BEFORE THE HEARING PANEL

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of an application for a proposed Private Plan Change (Private Plan Change 28) by CCKV Maitai Dev Co LP and Bayview Nelson Limited to the Nelson City Council associated with the rezoning of approximately 287-hectares of land located within Kaka Valley, along Botanical Hill and Malvern Hill on land at 7 Ralphine Way, Maitai Valley and Bayview Road as detailed within the application.

REPORT TO THE COMMISSIONERS

MR GREG HILL (CHAIR), MS SHEENA TEPANIA, MS GILLIAN WRATT, AND MR NIGEL MARK-BROWN

SECTION 42A REPORT OF GRAEME RIDLEY – EROSION AND SEDIMENT CONTROL SPECIALIST, RIDLEY DUNPHY ENVIRONMENTAL LIMITED, ON BEHALF OF THE NELSON CITY COUNCIL

20th May 2022

A. INTRODUCTION

Qualification and Experience

1. My name is Graeme John Ridley.

2. I am a Director of Ridley Dunphy Environmental Limited (RDE), an environmental consultancy that specialises in environmental management of development sites and, in particular, construction water management including erosion and sediment control.

3. I have the following qualifications and experience relevant to this s42A report:

   a) I have a Bachelor of Agricultural Science from Massey University, Palmerston North.

   b) I have the status of a Certified Professional in Erosion and Sediment Control (CPESC Number 7629), a qualification that is achieved through the International Erosion Control Association.

   c) Prior to forming RDE, I was employed by the former Auckland Regional Council (ARC) in numerous roles including Manager of Consents and Compliance, Manager of the Land and Water Quality Team, and Manager of the Sediment and Stormwater Management Team.

   d) A particular focus of my career has been in the field of erosion and sediment control. I have over 30 years' experience in this area. I have a broad range of experience in erosion and sediment control, including detailed involvement for councils and the development community.

   e) I have considerable experience in all aspects of earthworks, streamworks and stormwater activities. I have had intimate involvement with policy development and implementation, research, education and regulation covering all aspects of the development cycle.

f) I was the primary author of the ARC Technical Publication Number 90 "Erosion and Sediment Control Guidelines for Land Disturbing Activities" (TP90), which is the tool promoted and used by the former ARC for the management of erosion and sediment associated with development sites. I was a contributor to the development of Erosion and Sediment Control Guide to Land Disturbing Activities in the Auckland Region June 2016 – Guideline Document 2016/005 (GD05). I have advised on the implementation of TP90 and GD05 on development sites and understand first-hand the various aspects of their application. I was also the primary author of the erosion and sediment control guideline for the Bay of Plenty Region and note that this has been formally adopted by the Bay of Plenty Regional Council to provide a guide for the implementation of earthworks in that region.

g) I have been contracted to facilitate the erosion and sediment control training for the Tasman and Nelson region and also have peer reviewed and written chapters of the Nelson / Tasman Erosion and Sediment Control Guidelines – July 2019. These have been adopted by both Tasman and Nelson for erosion and sediment control design and general guidance.

h) I am a past director and vice president of the Australasian chapter of the International Erosion Control Association.

i) I have worked as a construction water management expert on many nationally significant projects[1] including for Waka Kotahi as an expert for the Puhoi to

[1] *Mount Messenger Alliance, Kaikoura (NCTIR), Puhoi to Warkworth Motorway, Auckland Southern and Northern Corridor Motorways, Transmission Gully, MacKays to Pekapeka Expressway, Western Ring Route Waterview Motorway, Matahorua Gorge Project Napier, Waterview Tunnel, Rangiriri Bypass, Tauranga Eastern Link, Wind Farms (Turitea, Kaimai, TeUku, Mt Munroe, Waitahora, HMR).*

Warkworth project (*P2Wk*). My role in these projects has included the technical work package, consent documentation, hearing attendance and implementation.

j) Part of my current work portfolio includes working directly for a large industrial development in Tauranga as the specialist environmental consultant with all aspects of implementation and earthworks construction activities.

k) I work for a number of councils within New Zealand providing erosion and sediment control training, review of technical publications, assessment of consent applications, recommendations for consent conditions and general environmental advice.

l) I have prepared many consent applications on a national basis for earthwork activities and comprehensively understand the consenting and implementation phase of the associated activities.

m) I have worked on several plan changes previously, associated with the provision of erosion and sediment control advice and ensuring that the plan change provisions are adequate and appropriate in a plan change context to allow for minimisation of effects. In particular, I note Drury South Plan Change[2] and the Okura Holdings Limited appeal[3] as two planning processes that I consider are relevant to this current Private Plan Change 28 (PPC 28) request.

