

# **Assets & Services Committee Meeting**

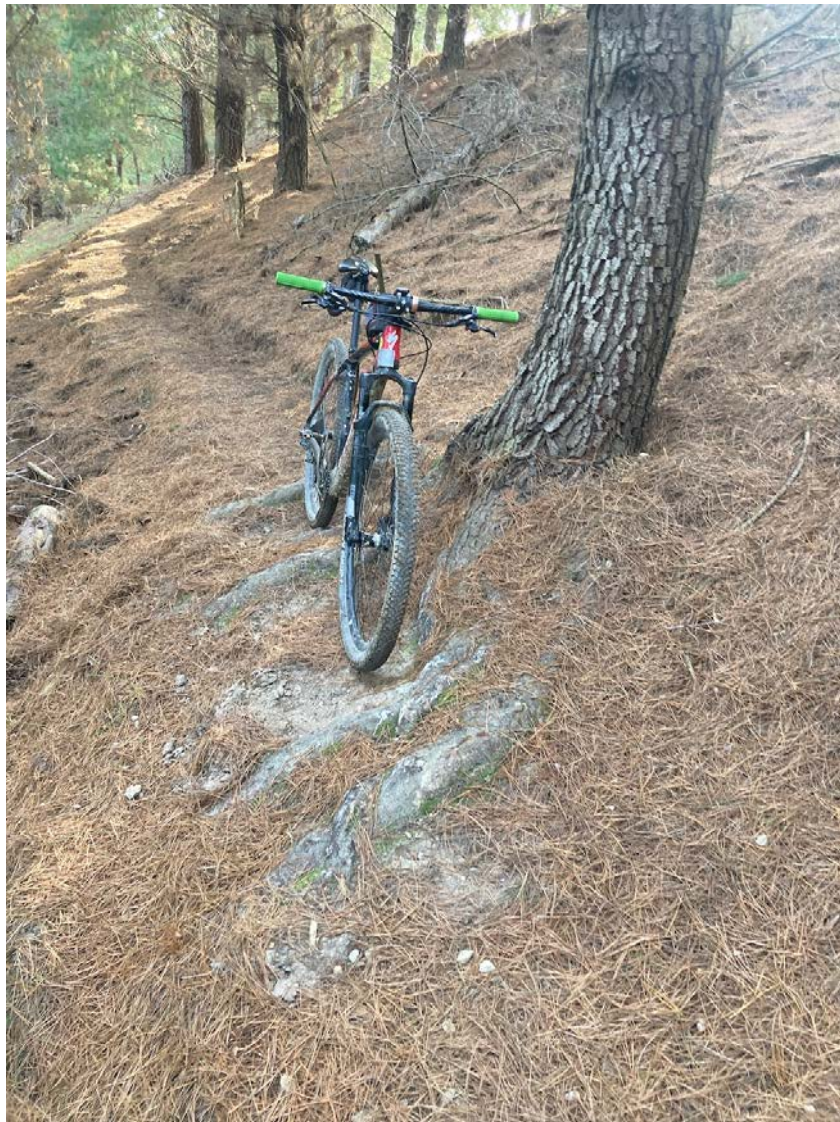
**20 August 2024**

**This Report relates to Item 4 in the Agenda**

“Wither Hills Farm Park,  
Mountain Bike Park Audit”



# Trail Grading for Off-road Cycling Trails at Wither Hills, Marlborough District.



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Prepared for: Marlborough District Council, October 2023

## DOCUMENT CONTROL

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1.0	19 Jul	First draft
1.1	22 Sep	Checking, feedback from client, pagination, captions and figures.
1.1	31 Oct	Final edits and spell checking. Mischief managed!

### Intellectual Property

The Intellectual Property in this report is shared between Envisage New Zealand and Marlborough District Council. The IP inherent in the inspection procedure and form, and the results of grading nationally, belong to Envisage New Zealand.

### Acknowledgments

Thanks to Kiri for choosing us to do this work and for taking the time to come out with Jane to get an understanding of it in the field.

