

**BEFORE THE HEARING PANEL**

**IN THE MATTER** of the Resource Management Act 1991

**AND**

**IN THE MATTER** of an application by Grenadier Limited to the Manawatū-Whanganui Regional Council for application **APP-2020203164.01** for the suite of resource consents associated with the construction and development of a proposed eighteen-hole links golf course and ancillary activities on land 765 Muhunoa West Road, Ōhau

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**REPORT TO THE COMMISSIONERS**

**MRS CHRISTINE FOSTER (CHAIR), DR FLEUR MASEYK AND MR REGINALD PROFFIT**

**SECTION 42A REPORT OF GRAEME RIDLEY – EROSION AND SEDIMENT CONTROL SPECIALIST,  
RIDLEY DUNPHY ENVIRONMENTAL LIMITED, ON BEHALF OF THE MANAWATŪ-WHANGANUI  
REGIONAL COUNCIL**

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**6<sup>th</sup> APRIL 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 evidence:
  - 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 the Bay of Plenty Guideline has now been formally adopted by the Bay of Plenty Regional Council to provide a guide for the implementation of earthworks in the region.

- g) I am a past director and vice president of the Australasian chapter of the International Erosion Control Association.
- h) I have worked as a construction water management expert on many nationally significant roading projects<sup>1</sup> including for Waka Kotahi as an expert for the Puhoi to Warkworth project (P2Wk). My role included the technical work package and consent documentation and hearing attendance. I also have an ongoing role in the construction phase of P2Wk reviewing specific construction erosion and sediment control plans and undertaking independent site observations.
- i) Part of my current role includes working directly for a large industrial development in Tauranga as the specialist environmental consultant with all aspects of implementation and earthworks construction activities.
- j) I work for a number of Councils within New Zealand providing erosion and sediment control training, review of technical publications, assessment of consent

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<sup>1</sup> 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.

applications, recommendations for consent conditions and general environmental advice

4. This report provides a technical assessment of the above application, in particular the erosion and sediment control and earthworks aspects during the construction of the proposal. This assessment identifies and assesses the character and scale of any related effects on the environment and considers whether the erosion and sediment control plan and approach is consistent with the *“Erosion and Sediment Control Guide for Land Disturbing Activities in the Wellington Region”* dated February 2021.
5. This report does not extend to any operational impacts of the Project as a result of the proposed works.

### **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 from the Applicant that are of relevance to the erosion and sediment control aspects of the Project:
  - a) *Application and Assessment of Environmental Effects. Address: 765 Muhunua West Road. Client: Grenadier Limited. July 2021. Douglas Links Golf Course. Land Matters Limited.*
  - b) *Erosion and Sediment Control Plan. Address: 765 Muhunua West Road. Client: Grenadier Limited. June 2021. Douglas Links Golf Course. Land Matters Limited. Including associated plans.*

- c) *Response to request for further information. APP-2020203164.01 – Grenadier Limited – Further Information. Letter to Horizons from Land Matters Limited dated 14<sup>th</sup> September 2021. Including associated plans.*
  - d) *Land Matters. Grenadier Limited. Douglas Links Ohau. ESCP Plans North West Corner, North East Corner, South West Corner, South East Corner. Plan Numbers J709 – ENG – 150 to 153. Revision B. Dated 3<sup>rd</sup> September 2021.*
8. I have not visited the site however confirm I am familiar with the location and Project.