4. This 42A report provides a technical assessment of PPC 28, in particular the erosion and sediment control and earthworks aspects that will occur during the construction period associated with the PPC 28 implementation. This assessment is undertaken in the context of a private plan change process and with recognition of the future resource consent processes that will be required for future earthworks activities.

[2] *Proposed Private Plan Change 12 to the Auckland Council District Plan: Papakura Section, Proposed Private Plan Change 38 to the Auckland Council District Plan: Franklin Section, Proposed Plan Change 19 to the Auckland Regional Policy Statement, and Proposed Plan Change 3 to the Auckland Council Regional Plan: Air Land and Water*.

[3] *Okura Holdings Limited appeal against decisions of the Auckland Council on the proposed Auckland Unitary Plan related to the position of the Rural Urban Boundary (RUB) near the Okura Estuary (the Estuary). Decision June 2018.*

5. This report does not extend to any operational aspects of the PPC 28.

Code of Conduct

6. I have read the Code of Conduct for Expert Witnesses as contained in the Environment Court's Consolidated Practice Note (2014), and I agree to comply with it as if this hearing were before the Environment Court. My qualifications are set out above. I confirm that the issues addressed in this brief of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

Application Information Reviewed

7. As part of this technical assessment, I have reviewed the following documents that I have considered and understood to represent the most up to date information (at the time of drafting this 42A report) from the applicant that are of relevance to the erosion and sediment control aspects of the PPC 28. I have discussed these documents with the applicant, and they have confirmed that no further documentation exists that I should consider within this assessment.

   a) *Private Plan Change Request to the Nelson Resource Management Plan. Request to: Nelson City Council. Request from: CCKV Maitai Dev Co LP and Bayview Nelson Limited. Pursuant to: Clause 21, First Schedule of the Resource Management Act 1991. Landmark Lile Limited. Dated: 24 August 2021.*

   b) *Private Plan Change Request Geology and Geotechnical Hazards Report. Tonkin Taylor Limited dated 30th March 2021.*

   c) *Private Plan Change Request Infrastructure and Flooding Report. Tonkin Taylor Limited dated 31st March 2021.*

   d) *Preliminary Structure Plan Environmental Review Maitahi & Bayview Development Private Plan Change Request. Morphum Environmental Limited dated 13th April 2021.*

8. I visited the site and surrounds on the 28th April 2022 and was accompanied during this visit by Ms Gina Sweetman, representing Nelson City Council (NCC), and Mr Neil Donaldson, who represented the applicant. I confirm I am familiar with the site location and also the specific PPC 28 provisions.

B. OVERVIEW

9. Ridley Dunphy Environmental limited (RDE) have been engaged by NCC to provide an overview of the erosion and sediment control aspects of the PPC 28 and to consider if the existing Nelson Resource Management Plan (NRMP) rules accompanied by the proposed principles in Schedule X.9 of the PPC 28 provisions are sufficient to manage future erosion and sediment control from the site, should it be rezoned.

10. I have reviewed the PPC 28 request within the context of the information as noted above, and in particular reviewed the requested amendments to the NRMP. There are no specific amendments requested by the PPC 28 applicant within these NRMP provisions related to earthworks and associated erosion and sediment control.

11. As confirmed from all parties, the earthworks rule from the NRMP that would currently apply to the PPC 28 area is referred to as Rule REr.61. In addition, Rule FWr.25 applies in respect to discharges to land where it may enter water. Under the proposal from the applicant there is no specific PPC 28 framework for addressing erosion and sediment control and full reliance is placed on the NRMP framework.

C. REQUEST DETAILS

12. This PPC 28 to NCC is associated with rezoning approximately 287ha of land located within Kaka Valley, along Botanical Hill and Malvern Hill, from rural and rural-higher density small holdings area to:

- Residential (Higher, Standard and Lower Density Areas);
- Rural-Higher Density Small Holdings Area;
- Open Space Recreation; and

- Suburban Commercial.

