

**Oral Submission of Joel Cayford to PPC83 Hearing for himself and Mangawhai matters Inc
Presented 26 March 2024**

1. I'm here as a layperson, and member of Mangawhai Matters Inc Ctte
2. These submissions primarily focus on sediment risks to the Mangawhai Estuary, that we understand are likely to arise due to the lack of protection against sediment flows, contained in the planning controls proposed for the urbanisation of The Rise.
3. About the estuary
 - Receiving environment for stormwater flows from surrounding catchment
 - Inland sea especially vulnerable, due to lack of tidal flushing, growth of mangroves
 - KDC installed Ecocare to manage sewage inflows
 - Mangawhai Harbour Restoration Society has obtained consent to dredge sections of estuary to enable better tidal flushing, and also to clear sections of Mangroves also to enable flushing and to protect sandy areas from sedimentation
 - Gabrielle and other heavy rainfall events have focussed attention on vulnerability of estuary. Sediment deposits 1 to 2 centimetres thick remain around coastal edges and some previously sandy areas of the estuary, covering shellfish beds
4. MMI raised funds and commissioned Terry Hulme to begin a major piece of research into the health of the estuary, including the vulnerability of the containing spit to weather and climate changes. That was the major focus of the preliminary study, but other risks were highlighted. Quoting from pgs 5 and 6....
 - Mangawhai Harbour is shallow, with two thirds exposed at low tide. As a "permanently open lagoon" it would be expected to infill over the long term. Today, it remains open because of a balance between sedimentation, wind and wave action, and tidal movement.
 - Water quality and the clarity of the middle and lower harbour remain good and generally recover quickly from siltation following heavy rain. Small, wind-generated waves lift sediment from the shallow floor so that strong currents flush it from the harbour, leaving clear water and a sandy floor. In contrast, the upper reaches comprise mangrove-covered, soft, muddy flats from the build-up of sediment because here there is less wave action and flushing. More frequent storms and intensive rain in an increasingly developed catchment could still overwhelm the capacity of the harbour to clear itself, with progressive loss of water quality and extension of the muddy substrate down harbour.
 - The catchment is just 12km² in area. The main land use impacts on the harbour have occurred with historical logging, clearance, and grazing. The change from forest to pasture increased the velocity, volume, and channelling of runoff, with additional sediment washed into the harbour as a result. This is evident in today's turbid waters and siltation of the upper harbour. The urban area covers around 3% of the catchment, although this is increasing. While expansion is subject to the regulation of stormwater within subdivisions, the current council consent is for direct discharge into the harbour. Any inadequacy in stormwater management in these areas can therefore pose a significant risk to water quality. In addition, much of the rural area is transitioning from pasture to low density residential development

and small-scale horticulture. More intensive rural land use inevitably increases hard surfaces, increasing run-off, sedimentation, and contamination in the harbour.

5. Mangawhai Matters has shared this report with DOC, NIWA, KDC, NRC and lately with Auckland University experts. Feedback has been universally positive, and participation and funding has been sought for related detailed and specific reports. In particular we have asked NIWA to prepare a formal brief on land use and sediment and contaminant supply in which they have experience and models, based on this report. Funding is being sought for this work – though we are concerned that this issue has not been explored properly for the current application. We consider that commissioners have insufficient information to determine the application.

6. Further information should be sought.

The application and its stormwater management plan

The nub of the PPC83 SMP is at section 11 and states:

- The PPC area is primarily composed of varying steepness of ground terrain with only the southern perimeter of the PPC area consisting of gentler sloping terrain. The gentler sloping terrain though contains watercourses that flow along this area and so are prone to flooding. Due to the topography and flooding hazards, it is unlikely that all parts of the PPC area can be serviced by downstream 'end-point' stormwater devices as there is limited space downstream. Furthermore, considering that all lots within the PPC are owned by separate owners, it is extremely unlikely that an owner will concede a majority or a significant amount of land within their lot for a stormwater device. Therefore, we believe that at-source stormwater devices are the more feasible and practical method to achieve the stormwater objectives of the PPC.

8. The objectives of the PPC appear to focus on chemical contaminants, and not sediments, and focus on post development effects (when roads and driveways and lawns and houses are built) and not what happens when the land is being cleared and cut and filled for development when it is at greatest vulnerability from sediment being washed off exposed areas and into the downstream catchment.

9. We observe that the various channels, culverts and pipes that make up the KDC stormwater network in the area, are where overland flows of sediments gradually accumulate in low rainfall events, only to be washed out in bulk into the estuary when there's a big rain, where they settle out in the mangroves and onto the estuary sands. We understand some of these sediments get swept by the tide out to sea, but we know, and the Hume report underlines, that some of these sediments settle and accumulate on the estuary floor. And that is our chief concern.

10. We see a sort of flush and forget attitude in the evidence that accompanies this application. Like when a loo is flushed. It's gone. Out of sight out of mind. As if somehow managing sediment at allotment level, then directing overland flows across downstream PPC83 land, to combine with other similar flows, and discharging the whole lot into a Council network, avoiding flooding along the way, is consistent with best practice, avoids downstream risks, and complies with the overall purposes the Act.

