GUARDIANS OF PĀUATAHANUI INLET

Date: 9 June 2020

To: Porirua City Council

From: The Guardians of Pāuatahanui Inlet

Email: pauaInlet@gmail.com

Contacts: Lindsay Gow (Chair GOPI)

Submission: Application for resource consent to subdivide six lots, five for residential use and one to provide for a Gospel Hall building and related parking (on Lot 6 of the proposal).

Trade Competition: We are not a trade competitor.

Effects from the Submission

We consider the Pāuatahanui Inlet will be adversely affected by the results of the application.

Parts of the Application that the submission relates to

Our submission relates principally to the progressive climate change induced adverse effects of rain storm events, storm surges, tidal events and sea level rise on this low-lying site.

Heavy rain, especially caused by progressive climate change related events, will have increasing adverse effects on stormwater disposal and sewage management including management of the proposed swale, and stormwater discharge into two soakage pits. The risks posed by sediment and contaminants from fill eroding into the adjacent wildlife reserve and the Pauatahanui Inlet are another cause for concern.

We are opposed to the application as it stands but are not opposed per se to some form of development on this site that takes full and planned account of the progressive effects of climate change and of related stormwater and sewage management.

The reasons for making this submission

We note that the site of the application lies in a low lying and flood prone area of Pāuatahanui. Even without any sea level rise, GWRC estimates up to half the site will be subject to storm surge events. At a modest 0.5m sea level rise (likely before the end of the century) all of the site will be adversely affected (mapping1.gw.govt.nz). Even if the site is elevated by 1 metre, the drainage system will necessarily be lower, probably with little headway between the groundwater level and the surface and therefore an inundation risk. Mana Esplanade already shows what happens when sea water inundation events raise the ground water level and result in drainage back up and flooding.

The effects from storm surges and sea level rise are therefore likely to inundate and overflow the proposed stormwater management system and, particularly, the swale which is sited at the lowest, seaward end of the site. It is planned for the swale to discharge into an adjacent drain in the Wildlife Reserve. The water from this drain exits into the Pauatahanui Inlet.

Inundation from storm events, exacerbated by periodic high and king tides, may well cause overflow water and related sediments and contaminants trapped by the swale to enter the wildlife reserve (an area of Significant Conservation Value), and then the harbour. Storm and high tide events may well affect the sewerage system and cause overflow and cross-contamination. Further, we are concerned that material brought in for the proposed 1 metre fill may erode and end up being deposited in the wildlife reserve and eventually in the harbour.

We are not opposed to development of this or other sites in this area per se, but we consider any such development or redevelopment must be the result of a carefully considered risk assessment followed by an adaptive management plan. Such an assessment is recommended by the Ministry for the Environment in its guidance manual for local government on climate change (Climate Change Effects and Impacts Assessment - MfE 2008). An adaptive management plan is also recommended in the recent PCC Draft Coastal Hazards report (September 2019).

Relevant excerpts from these reports are:

MfE guidance manual (2008):

7.2.1 Duration of the Issue

- *A project or a coastal reclamation is effectively permanent, as existing use rights apply unless there is community buy-back with full compensation.*
- *While the former (1991) Building Act was based on an assumed building life of 50 years, the current Building Act (2004) does not include an assumed building life. Many structures are intended to, or do, last a century or more.*

7.2.2 Particular Drivers

When climate change is factored into new investment decisions, the resulting asset

'life-cycle' costs should be less than the additional costs from premature retirement of the asset or later unprogrammed upgrades. In some situations, the design of new infrastructure may 'lock in' resource requirements in a way that makes later upgrading virtually impossible.

7.2.5 Nature of the Issue

For example, in planning for an urban expansion, if there are options, low-lying coastal areas should be avoided; and, if flood plains are being considered, higher and more frequent floods than in the past should be assumed.

7.3.8 Liability

Local government can be financially liable for decisions that are shown to have been made in the face of information that should have led to another decision.

Larger climate-related issues, such as frequency of flooding of a developed area, are less likely to result in direct liability unless areas become uninhabitable as a result. However, community costs in enhancing or retrofitting infrastructure can become considerable, and questions of equity in relation to wider community interests also arise.

The PCC Draft Coastal Hazards Report (September 2019):

13.3 Management Options and Recommendations:

The coastal inundation analysis indicates that Pauatahanui Village, extensive lengths of roading and adjacent low-lying rural areas will become extremely susceptible to coastal inundation with projected sea level rise; complicated also by river flooding and ground water levels, both of which hazards will also be severely aggravated by projected sea level rise.

Even a small amount of future sea level rise will greatly increase the severity and (most significantly) the frequency of flooding.

These hazards (and tsunami) collectively raise significant issues. Accordingly, it is recommended that no further expansion or intensification of development be considered on low-lying flood risk areas unless a detailed adaptive management plan is developed which indicates that these hazards can be sustainably managed.

Zoning

Although the current District Plan allocates a rural zoning to this area, the Draft Reviewed Plan gives it a Settlement Zone.