### Warranty and disclaimer

We reckon this work will serve Marlborough District Council well and are confident in our methodology and results. There are bound to be some inaccuracies and grading is subjective so others might think differently about our recommendations, even using the same standard. We stand by our recommendations.

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## EXECUTIVE SUMMARY

As off-road cycling is growing in popularity and importance, land and experience managers are increasingly seeking to 'professionalise' its management, including by ensuring trail grading is accurate and consistent. Marlborough District Council has sought properly considered gradings for trails at the Council's Wither Hills Mountain Bike Park. The park is located on the southern fringes of Blenheim and is the District's most extensive off-road cycling Destination.

We graded 34 trails over four days in winter 2023. We used a bespoke methodology and spreadsheet that produces a one-page report, compares information from numerous sources and allows comparison nationally.

On average we found the Wither Hills trails to be under-graded by 1.5 grades. This is significantly more than the average under-grade of 166 trails (including Wither Hills) that we have assessed nationally for a total of six Council clients in 13 riding Destinations.

Under-grading at Wither Hills is caused by several factors. The trails are currently very low-graded. They 'fail' to meet specifications on multiple of the main factors: turn radius, slopes and width. Because these issues are with the 'fixed components' they can't be easily changed and re-grading to higher grades is the only choice in many cases.

Changing to trail grades to higher ones can lead to a gap at the bottom of the scale for entry-level riders, especially in hillier, hard-rock locations like Nelson and Wellington. This is not the case at the Wither Hills since the relatively soft soils and the relatively low-angled slopes of the park, including a large flat area, mean that genuinely easy trails can easily be accommodated. The recommended regrading of the park has another advantage: the park's trail diversity is much greater than its marketing suggests potentially making it more attractive and reducing the pressure to provide higher grade trails.

There are parts of the Wither Hills network where options are available to trail managers choosing which grades to market in the future. Reconfiguration options are available to provide, especially, a genuinely grade 3 loop trail around the whole park in place of the excellent-but-distinctly-Grade-4 Scenic Route. Some rationalisation options seem to be available too, to reduce erosion, enhance the experience and reduce carrying cost.

# 1. INTRODUCTION

## 1.1. Background and history

Wither Hills Mountain Bike Park is the major off-road cycling Destination in Marlborough District. It mainly serves the population of the District's main town, Blenheim, with which it is nicely integrated via on- and off-street urban trails. As a compact network on the edge of town, it is a great place for repeat visiting, skill development and events.

The park nicely complements riding experiences elsewhere in Marlborough: in The Sounds and the Richmond Range and around Picton. It also has, at least according to trail grades visible online, the easiest trails in the District but it lacks the scale of the networks next door in Nelson and Tasman.

Wither Hills is typical of many off-road cycling Destinations around the country, having developed 'organically' over a long period, mostly through the enthusiasm of a local mountain bike club. The land is Council-managed reserve, and Council is both the permission-giver for the bike track network and, technically, the experience provider.

Off-road cycling is growing, bringing increased leisure, transport, emissions reduction and tourism benefits. As such, the resources being committed to cycling have grown and management of all aspects of off-road cycling has become increasingly formalised. Councils (and other land owners) are increasingly seeking to formalise their understanding of off-road cycling in their rohe, in order to:

- reassure themselves the network, especially the bit they own and/or fund, is true-to-promise so that riders are satisfied and safe, and
- reassure themselves there is a reasonable and 'fair' distribution of trails for all riders and
- better understand the full, life-cycle cost of the track network.

## 1.2. Brief/assignment

Marlborough District Council has engaged Envisage New Zealand to complete trail grading for the trails at Wither Hills Mountain Bike Park. Our brief is to inspect each trail and provide an individual report on each, with a recommended grade (Appendix 2). We are also providing this report, including summary information and a comparative analysis based on grading we have done in several other centres. Our brief includes a specific requirement to comment on certain trails slated for involvement in a significant upcoming event.

The trails listed in Figure 1 were graded between 3 and 7 July 2023. All the grading happened in dry weather. Ground conditions were dry or drying out, after cold rain on July 2nd. All the trails were graded on a lightweight, hardtail mountain bike.