Best Practice

11. It is always a challenge to unpick exactly the stormwater decision tree proposed in the PPC83 provisions. When an application is permitted, restricted discretionary, restricted etc. However, it appears that consent applications are to be accompanied by a stormwater assessment which must be in accord with KDC's engineering standards dated 2011, or "relevant performance standards", or the Cove Road North Precinct SWP. While the text of the application and evidence to this hearing do mention Auckland Region standards for management devices (GD01), it does not make any reference to Auckland Council's updated code of practice for land development and subdivision which accounts for changed rainfall patterns and an up to date understanding of best stormwater management and planning practice.

12. We acknowledge and support the planning approach now adopted in Auckland for new development (as set out in The Auckland Code of Practice for Land Development and Subdivision: Stormwater – January 2022) , including:

- The stormwater system shall be designed for the maximum probable development of the entire upstream catchment and in accordance with TP108, with allowances for climate change...
- Primary stormwater systems include both open and closed conduits and shall be designed to cater for the flows generated by the event specified in the design standards in Section 4.3.5.2. As far as possible, the location of primary systems should be aligned with natural flow paths....
- A secondary stormwater system consists of ponding areas and overland flow paths with sufficient capacity to transfer the flows generated by the event is specified in the design standards in Section 4.3.5.2. As far as possible, the location of secondary systems should be aligned with natural flow paths. The existing constructed or natural flow paths shall be retained as far as practical....

13. While this Auckland Code of Practice relates to infrastructure that might be transferred to Auckland Council ownership and management, this does not negate their applicability here.

14. It is not our job to design the stormwater system for PPC83. However we do see examples in Mangawhai where freshwater overland flows, during and post development, are directed to wetland areas where sediments in particular can settle out, so that discharges from whole developments are managed in terms of discharge rates and sediment loading.

15. The approach is detention of sediment and retention of stormwater.

16. It is our submission that Commissioners have not been presented with sufficient information about the sensitivity of the receiving environment to increased sediment loadings, about the amounts of sediments that will be discharged by this development itself, or/and from the channels in the public stormwater network that the increased flows from this development will inevitably mobilise.

Statutory Framework - NZ Coastal Policy Statement

17. The NZ Coastal Policy Statement (NZCP) is important in this matter: regional policy statements, regional plans and **district plans must give effect to the NZCPS.**

Objective 1 **To safeguard the integrity, form, functioning and resilience of the coastal environment and sustain its ecosystems, including marine and intertidal areas, estuaries, dunes and land, by:**

- maintaining or enhancing natural biological and physical processes in the coastal environment and recognising their dynamic, complex and interdependent nature;
- protecting representative or significant natural ecosystems and sites of biological importance and maintaining the diversity of New Zealand's indigenous coastal flora and fauna; and
- **maintaining coastal water quality, and enhancing it where it has deteriorated from what would otherwise be its natural condition, with significant adverse effects on ecology and habitat, because of discharges associated with human activity.**

18. We submit that the Mangawhai Estuary falls within this objective.

19. Policy 22 Sedimentation

- (1) Assess and monitor sedimentation levels and impacts on the coastal environment.
- (2) Require that subdivision, use, or development will not result in a significant increase in sedimentation in the coastal marine area, or other coastal water.
- (3) Control the impacts of vegetation removal on sedimentation including the impacts of harvesting plantation forestry.
- (4) Reduce sediment loadings in runoff and in stormwater systems through controls on land use activities.

20. We submit that this policy is relevant in this application, and we see no information that compliance with either Policy 22.1 or 22.4 has been demonstrated. In addition there is insufficient information to demonstrate compliance with Policy 22.3.

21. Policy 23 Discharge of contaminants

- (1) In managing discharges to water in the coastal environment, have particular regard to:

- (a) the sensitivity of the receiving environment;
- (b) the nature of the contaminants to be discharged, the particular concentration of contaminants needed to achieve the required water quality in the receiving environment, and the risks if that concentration of contaminants is exceeded; and
- (c) the capacity of the receiving environment to assimilate the contaminants;

And

- (4) In managing discharges of stormwater take steps to avoid adverse effects of stormwater discharge to water in the coastal environment, on a catchment by catchment basis, by:
 - (a) avoiding where practicable and otherwise remedying cross contamination of sewage and stormwater systems;
 - (b) reducing contaminant and sediment loadings in stormwater at source, through contaminant treatment and by controls on land use activities;
 - (c) promoting integrated management of catchments and stormwater networks; and
 - (d) promoting design options that reduce flows to stormwater reticulation systems at source.

22. In regard to Policy 23.1, there is no evidence of any assessment of the sensitivity of the receiving environment (the estuary – especially the upstream areas) to increases in sediment loadings – let alone the higher standard of “paying particular regard to”. In regard to Policy 23.4, emphasis is put in the application on allotment by allotment approaches, rather than catchment wide approaches which are integrated with stormwater networks in ways which reduce flows from very large storms and which function to reduce sediment loadings.

Concluding remarks

23. Mangawhai Matters’ principle concern in this matter is the health of the estuary from increased sediment flows from this development. Our contention is that insufficient information about this issue and how to reliably manage it, has been placed in front of commissioners. The NZCPS imposes a duty to assess and monitor sedimentation levels and impacts on the coastal environment. No evidence has been presented at this hearing, as far as I am aware, that this duty has been complied with. KDC’s current stormwater discharge consent cannot be treated as a blank cheque to permit more and more sediment to be discharged into the estuary.

24. Until this and other related NZCPS duties have been complied with, we submit this hearing needs to consider its options.