## **B. APPLICATION DETAILS**

9. The development is located at 765 Muhunua West Road, Ōhau and is on a property of approximately 107 hectares in area. The property extends south west from the end of Muhunua West Road to the Ōhau River in the south and to the coast in the west. The site consists of areas of rolling dunes and other areas of flatter land that have been historically used for both plantation forestry and farming. To the south of the property is the mouth of the Ōhau River.
10. The primary activity of the proposed works is the development of an eighteen-hole links golf course over the majority of the subject property. Ancillary to the golf course development will be a range of buildings in two locations across the property. Access to the site will continue to be via Muhunua West Road in the same location as the current farm track into the property. An additional vehicle crossing for service vehicles will give direct access to the maintenance sheds and parking area.
11. The application confirms that the philosophy of a links golf course is for the course to follow the existing topography of the landscape as much as possible and as such bulk earthworks have been kept to a minimum over much of the site. The main area of earthworks proposed is the reduction in height of one of the main inland dunes in the centre of the site to create the building platform for the clubhouse, parking area, access road, practice green and pedestrian access to the accommodation units around the edge of the re-shaped dune.

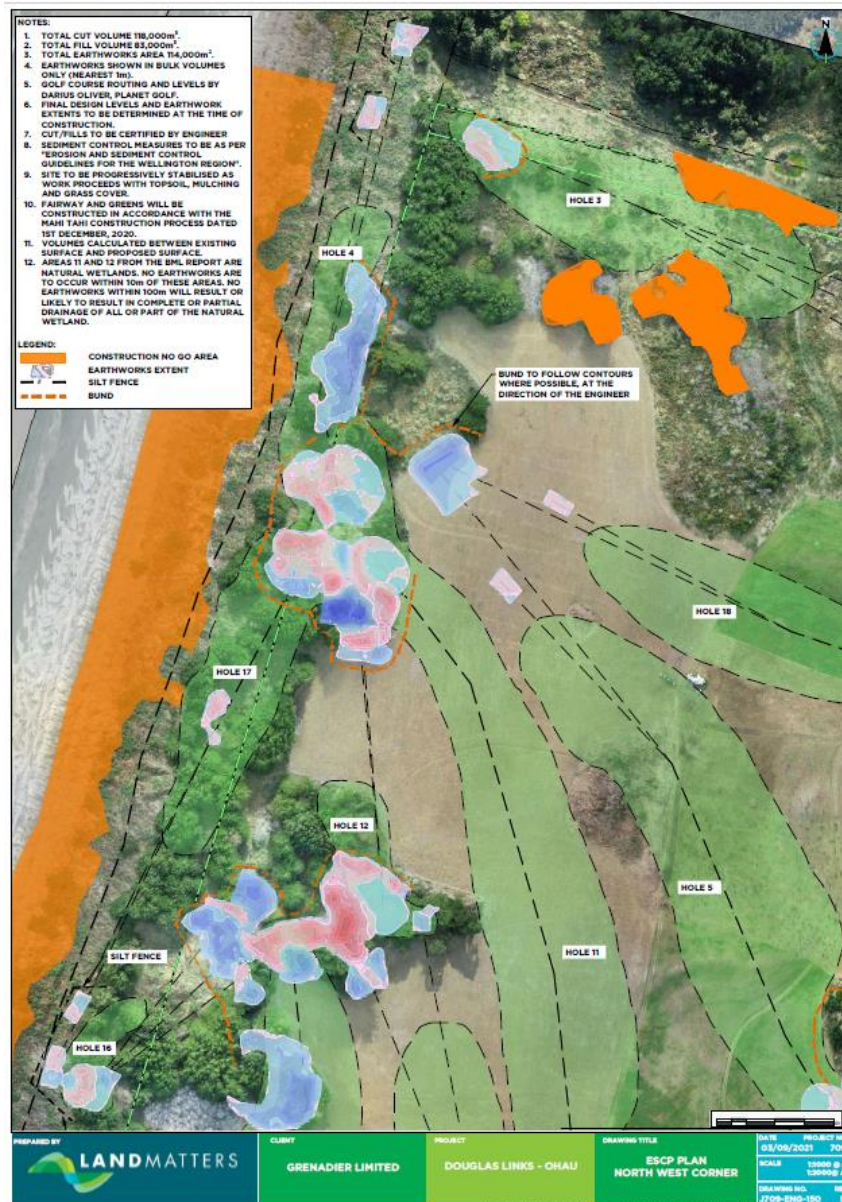
12. The golf course itself will require some earthworks, as shown in the cut/fill plans provided with the application to create greens, tees and other minor topography changes to create the finished landform for the course design. These proposed earthworks cover small, isolated parts of the property and will be managed in isolation in each area.
13. The application confirms total earthwork areas and volumes as specified in the table below.