*Figure 1. Trails graded at Wither Hills Mountain Bike Park, Blenheim, July 2023. This list includes just the 34 trails actually graded but a total of 37 trails are discussed in some way in the report.*

Trail name	Current Grade *	Length (m) ^	Trail name	Current Grade *	Length (m) ^
Autobahn	2	730	Pamplona	3	1250
Bender	1	435	Peter Pan	3	250
Boundary Rider	1	745	Prima One	2	200
Calorie Killer	2	1400	Scenic Route (Northern)	2	2250
Cams Run	1	350	Scenic Route (Southern)	2	1400



Trail name	Current Grade *	Length (m) ^	Trail name	Current Grade *	Length (m) ^
Captain Slapstick	3	820	Scenic Route-Mt Vernon	2	285
Deviation	3	1100	Schools Out	2	285
Dirt Circus	2	340	Shortcut Down	3	521
Easy As	1	900	Shortcut Up	3	441
Easy As Intro	2	342	Skyline	2	815
Easy Off	3	290	Squawking Magpie	2	500
Electric Brae	3	400	Stockyard	1	1520
Grass Ridgeline	2	303	Sweet As	3	660
Lamb Chops	3 *	460	Torero	3	295
Landing-Deviation Connector	2	105	Trainspotting	3	200
Mogwai	3	216	Weezer Run	1	377
Muncher	3	680	Wiggles	1	587

Key: \* = from the Council's printed map/brochure (grades in brackets are from on-site signs, or Trailforks where the map was not clear)  
^ = from a variety of sources.

### 1.3. Methodology

#### 1.3.1. Assessment method

There is no documented or standardised procedure for the inspection or grading of off-road cycling trails in New Zealand, and no recognised competency. Envisage New Zealand has developed a methodology based on our knowledge of tracks, off-road cycling, tourism and the systems that DOC has developed for managing walking tracks over many years. Our methodology provides an 'as-is' grading for a trail. While it does describe 'low-hanging fruit' at each trail, it does not generate a full or detailed work plan.

The methodology we have developed involves riding, eyeballing and measuring each trail, and recording certain data in a spreadsheet that generates a one-page report for each trail and allows national comparison across Destinations or Council rohe. Some of the specific features of the methodology are:

- 1 We collect and display current grades (and lengths) for each trail from major information sources. There are often disparities in the grades published by different sources but just one that our client considers to be the primary, official one. In this case, the official source is Council's printed map.
- 2 Where relevant, we assess each trail's average slope from its length and the altitude change along it. This gives a sense of nominal and lowest-possible grade for those trails that climb or descend fairly evenly throughout their length.
- 3 Where necessary, we separately do the same for a significant, specific part of a trail where that might be germane to deciding upon a recommended grade.
- 4 We separately assess each trail's 'fixed components' - width, slope and turn radius – to give some sense of the lowest grade that might be assigned to a trail on its current alignment.
- 5 We provide and justify a recommended trail grade for the entire trail (which is usually different to the fixed components grade or the nominal grade implied by the trail's slope alone).

- 6 We describe any 'low-hanging fruit', usually the work needed to keep a trail at its marketed grade or return a trail to that grade.
- 7 We provide graphs to compare current grades with our recommended ones at the network level and can also provide comparison data with other Destinations and a national picture.

### 1.3.2. Standard applied

There are currently three guidance documents that could be used for grading off-road cycling trails in New Zealand. These are:

- *The New Zealand Mountain Bike Construction Guidelines*. (Recreation Aotearoa, version 2.0, 2023).
- *New Zealand Cycle Trail Design Guide* (New Zealand Cycle Trail Inc., 5<sup>th</sup> edition, August 2019).
- *Cycle Track Service Standard* (Department of Conservation, 2021)

None of these are formal standards or legal requirements, although they touch on matters covered by Health and Safety legislation and the New Zealand Building Code. They could be used in legal processes, especially a contract, a Building Consent application or an incident or coronial investigation. For the purposes of this report, we will use the term standard (lower case 's') to mean any of the above documents or their provisions.