The introduction to the Settlement Zone says:

Development within the Pauatahanui Village is limited by the following factors:

1. *small land parcels which limit scale of possible redevelopment*
2. *the desire to retain the historic heritage, amenity values and character of the Village*
3. *limited space for car-parking to support business activities*
4. *exposure to natural hazard risks including flooding/inundation of low-lying land, sea level rise, and tsunami.*

There is scope for further residential growth on the higher land surrounding the village at a scale that maintains rural character and amenity values, as long as all water supply and wastewater treatment and disposal systems are contained within each site for new buildings.

We note, however, that the Rural Settlement Zone also provides for (SETZ-O2) *a low density residential built form on the lower lying flats near the Pauatahanui Inlet Foreshore.*

We consider that, taken together, all these issues reinforce the need for a wider, detailed risk assessment and adaptive management plan before further development or redevelopment in Pauatahanui Village is permitted. This applies especially for the whole seaward area of Pauatahanui Village.

Specific Issues:

In considering this application without reference to its wider context and a related risk assessment, we consider the following matters need careful consideration and examination:

1. *Stormwater* management and disposal

We note the proposal to construct a swale, which includes sediment traps, at the seaward boundary of the proposal, and we acknowledge this is a distinct improvement on the current situation. However, as mentioned above, we are concerned that storm surges and progressive sea level incursions will adversely affect the stormwater drainage system and overwhelm the swale and its functions. Further, any such structure needs ongoing maintenance and management and this must be factored into any decision. We consider that, at a minimum, there should be a legally binding obligation on the developer/owner to manage the swale for five years under PCC monitoring.

We note that two of the proposed lots will dispose of stormwater via soakage pits and will not be connected to the swale system. We are concerned as to whether this mechanism will be effective as it requires the subsoil to be able to absorb stormwater. This needs careful examination, including what happens if the soakage pits overflow.

The proposal includes provision for stormwater attenuation tanks which would store first flush stormwater for later release to the drainage system. These are a good idea but need to be of sufficient size to fulfil their intended function, especially with the increasing potential for large episodic storm events and surges. We recommend a requirement for 10,000 litre stormwater storage tanks for each residential section with the water also being normally available for outdoor uses and perhaps indoor toilets. This would serve stormwater attenuation requirements and also relieve pressure on the somewhat limited public supply to Pauatahanui Village. Kapiti Coast Council has such a requirement for stormwater storage and re-use.

Residential sections encourage hard surfaces which increase run off. Controls would be needed to limit hard surfaces or, preferably, require only permeable surfaces on residential sections. But the ability of the underlying fill to absorb water from permeable surfaces needs to be known before this solution is applied.

We are also concerned about potential run off from Paekakariki Hill Road adding to the stormwater burden. This road does not have a curb and channel system on the side nearest the site. If the one-sided road drainage system cannot cope with extreme run off, especially in episodic storm events, then the stormwater will inevitably spill over onto the site of the application and put further pressure on the drainage system and the swale.

2. Fill quality

We note the plan to import fill to elevate the site by 1 metre. Any imported fill can introduce contamination which can eventually leach into the drainage system and then off site into the wildlife reserve and the harbour. Strict quality controls must be applied to any imported fill.

Further, the construction and compaction of the fill must be designed and built to eliminate any erosion from it and subsequent sediment deposition into the wildlife reserve and the harbour. As with the swale, PCC should periodically monitor the integrity of the fill.

3. Sewage contamination

The sewage system must be capable of being completely independent of and totally isolated from any overflow into and consequent contamination of the stormwater drainage system.

The system's operation, including what happens with extended power cuts needs to be designed and built accordingly. We understand the Pauatahanui sewage disposal is via a somewhat limited trickle feed system which has limited capacity. It is critically important that any consent for subdivision and buildings does not overwhelm this system.

4. Buildings

In the face of progressive sea level rise, we consider it unwise to allow residential buildings on a site such as that subject of this application. We see uses such as the Gospel Hall a lower risk use as it will not contain any residential settlement.

If the subdivision proposals were to result in residential activities, then measures such as requiring removable building design and/or elevating buildings (via stilt platforms) on top of ground level floodable basement areas would be desirable. Given that sooner or later sea level rise will affect this site, and the adjacent wetland will migrate further inland, removable buildings with minimum hard surfaces or only permeable surfacing are, in our view, the best option.

Parking for the Gospel Hall should be on permeable surfacing. The building should also be removable.

We seek the following decision from the consent authority:

As described above, our preference is that, before any development is permitted on this site a wider, detailed risk assessment and adaptive management plan is developed and is applied to any development or redevelopment in Pauatahanui Village. This applies especially for the whole seaward area of Pauatahanui Village to the west of Paekakariki Hill Road.

If the consent authority decides not to pursue the above course of action, then we seek consideration and application of all of the matters set out above under the heading of *specific issues.*

We wish to be heard in support of our submission

If others make a similar submission, we will consider presenting a joint case with them at the hearing.

The Te Awarua-o-Porirua Harbour and Catchment Community Trust supports the full

submission and arguments advanced by the Guardians of Pauatahanui Inlet.

Lindsay Gow (Chairperson, Guardians of Pauatahanui Inlet)

Address for Service: *14 Leeward Drive, Whitby, Porirua, 5024.*
Telephone: *04 235 5052 or 021 159 2384*