13. This rezoning is illustrated in a series of zoning maps which accompany the PPC 28. These zoning maps provide no indication of the extent of expected earthworks that will be required within them. In addition, I note that within the supporting PPC 28 application (Section 6 Assessment of Environmental Effects) there is no discussion around the earthworks locations, extent and effects and reliance appears to be placed fully on future resource consent processes.

14. The PPC 28 request notes:

- *The applicant explained that the first step in the process was to rezone the land, where land would be set aside to ensure the positive aspirations would be realised at the time of subdivision and development following the resource consent processes. The applicant explained the legislative controls over matters such as freshwater and discharges etc, being matters that would be addressed in detail at the time that detailed Erosion & Sediment Control Plans would be prepared.*

- *The Land Management Overlay identifies land that is "especially sensitive to activities that cause erosion and sedimentation, particularly vegetation clearance, soil disturbance and earthworks" (AD11.3.8, NRMP, p26, Chapter 3). This Overlay is referenced in the land use rules controlling earthworks and vegetation clearance.*

- *These and other rules of the Freshwater Plan will trigger the need for resource consent as a part of the subdivision and development of this property, the subject of this PPCR. For example, the planned works in the lower Kaka Stream catchment to divert/realign the stream will trigger the need for resource consent on a number of fronts, with that integrated package of consents being considered as a discretionary activity (at least) and so a comprehensive assessment of all relevant factors being required. Actual and potential impacts on water quality (including of the Maitai), natural character, aquatic ecosystems, and cultural values will all be significant considerations. Likewise, the temporary effects from earthworks and the discharge of sediment. Rezoning does not change the need for these consents.*

Private Plan Change Request Geology and Geotechnical Hazards Report. Tonkin & Taylor Limited dated 30th March 2021

15. In terms of geology for the location - this is detailed within the Tonkin Taylor Geology and Geotechnical Hazards Report. This confirms colluvium, alluvium and fan deposits within the valley floor with sandstone geology noted on the slopes. These are understood to have a relatively high clay content. The weathered and closely jointed rock is confirmed as susceptible to small, localised instability.

16. This report further notes:

- *Indicates land that is especially sensitive to activities that cause erosion and sedimentation, particularly vegetation clearance, soil disturbance and earthworks. The Overlay comprises mostly the land in Land Management Zone C in the NCC Land Disturbance Regional Plan, which is to be replaced by this Plan.*

- *However, we note that the steeper slopes (particularly those generally in excess of 30 degrees) may be susceptible to gully and sheet erosion if stripped of topsoil.*

Private Plan Change Request Infrastructure and Flooding Report. Tonkin & Taylor Limited dated 31st March 2021

17. I have reviewed the Tonkin & Taylor Infrastructure and Flooding Report. This contains no reference to erosion and sediment control and construction related earthworks, however, an addendum to the report notes:

- *We acknowledge that as a result of an increase in impervious surfaces as a result of the development, the volume and frequency of runoff may increase, however given the proposed land-use change from pastural to residential in addition to some of the proposed planting works in the upper catchment, the sediment yield may decrease as a result of the development.*

18. This above paragraph is in reference to volume and frequency of runoff from impervious surfaces from the completed development and no reference is made to during construction earthwork activities.

Preliminary Structure Plan Environmental Review Maitahi & Bayview Development Private Plan Change Request. Morphum Environmental Limited dated 13th April 2021

19. The Morphum Environmental Review report further confirms:

- *Key constraints identified include (amongst other things);*
  - *Steep slopes, and related challenges with developing the indicative road linkage and building sites. From experience it is found that the development of steeply sloping sites is constrained primarily by the requirements for vested public roads.*
  - *Existing streams. The Kaka Stream forms a spine through the site and is observed to be reasonably stable in its current state (upstream of woolshed) with a mix of open and forested reaches and diverse instream habitat.*

20. The report refers to the potential effects of earthworks and notes as follows:

- *Earthworks will be a key consideration for the development of sloping land on either side of the main valley which is currently identified for residential lots. Earthworks modelling is not to be undertaken at this stage as detailed subdivision and engineering design will follow at a later phase, however, consideration to the challenges associated with the steep site has informed proposed densities etc. Slope needs to be considered with regard to the ability to implement public roads (that are able to be vested to council) with a realistic scale of earthworks. Due to maximum permissible road grades, there is a need to construct longer roads on steep terrain to manage required vertical elevation changes resulting in large cut/fill requirements and difficulty achieving developable land along extended runs of road. This is further complicated by preferred building typologies whereby the creation of level building platforms can be difficult without substantial earth working and retaining structures. T&T have mapped the relative slopes across the site and highlighted areas with steep slopes. At present the structure plan shows only the indicative road connecting the valley floor with the ridgeline to the west.*