The standards each provide specifications for six trail grades, increasing in difficulty from Grade 1 to Grade 6. Critically, none include specifications for marketing materials but all three nominally rely of the same grade names, colour scheme, short descriptors and symbols to convey grades to riders in-print, online and on-site. We consider the single best expressions of the grading system to be the one on the DOC website and this one:

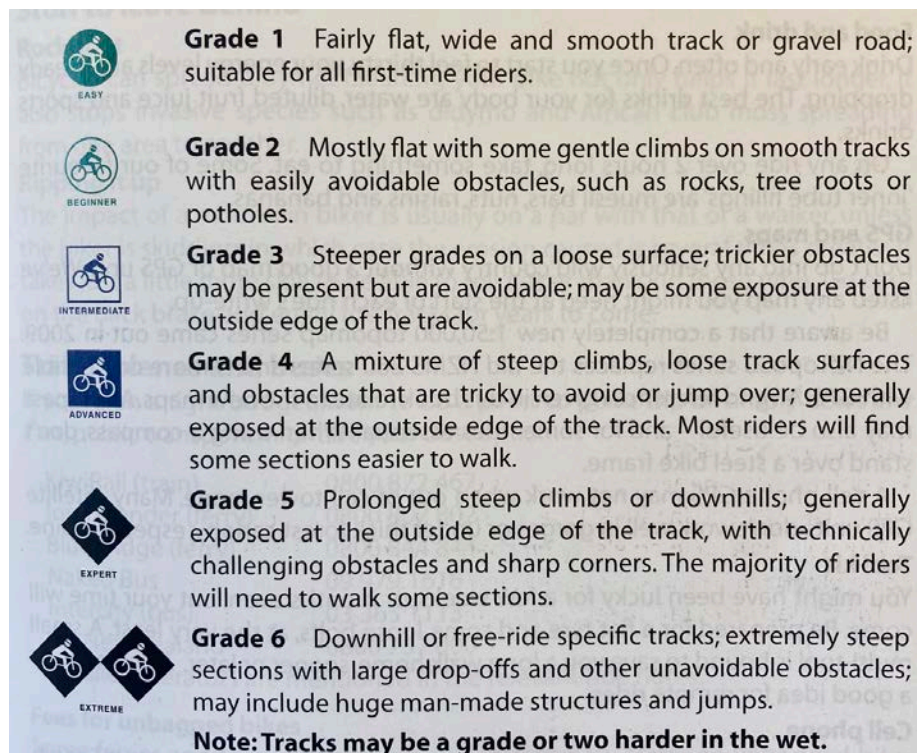


Figure 2. The de facto standard 'face' of the off-road cycling grading system in New Zealand. This is from the 9<sup>th</sup> edition of the Kennett Brothers' *Classic New Zealand Mountain Bike Rides* (2017).

Very similar presentations can be seen elsewhere, including at most cycling parks, but there is increasing variation.

The closest thing we found to an explanation of the grading system at Wither Hills Park was the map (and associated key) on the park brochure and on entry and hub signs (Figure 3). The same map, seemingly without a key, is visible on the Council website while the

club's site links users direct to the global Trailforks one, where there is a 'difficulty' system that is recognisable in light of Figure 2 but not identical (Figure 4).



Figure 3. The key and part of the map from one of the park orientation signs at Wither Hills Mountain Bike Park. The keying of the trails is very difficult to make out in the printed (paper) version and bears no resemblance to the de facto national image in Figure 2.

Difficulty	
<input checked="" type="checkbox"/>	White (418)
<input checked="" type="checkbox"/>	Green (1,238)
<input checked="" type="checkbox"/>	Blue (2,119)
<input checked="" type="checkbox"/>	Advanced (801)
<input checked="" type="checkbox"/>	Black Diamond (583)
<input checked="" type="checkbox"/>	Double Black Diamond (182)
<input checked="" type="checkbox"/>	Proline (14)

Figure 4. The grading system for New Zealand on the Trailforks website (Sep 2023) is likely to be understandable (relative to the one in Figure 2) for experienced riders in New Zealand



Figure 5. The individual trail entry signs at Wither Hills do have the 'standard' trail grade symbols and grade names. However, the grade number - 1 in this case - is incorrect on several signs and some trails have no sign at all (e.g., Lamb Chops).