Earthworks	Total Area (m <sup>2</sup> )	Total Volume (m <sup>3</sup> )
Cut	114,000	118,000
Fill		83,000

14. The application included an erosion and sediment control plan (ESCP). This confirms that the area of land exposed at any one time will be minimised through employment of a progressive excavation and stabilisation approach to works on site. No earthwork material will be imported or exported from the subject property.
15. The ESCP provides a set of principles which will apply throughout with these including:
- a) *Minimise disturbance;*
  - b) *Phased construction;*
  - c) *Protect steep slopes;*
  - d) *Stabilise and rehabilitate exposed areas rapidly and progressively;*
  - e) *Install perimeter controls;*
  - f) *Implement an evolving ESCP;*
  - g) *Inspect the performance of the erosion and sediment control measures;*
  - h) *Maintain all erosion and sediment control measures to ensure maximum efficiency;*  
*and*

- i) *Install additional measures prior to medium to high intensity rainfall events, where this is considered necessary and practicable.*
16. Site specific solutions are proposed to be implemented as detailed in the ESCP, considering construction and maintenance requirements. Specific plans of the earthwork areas and proposed ESC measures are provided in the application.
17. Some areas of the site are identified as significant and requiring explicit demarcation and separation from earthworking including the saltmarsh wetland adjoining the Ōhau River and the foredune and areas of existing kanuka on the property. These areas will be marked on site with bunting and all earthworking will be excluded.
18. For the earthwork areas the key ESC measures are based on silt fences, earth bunds and stabilisation. The excavated area will be stabilised through grass-seeding or other covering as appropriate.
19. The application confirms that no sediment control measure will be removed from the site until the earthworks area has been stabilised appropriately. Heavy rainfall response and maintenance provisions are also provided.
20. ESCPs (*Land Matters. Grenadier Limited. Douglas Links Ohau. ESCP Plans North West Corner, North East Corner, South West Corner, South East Corner. Plan Numbers J709 – ENG – 150 to 153. Revision B. Dated 3<sup>rd</sup> September 2021*) as provided show the general extent of works and associated ESC measures.
21. An example (Northwest Corner) of an ESCP for the proposal is repeated below for ease of reference.





22. The Applicant provided a response to a request for further information which confirmed the following:
- a. *Progressive stabilisation of the works will be employed to 'lock down' the desired landforms immediately on completion of the recontouring. This approach is primarily used to secure the landform sought for the golf course but will also ensure the sandy soils are not lost to windblown erosion.*
  - b. *Open areas in the constructed golf corridor can be broadly broken into four categories:*



- *Areas being stripped and cleaned in preparation for shaping – potentially exposed to erosion (generally <2Ha)*
- *Areas with shaping recently completed and being prepared for seeding – potentially exposed to erosion (generally <1/2Ha)*
- *Areas with irrigation installed and operational, seeded and hydro mulched and headed to germination – not erodible (generally <1Ha)*
- *Areas with grass germinated and heading towards first mow – not erodible (generally <2Ha)*

c. *No more than 2ha of the property will be open at any one time*

### **C. ASSESSMENT**

23. The proposal includes earthworks over approximately 11.4 hectares as shown on the application plans. Plans provided also illustrate the cut to fill contours and confirm the erosion and sediment controls that will be utilised throughout. These erosion and sediment control plans provide a good summary of the overall approach and allow for assessment of the specific controls proposed.
24. The proposal has been prepared in accordance with the “*Erosion and Sediment Control Guide for Land Disturbing Activities in the Wellington Region,*” dated February 2021, with the specific nature of the erosion and sediment control measures and the associated design all detailed within the erosion and sediment control plans provided. The proposed measures are based on provision of silt fences, bunds and stabilisation.
25. The ESCP is assessed as comprehensive and with the addition of the further information supplied through the application process is assessed as adequate for implementation. This reflects best practice. It is assessed that the stabilisation of areas as works progress is the key element that will ensure success of the earthworks in achieving minimisation of discharges including both surface runoff and dust nuisance.
26. The ESCP included as part of the application is assessed as adequate for the nature of the proposed works and in recognition of the sandy soil types that will be encountered. It is