21. No specific detail of construction-related earthworks and erosion and sediment is provided within this report.

22. The report outlines 18 principles of best practice design applicable to this PPC 28[4].

23. These principles are noted to include some ecological and freshwater best practice principles, including "water sensitive design" and hydrology. The PPC 28 new schedule X.9[5] includes a direct reference to these principles and confirms that these principles shall be used in the subdivision and development design process, with an assessment from a suitably qualified person demonstrating the application of these principles.

24. There is no mention of earthworks or related erosion and sediment control aspects within these key principles.

D. ASSESSMENT

25. From reviewing the PPC 28 request and undertaking the site visit, it is clear that the PPC 28 location has many challenges for erosion and sediment control associated with clay soils, steep contour in some locations, and sensitive receiving environments. These site attributes are not investigated further within this s42A report due to lack of detailed information regarding the location and extent of earthworks to allow such an assessment to occur. I note as detailed within the reports mentioned above that there is recognition of some of these "considerations" which will need to occur as part of any land development earthworks.

---

[4] *Preliminary Structure Plan Environmental Review Maitahi & Bayview Development Private Plan Change Request. Morphum Environmental Limited dated 13th April 2021. Section 5 Pages 15 and 16*

[5] *Private Plan Change Request to the Nelson Resource Management Plan. Request to: Nelson City Council. Request from: CCKV Maitai Dev Co LP and Bayview Nelson Limited. Pursuant to: Clause 21, First Schedule of the Resource Management Act 1991. Landmark Lile Limited. Dated: 24 August 2021. Pages 48 and 49*

26. As detailed above, the PPC 28 bespoke rules as provided and reviewed offer no specific framework for addressing erosion and sediment control and full reliance is placed by the applicant on the NRMP framework.

27. Submissions received, as summarised below, confirm a very high level of interest in erosion and sediment control and sediment yields from earthworks with an emphasis on impacts on the downstream receiving environments. These receiving environments were viewed during the site visit and include both ecologically and recreationally important environments.

28. With respect to erosion and sediment control technical guidance within the Nelson City area, I confirm that NCC have recently adopted the "Nelson Tasman Erosion and Sediment Control Guidelines" (the guideline). The guideline is recognised as the appropriate guideline reference within NCC however while adopted for use in the Nelson City area, the guideline is not part of, and is not incorporated into, the NRMP itself.

29. I have reviewed NRMP Rule REr.61 which contains a rule framework for permitted, controlled and discretionary/non-complying earthwork activities. From reviewing the rule, I consider that the majority of the earthworks required for the PPC 28 would fall within the discretionary/non-complying status. I consider this activity status is appropriate.

30. Discretion is restricted to the following matters (summarised text and relevant to erosion and sediment control only):

- Loss of topsoil;
- Slope failure;
- Soil and vegetation entering rivers and coastal water;
- Damage to instream and coastal habitats;
- Duration of bare soil to wind and rainfall;
- Water quality including suspended sediment load;

- Method and timing of the activity;
- Area to be cleared at any one time;
- The provision of structures to control soil erosion or sedimentation;
- Timing and techniques used for revegetation.

31. I assess that these items as identified in paragraph 30 are all relevant and provide some certainty to undertaking effective erosion and sediment control within the PPC 28 area. They are however assessed as typical and general erosion and sediment control approaches and do not address any specific considerations that may be required within the PPC 28 area.

32. I have also reviewed NRMP Rule FWr.25 which contains a rule framework for the discharge of sediment laden water to land where it may enter water and confirms that if the permitted activity criteria are not achieved then discretionary consent would be required. From reviewing the rule, I consider that the majority of the discharges of sediment from PPC 28 implementation would fall within the discretionary status and the same assessment as per Rule REr.61 would apply.

33. In addition, the 18 principles set out in Schedule X.9 of PPC 28 have been reviewed and provide no certainty around the importance of earthworks, erosion and sediment control during construction, and the potential effects that may result.