## How similar are the standards?

It is fortunate that the differences between the three standards are minimal for the critical features of slope, turn radius and width:

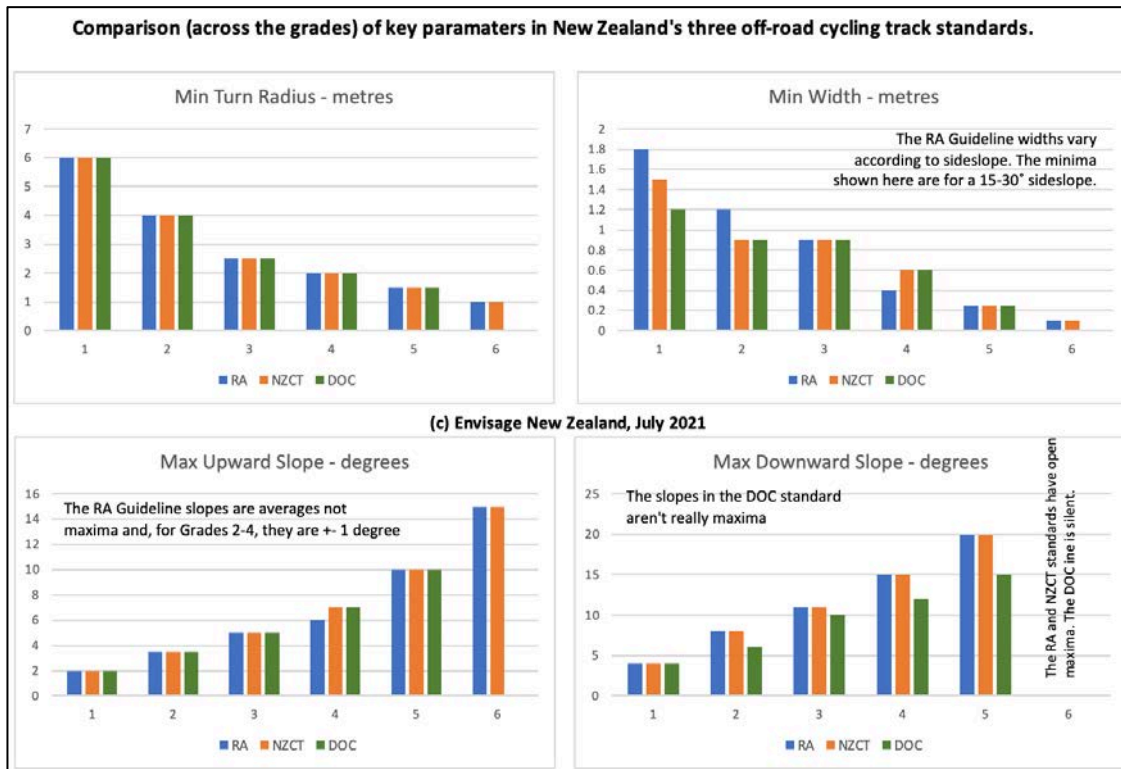


Figure 6. Comparisons of crucial trail features from New Zealand's (3) off-road cycling 'standards'. While there are some exceptions criteria, and subtle differences in the standards' texts, the standards are mostly very similar: identical for turn radius and nearly so for uphill slope.

There are however, two areas where the standards differ significantly: while comparison is difficult because of nomenclature differences, the Recreation Aotearoa standard is more progressive than the other two with respect to surface roughness, obstacles, steps and jumps, features typically associated with more advanced, mostly downhill riding that is usually called mountain biking. Another key difference is the specifications for providing handrails or barriers to prevent falls. In this complex area, the three standards are irreconcilable.

Taking all of the above into consideration, we use the New Zealand Cycle Trail Design Guide (5<sup>th</sup> edition) to drive our grading work. We do sometimes use specific details from the other standards, especially when assessing width. We are aware of a preference for the Recreation Aotearoa guidelines in some circles, including among mountain bikers' and some trail builders. However, we consider they are not fit for purpose because:

- They are too progressive in the features discussed above.
- The other two standards are largely the same as each other.
- They contain an unworkable requirement that, irrespective of trail grade, "a barrier or guardrail shall be provided...[along the full length of trail] where a significant hazard (such as bluffs) exists and there is no alternative".

