raised specific issues that require an individual response. The responses can be found in **Attachment 7** where each submission has also been summarised.

Previous Planning Panels - Summary

Planning Panels Victoria (PPV) have considered and reported on a significant number of planning scheme amendments relating to flood overlays or zones (including the LSIO and SBO), since the introduction of these provisions into the Victoria Planning Provisions more than 17 years ago. Most of the issues raised by submitters to Amendment C109 have been raised in previous Planning Panel hearings considering the introduction (or change to) the LSIO or SBO. Previous Planning Panels have consistently made the following points with respect to the application of the overlays:

The drainage system

- The application of the LSIO and SBO complement other flood mitigation, drainage maintenance and upgrade works undertaken by floodplain management authorities or local councils.
- Upgrading the entire drainage system to present day standards in order to accommodate for 1 in 100 year flood events would cost billions of dollars, and is not practical for floodplain management authorities (e.g. Melbourne Water) or for local councils to deliver.

Purpose of the LSIO and SBO

- The flood prone nature of some land 'represents an existing fact'.
- The LSIO and SBO are tools to advise landowners and potential purchasers of the potential for the land to flood in a 1 in 100 year flood event, and allows authorities to consider any development proposals to reduce detrimental impacts.
- The LSIO and SBO do not prohibit development and the requirements in the LSIO and SBO only apply to development and works proposed within the area covered by the overlay.

Flood modelling

- The shape of the overlay is based on the overland flow paths identified through best practice computer modelling and is the most reliable estimate that can be made from existing information and techniques.
- It is unlikely that a single storm event will cause the extent of inundation shown on the LSIO and SBO. Flooding tends to be localised, because a single storm event is unlikely to cover the whole of the LSIO and SBO area at one time.
- The cost of gaining more intensive terrain information (via land surveys of individual properties) would be prohibitive and the most appropriate time to assess the flooding risk to a particular property is at the planning permit stage, where accurately surveyed levels area provided.

Development costs, property values & insurance

- There has generally been no correlation found between the application of the LSIO and SBO and property values.
- A potential increase in insurance premiums is not a relevant consideration as to whether the LSIO and SBO should be applied.
- The full disclosure of property information is appropriate and beneficial.

- The prospect of improved planning for the community is more important than the possibility of decreased property values or the increased costs associated with raising the floor level of a new building.