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**Submission on MDC District Plan Change 28**

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**Submission:**

We are opposed to the proposed section on hydro inundation in the plan and specifically how it affects our 158 Lyford Lane property, and the future financial value, and ability to cost consciously build dwellings.

1. PC 28 includes Hydro Inundation mapping that will affect the future development and building of a house on all Lyford Lane properties.
2. The existing PC28 policy statement and approach does not include an evidence-based approach to the future likelihood of the flood risk events in the event of a canal burst. The work to date is grossly underappreciated as to the actual risk, likelihood, and outcomes of such events. Evidence is lacking for such dramatic proposals.
3. We believe MDC and councilors should represent ratepayers of Lyford Lane in assessing the actual risk and likelihood of the probability of a high inundation event occurring on Lyford Lane.
4. National Planning Standards require a risk-based approach to policy framework and planning. The hydro inundation section should be removed until the necessary work is completed from a risk standpoint.
5. By solely relying on a worst-case consequence approach, MDC is ignoring its duties under the RMA and to Mackenzie ratepayers to take a risk-based approach to managing hazards in the region and follow a sustainable development ethos across its planning framework.

6. MDC is imposing significant restrictions on Lyford Lane property rights without an evidential policy process.
7. The implementation of hydro inundation has significant negative effects on ours and other Lyford Lane landowners' property rights and values. These include, but not just limited too.
  - a. Increased insurance costs and annual premiums. Even the possibility of declining coverage.
  - b. Owners' ability to borrow or lend against our Lyford property. Possible limiting of our ability to refinance a mortgage or obtain a mortgage.
  - c. A significant loss of property value as potential buyers in the Lyford zone are so discouraged by MDC existing policy wording. One local Twizel realtor has already mentioned this to us.
  - d. Building restrictions concern us greatly, as we have alerted MDC through multiple submissions of our intent to build a family home on our 158 Lyford Lane. You can effectively restrict the building by onerous requirements on foundations, building sites, etc. Not knowing the likelihood of hydro inundation or actual risks, how can MDC in good faith impose such future restrictions around building.
8. Meridian considers the risk of a canal breach failure as extremely unlikely, and their main concern seems to be on evacuation. We hope that MDC takes a similar approach, and not negatively impacts the building of sensible dwellings down Lyford Lane.
9. Meridian have had updated modelling completed and are required by the Environment Court decree to share this information with landowners and MDC. Has this been provided to Lyford Landowners on request?
  - a. Have MDC provided any and all of their policy assessment documentation, internal correspondence or discussion papers to Lyford Lane landowners upon request?
10. MDC needs to understand the risk of flood inundation. Especially before limiting landowners' property rights. It is not acceptable to make major planning changes based on something 'extremely unlikely' or 'very unlikely' happening. We need a proper risk assessment of the hydro flood inundation and in what direction and exactly where, height and for how long this would last.

- a. It is our families understanding that the Pukaki canal was built to break on the top side (west side) towards the BenOhau range in the event of an earthquake. This is based on family conversations with MoW when the canals were originally under construction.

**Some historic context:** Ministry (MoW) engineers had several meetings with the Cameron family from Benohau Station about potential Hydro Inundation events. Ours and other families also attended these meetings.

- When the Pukaki canal was being built from Lake Pukakai along towards Lake Ruataniwha several onsite meetings occurred with the expert engineers and designers from MoW responsible for the canal being built. These meetings covered earthquakes along the Southern Alps and the Ostler Fault, and how the Pukaki canal would break uphill in the unlikely event a canal breach should ever occur.
- The level of detail discussed around earthquakes was substantial and families came away impressed how the engineers had thought about natural disasters, potential canal breaks, and where the water would flow in such events.
- It is obvious when under construction and completion, and even when one drives along the canal that the topside (West and Benohau side) of the canal was narrow/narrower in several places and the bottom side (the east side) of the canal was designed broader and also with stronger more robust materials than/when compared to the topside canal wall. The reason for this was that the canal would break easily to the topside and limit inundation consequences towards the east of the canal. The engineers had thought extensively on this matter of a canal breach.
- It was explained that the curvature and narrowness complement natural topographic areas where if an earthquake occurred the canal would 'always break on the topside' and then pond on the westward/topside in the Benohau range catchment area/s. **MoW and the engineers deliberately designed weak points on the topside of the canal so as no inundation or canal break would occur on the bottom side in the event of earthquakes.**

**This should be taken into account of any risk assessment of likelihood of canal inundation at Lyford Lane.**

- Everything was designed to flow up and outwards toward the Benohau range in event of an earthquake.
- Engineering experts also explained that there are many culverts under the canal and not just where the culverts and rivers like Fraser stream, Dry stream and Twizel flow under the canal. These culverts are designed to take water away from the topside break and then disperse water downstream in an orderly manner.
- It was also explained that the likelihood of an earthquake canal bursting event was in the 3,000-16,000-year range, and that if this occurred, they had mitigated this with canal design to break towards the upside/topside/westward edge of the canal towards the Benohau range.

Chris White