### 1.3.3. Would another standard make any difference at Wither Hills?

#### The DOC standard

The DOC standard has more conservative (lower) maximum downhill gradients. For Grade 5, the maximum downhill slope (15°) is a full 5 degrees less than it is in the other two

documents (20°). The differences are less at lower grades but just as significant. We consider this matter could affect trail grades at Wither Hills if taken literally. This would potentially make several of the grades higher.

### The Recreation Aotearoa Standard

As discussed above, the Recreation Aotearoa standard is more progressive than the other two with respect to trail obstacles, jumps and “stepped drops”. There are very few jumps or steps at Wither Hills. While it is possible that steps or step-downs we have judged to be Grade X on a trail might be assigned a lower grade using the Recreation Aotearoa standard, slopes, general roughness or other features will usually suggest the higher grade anyway.

Interestingly, there is a jump without a B-line on Torero trail that we consider to be a Grade 4 jump by virtue of its (30°) ramp angle. Torero is currently marketed as a Grade 3 trail and if it met the specifications for that grade, the jump would make the trail a 4. However, our recommendation that the trail is a 4 even without the jump means the jump, which is Grade 4-compliant is not a deciding issue.

#### 1.3.4. Nomenclature

A number of terms used in this report and our individual trail reports require specific understanding. First, the terms ‘trail’ and ‘track’ are largely used interchangeably. We use the term ‘slope’ when discussing the steepness of a trail rather than ‘gradient’ or ‘angle’. When discussing slope, we generally use angles in degrees but may sometimes refer to a rate of climb or fall (i.e., one in X.X or 1:X.X or -1 in X.X). Our reports contain both (and a conversion chart is in Appendix 1 of this report (pXX).

When discussing a specific trail grade we will use capitals (Grade 3, Grade 6 etc.) but a lower case ‘g’ will be used where grade is referred to generally. We may sometimes refer to the skill level of riders - the adjective that describes the level of technical difficulty for each grade. The terms we use, with a capital letter, are Beginner (Grade 1), Novice (Grade 2), Intermediate (Grade 3), Advanced (Grade 4), Expert (Grade 5) and Extreme (Grade 6). We do NOT use the terms Easiest for Grade 1 or Easy for Grade 2.

We grade all trails 1-6 and do not add a ‘+’ (or a ‘-’) symbol to grades since this is not provided for in any of the standards. While we see merit in it, until it is formalised it has no meaning. The same applies to classifying trails as “Technical” or “Flow”.

We use a specific hierarchy of concepts in all our work relating to the planning, provision and management of visitor experiences: Experience, Destination, Network. In this hierarchy:

Experience always refers to a discrete (probably named), whole activity undertaken by a visitor that is limited in time and space. In the case of off-road cycling, an Experience is usually an individual, named cycling trail comprising physical assets and intangibles (services, name, brand etc.). The Experiences in this report are the individual trails listed in Figure 1 above.



Destination means a place where people may go (by bike or by car) to enjoy at least one Experience, cycling and/or non-. Most (cycling) Destinations will have more than one (cycling) Experience. The Destination in this report is, generally, the Wither Hills Mountain Bike Park.



Network means the entire collection of cycling Experiences, considered for management purposes in their Destinations, within a single sphere of interest, usually that of a single organisation. The Network in this report is really all of the Experiences provided and managed by Council in all of the Destinations in the District.

Generally, we will capitalise these terms when they have the above meanings but we will also use them more generally and with a lower case letter to describe, say, the experience of a place or the network or sub-network within a specific area.

#### 1.4. Limitations and assumptions

The key limitation in our individual trail grade reports is the time we had on-site to complete the work. We were able to ride and consider many trails twice but not all. We were able to ride most of the two-way trails in both directions. For the purposes of this work, we have considered Scenic Route as two trails (the northern and southern sections), split at the high point (where the unmarked Mt Vernon Connector leaves).