34. Overall, I conclude that the current NRMP provisions and the identified PPC 28 Schedule X.9 principles that apply provides negligible certainly of achieving an appropriate outcome in managing erosion and sediment control for the PPC 28 area. This conclusion is reached due to the current NRMP provisions having no direct linkage to the PPC 28 specific circumstances that exist and the principles themselves providing no mention of earthworks or erosion and sediment control and hence no future consenting guidance.

35. In my assessment, if earthworks were to occur to facilitate the PPC 28, then erosion and sediment control within the PPC 28 will require attention to specific locations and erosion and sediment control approaches. These are assessed as over and above those measures implemented for earthworks as detailed within the NRMP provisions.

36. These over and above measures would need to include matters of discretion, rules or standards that require specific staging and earthwork open area limits, maximising the use of highly efficient chemically treatment sediment retention ponds, over design of dirty and clean water diversions and a detailed adaptive monitoring programme. In the absence of these specific aspects, I consider there is a high potential for effects from earthwork related sediment yields in the downstream environments.

37. I further assess that it is currently very difficult, if not impossible, to understand from the current request what the potential sediment yields from the PPC 28 earthworks will be and therefore what is considered appropriate staging and earthwork open area limits. This is due to an absence in the request of indicative earthwork locations and extent of earthworks within these locations, and consequently an absence of a sediment yield estimate. This sediment yield estimate (normally in the form of a sediment yield model) if undertaken, would allow for a comparative analysis of sediment yields from the current land use to that during earthworks with various erosion and sediment controls in place and open area limitations applied. This information will allow for an informed assessment and provide certainly of outcomes dependent upon the analysis of such an exercise, which can then be reflected through appropriate PPC 28 provisions.

38. Without such sediment yield model outputs, the assessment of downstream environment effects during construction is also very difficult to determine. This consequently makes it very difficult to confirm if the extent of proposed earthworks, which would occur if the site be rezoned, is suitable or not.

39. I assess therefore, that while such a sediment yield modelling exercise would not form a future PPC 28 rule provision, it is required to allow an informed assessment of the suitability and adequacy of the earthworks and erosion and sediment control measures proposed for the PPC 28 area. This is recommended to occur prior to assessing any rule framework and once completed, the PPC 28 provisions can then be determined with certainty.

40. Based on my experience in other earthworks projects, the greatest benefit and most effective erosion and sediment control outcomes are achieved when focus is placed on the non-structural elements of erosion and sediment control. Non-structural methodologies include items such as sequencing of works, limitation on areas of earthwork open, having an appropriately experienced erosion and sediment control team, and working in appropriate "weather windows".

41. One example of a key non-structural element that assists with achieving effective erosion and sediment control outcomes, is staging earthworks and open area limitations. By implementing such a strategy, less earthworks are exposed to rainfall and erosion, thus the overall sediment yield risk is reduced.

42. I assess that to ensure a scenario does not result where large areas of earthworks are exposed at any one time, including steep areas and areas immediately adjacent to the freshwater environments, that PPC 28 provisions (including matters of discretion, rules or standards) need to specify an open area limitation for earthworks that is determined based on the sediment yield modelling as outlined above. This is particularly relevant given the very steep topography, the clay soils and the receiving environment values.

43. In addition to open area limitations, progressive stabilisation will be a key element and will provide benefits with respect to erosion control and the reduction of sediment generation. The current NRMP rule framework provides no specific direction with respect to progressive stabilisation and I assess that a specific provision should apply that confirms that completed and/or inactive earthwork areas be stabilised as soon as practicable with a specific matter of discretion allowing future consents to specify such a period.

44. Dependent upon the analysis of the sediment yield modelling as outlined above, I further confirm that chemical treatment for all sediment retention ponds, specification of dirty water and clean water diversion design and any other sediment retention pond design amendments identified through the process should be specific matters of discretion for future resource consents.

45. The current NRMP rule framework contains no specific provisions for adaptive monitoring during construction. I assess that such a monitoring programme is a key aspect of ensuring that sediment yields remain within an accepted effects envelope, and a range of qualitative and quantitative monitoring will apply. This includes the ability to assess sediment yields during construction through monitoring and with adaptive management of the erosion and sediment control measures to be employed as necessary in response to this monitoring. This approach is an accepted practice on the majority of earthworks activities and is assessed for this PPC 28 as a critical item that needs to be a specific matter of discretion for future resource consents.