recommended that some flexibility remain within this ESCP to ensure that any amendments that are proposed by the contractor are assessed appropriately and still achieve the principles as detailed in the application. The conditions included in Ms Morton's report have taken this approach.

27. As detailed above, stabilisation will need to occur on an ongoing basis to ensure best practice remains. The Applicant has confirmed, through the provision of further information, that a maximum 2ha area will be exposed at any one time. This is strongly supported and to ensure this occurs on site during construction a condition of consent is recommended. This will address both dust management and ESC requirements. The Contractor to be engaged on the site will need to ensure that on-site resources and materials are always adequate to comply with this requirement.
28. In addition, it is recommended that a condition of consent applies whereby any completed earthworks shall be stabilised within three days of completion of such works. This will ensure that completed earthworks do not remain un-stabilised for long periods of time.
29. The application is largely silent on undertaking earthworks during the winter months. It is assessed however that due to the sandy nature of the soils on site, that undertaking works during the winter period will assist with minimisation of dust nuisance and have minimal impact on erosion and sediment control. While it is further assessed that the stabilisation measures will need to be reflective of the time of the year within which stabilisation is applied, the undertaking of works during winter is assessed as appropriate. No winter work exclusions are therefore proposed.
30. As with all earthworks, the proposal has the potential to be higher risk if poorly managed and careful erosion and sediment control planning, implementation and monitoring is required to minimise this associated risk. The application includes details of maintenance and monitoring provisions, heavy rainfall response and site responsibilities. These aspects are all assessed as providing further confidence that the site will be appropriately managed.

31. It is considered that provided the conditions of consent are complied with the resulting effects on the environment from sediment discharges, and dust nuisance during the earthworks will be appropriately managed.
32. In principle, I consider that the overall proposed earthworks and erosion and sediment control methodology is appropriate for this site.
33. Provided the earthworks are undertaken in accordance with the recommended conditions of consent as detailed in Ms Morton's s42A report, and for the reasons described above, the potential adverse effects of the activity on the environment are considered to be less than minor.

#### **D. SUBMISSIONS**

34. I confirm I have read the submissions received on the application. The majority of the submissions were in support of the proposal. Any issues raised in the submissions related to erosion and sediment control and water quality impacts from the activities are all adequately addressed within my assessment above.
35. The submission from Te Iwi o Ngati Tukorehe Trust and other Tukorehe Mandated Authorities is in opposition and provides some details associated with water quality concerns.
36. The submission confirms concerns within the areas of outstanding coastal and natural features and cultural concerns. This is in reference to specific "holes" within the proposed golf course. General reference is made to water quality in the context of cultural considerations.
37. The submission notes that poor water quality has impacted the safe shellfish gathering for largely maori food gathers at the coast south of the Waiwiri Stream mouth and also along the 17km coastline towards Otaki.
38. No significant erosion and sediment control issues are identified within the submission.

## **E. RECOMMENDATIONS**

39. The above assessment is based on the information submitted as part of the application and through the provision of further information.
40. I consider that all aspects specific to erosion and sediment control and associated water quality can be addressed through appropriate conditions of consent. Subject to adherence to these, the effects on the environment in relation to these matters are considered to be less than minor.
41. I have collaborated with and reviewed the conditions proposed by Ms Morton. I am satisfied that these conditions address the matters I have discussed in my report.

**DATED** this 6<sup>th</sup> day of April 2022

*G.S. Ridley*

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**Graeme Ridley**