It has not been possible to measure every corner or obstacle, or every over-steep section. Instead, we have generally measured the first part and first features of each trail carefully, and any grade-marginal or interesting features further on. Measurement is important but we have also sought to simply ride each trail to get a sense of how it feels and compares to other trails in the Destination or elsewhere.

Fully researching all information sources or feedback about the Network was not in-scope. Our work is essentially limited to Experience-level trail grading, and while certain other matters are unavoidable (and are discussed in this report), Destination- or Network-level planning are not in-scope. No consultation was undertaken either since trail grading, to be worthwhile, needs to be undertaken independently. Our trail reports each include a 'low-hanging fruit' section but these are not fully realised work plans.

Finally, our findings are limited by the provisions of the standards. There are three of these and they differ a little. There is no standardised procedure, especially for considering exceptions and out-of-grade tolerance. None of the standards cover speed, remoteness, non-riding skills, endurance/strength or brand, which we consider do affect grade, expectations and exceptions tolerance. We take a reasonably strict approach to interpreting the standards but are not generally swayed to recommend grade increases on single points of non-compliance.

## 2. THE DESTINATION LEVEL

### 2.1. Visitor/Rider Information

#### 2.1.1. Pre-visit

##### Online

Three online information sources were reviewed: Marlborough District Council, Trailforks and the Marlborough Mountain Bike Club. The Council's website has no mountain biking information – just a map (Figure 8) that looks a lot like the printed map. It shows the trails (including many now closed) but has no key or trail metadata.

The Club's website has a small amount of information about the Wither Hills, saying the Park "offers a selection of Grade 1 and 2 Trails" that the club is responsible for building and maintaining. There is no map or individual trail information – just a link to the Trailforks website.



Figure 7. The Trailforks view of Wither Hills Trails near the mountain bike car-park. Some of these trails are not present on the ground.



Figure 8. The same area on the map from the Council website. Trail configuration and names are quite different.

The Trailforks website itself is useful and comprehensive for Wither Hills, as it is for the rest of New Zealand. It shows a slightly different network to the ones on the printed map and the Council website (compare Figures 7 and 8), and the on-site signs. The grades assigned to the trails on Trailforks largely agree with the ones on both map and signs and are presumed to be provided to Trailforks by the club.

While the long trails around the perimeter of the surrounding Wither Hills Farm Park are out of scope for this work, they all appear on Trailforks as Grade 2 trails but they are certainly far too steep and long for riders who would normally contemplate trails of that difficulty.

### 2.1.2. Signs

#### Wayfinding and Orientation

There are wayfinding signs on the urban streets and consistent orientation (map and text) signs at the two main entry points and the major hub areas. There is also an older and somewhat dated one near the Redwood Road entrance. The orientation signs are essentially the same as the maps, but they have no date. Because they are bigger than the printed map, it is easier to distinguish the trails, although not the direction arrows, and the legend is clearer.

#### Route option signs

There are apparently no named routes in the park – rides consisting of more than one individual trail. There is one route shown on Trailforks, named “2021 Skoda National Schools MTB Champs XC Route”. Part of this is outside the mountain bike park, so not available normally.

#### Hazard/warning signs

Unusually perhaps, there are no warning signs in the park. Points where trails fork into easier and harder options are problematic nationally because there is no standard way of marking them and a super-diverse approach doing so. There were no such fork points in the Wither Hills Mountain Bike Park, where a named trail forked and one fork was either harder or easier than the advertised grade.

There were certainly some unmarked junctions in the park or confusion created by old signs, but the only hazard sign we saw was directed at uphill riders on the bottom of Skyline trail warning people of “Holes”. There are two jumps (on Torero and Deviation) that don't need warning signs, at the recommended grades.

#### Direction and trailhead signs

The main signs provided at Wither Hills Mountain Bike Park are the entry/name signs for each trail (Figure 9). These are pretty good if a little small. The letter height is small and while the signs include the de facto standard grade symbols and names, quite a number had the wrong grade number (Figure 9).