46. In the absence of any knowledge of earthworks locations and extent, and those matters as identified in paragraphs 35 to 45 above, I consider that the earthworks can not be assessed for the purposes of the PPC 28 and a consequential effect may result should rezoning occur. There is currently no direction for future resource consent processes that is specific to the PPC28 for earthworks within the PPC 28 request provisions.

47. Finally, I also confirm, that when considering PPC 28 and associated earthworks one must consider all earthworks that will apply as a result of PPC 28. This includes bulk earthworks activities, which I have focused on above, but also “secondary” earthwork activities associated with dwelling establishment, and infrastructure and operational stormwater management controls such as wetlands and ponds. The PPC 28 contains no discussion of such secondary activities, and it is assumed there is again reliance on future resource consents and permitted activity rules within the NRMP.

48. While the resource consent phase may be the appropriate place to address these secondary earthwork activities, I assess that for this PPC 28, due to the large area of “secondary” earthworks to occur, that principles should be applied to these “secondary” earthworks with these documented now within the PPC 28 provisions for future resource consent consideration. PPC 28 provisions should as a minimum include a principle that at the time of resource consent consideration, an assessment of the ability to utilise the same erosion and sediment control measures that are in place for bulk earthworks can be used during the "secondary" earthwork activities.

49. To assist with consistency of approach, I have again reviewed some of the outcomes from previous plan change related processes I have been involved with, in particular the Okura Holdings Limited appeal. I assess similarities between these other processes and with this PPC 28 in the context of the area of works (in this case 287ha), the steep contour (in this PPC 28 extremely steep in places) and also the sensitivity of the receiving environments. These other plan change processes provided an overview of earthwork locations and extent and also the erosion and sediment control methodologies that would apply including open area staging limitations and commitment to erosion and sediment control methods and design. I confirm that PPC 28 lacks these attributes.

E. SUBMISSIONS

50. I have reviewed the submissions of relevance to earthworks. Within these I note a significant amount of concern expressed from submitters related to earthworks, erosion and sediment control and associated effects on downstream environments.

51. Excerpts from some of the key submission points related to erosion and sediment control are confirmed below:

- *Ongoing sedimentation of the river from site works over 30 – 40 years, plus hydrological changes and pollutants from increased stormwater runoff from the new suburb will cause long-term degradation of the Maitai River. This will adversely affect the many highly valued swimming holes nearby (including Dennes Hole, Black Hole and Girlies Hole) and Nelson Haven.*

- *Effect of sediment during construction on flora/fauna of Maitai river.*

- *It is hard to see how this large development [especially through the construction phase] wouldn't impact on the river environment with sedimentation and other pollutants.*

- *Sedimentation would adversely affect Dennes Hole, Black Hole and potentially Girlies Hole, as well as the ecology and substrate of the Maitai downstream from the Kaka confluence, and ultimately end up in the Haven.*

- *The quarry will bring noise, dust, sediment to an already somewhat degraded river.*
- *The cut & fill has high potential to lead to sedimentation in the river.*
- *Earthworks, sedimentation and run off during and after construction can end up alongside and in the Maitai destroying efforts to reinvigorate the river.*
- *Construction, excavation, sewage, stormwater runoff, sedimentation will adversely affect water quality and the use of the river.*
- *Require prevention of sediment entering all waterbodies from construction and earthworks.*

52. I have not assessed each submission in detail within this S42A report, however note the general concern expressed by many parties.

53. I confirm that expert conferencing was held on the 5th May 2022 and no joint witness statement was produced.

F. CONCLUSION

54. The above assessment is based on the information submitted and reviewed as part of the PPC 28 request and through the site visit held.

55. To achieve the certainty and allow for an informed assessment of the earthworks and erosion and sediment control, the following information must be provided:

- expected earthworks locations and extent.
- sediment modelling to determine sediment yields, comparative analysis with current land use yields and the areas of higher sediment yield risk.

56. – In addition, the PPC 28 must contain matters of discretion, rules or standards:

- that specify an open area limitation for earthworks that is determined based on the sediment yield modelling.
- that specifies completed and/or inactive earthwork areas be stabilised as soon as practicable with a specific matter of discretion allowing future consents to specify such a period.
- that commit to maximising the use of highly efficient chemically treatment sediment retention ponds, over design of dirty and clean water diversions and a detailed adaptive monitoring programme.

57. The key principles as specified in Schedule X.9 must be expanded to include reference to erosion and sediment control for both bulk and secondary earthworks.

DATED this 20th day of May 2022



_____

Graeme Ridley