A number of the entry/name signs were missing and confusion was created in some places by this, or by old signs left in place after network changes or old flexoposts that are hard to read at speed (e.g., Figure 11). The signs have precise locations (in a lat-long format rather than in a NZ Map Grid one) but don't have trail lengths.





Figure 9. A typical trail entry sign at Wither Hills. There is no distance and the typeface is small but these are generally good signs. Note that this sign has the symbol and grade name for Grade 2 but the words "Grade: 1". This is quite common in the park.



Figure 10. This sign looks very old. The "Main Track" is presumed to be Calorie Killer and/or Skyline, both 'Intermediate'-grade as the sign says, despite appearing on the map a Grade 2 (Novice) trails. It seems unlikely that the straight ahead option shown here is still The Bender – this sign seemingly predates Prima One.



Figure 11. In a few places in the park, there are these old 'flexopost' signs. Like the sign in Figure 10, this one predates Prima One and names a "Main Track" that seems to be redundant. The grade (3) differs from the one on the map (2) and the use of arrows for two purposes is confusing, especially while actually riding.

### 2.1.3. The map/brochure

The printed map of the park is considered by Council to be the official source of trail data, grades especially. It is part of a brochure that also covers the part of Wither Hills Farm Park that is not the mountain bike park, and it is dated March 2020. The map is essentially replicated on the park's orientation signs (see 2.1.2), which is generally a good thing.

The mountain bike park map is very small, an issue compounded by the thick lines and arrow style used to represent the tracks. As discussed elsewhere, there is a lot of disagreement between the map, the on-site signs and online information.

The map certainly could be bigger and would benefit from having a list of trails, with their lengths. The key is difficult to read, especially the symbol for Grade 2 trails. Stockyard is keyed as a dual-use trail meaning its grade is not clear.



Figure 12. This scan of part of the map shows some of the issues described. The symbol for Grade 2 trails here (a green/blue solid line) is more readable here than it is in 'real life'.

## 2.2. Measure-by-measure findings

This section of the report discusses the trails in the Destination collectively, in light of the major features covered by the track standards.

### 2.2.1. Uphill slopes

Generally, the uphill trails in the park have sections that exceed the slope maxima for current, marketed grades. Uphill slopes are fine for the important two-way trails, Calorie Killer and Skyline, if they are re-graded to Grade 3. There are issues on Prima One, Mt Vernon Connector and Easy As whose resolution will depend on both grade and network configuration decisions.

Some of the shortcuts and/or connector trails have very steep sections too. Where these are shortcuts, they are not problematic and on Shortcut Up this is not a problem either if the grade is increased (that trail's slope is Grade 5 on average so it's probably technically a Grade 6 trail, but 5 will suffice). The connector from the Landing to Scenic Route and Deviation also has a very steep pinch that might be resolved to improve the overall climbing experience (see 3.1.17).

The most notable issues with uphill slopes are those on both ends of Scenic Route, discussed fully in the individual reports for those trails and in 3.1.23 and 3.1.24 below. On the northern part of this trail, the riding line itself is steep in places but the cattle stops are even steeper, something that is compounded by lips at their bottom ends and the inevitable 'intimidation' factor of any cattle stop for early-stage riders.





Figure 13. One of the trickier cattle stops heading uphill on Scenic Route (Northern)

### 2.2.2. Downhill slopes

Downhill slope is a difficult matter generally since all three track standards only give simple maxima for this feature; they provide no exceptions clause or allowance for, say, good runout, very short duration, surface smoothness etc. By a literal reading of the standards, downhill slopes are exceeded routinely.

Downhill slope was never the sole determining factor for grading recommendations at Wither Hills but it was a contributor in several ways. First, some trails in the park involve steep, fall line riding on natural surface. We consider this to be a sign of an expert-level (Grade 5) trail if the slope is steep enough or the surface rough enough or, as is the case on Lamb Chops, if such a slope exists in lieu of a properly formed corner on a trail that is otherwise benched. Fall line riding was a factor in grade recommendations on Lamb Chops and Sweet As.

Additionally, where steep slopes were found in conjunction with large-radius turns, or multiple linked turns, then it was certainly a factor in recommending higher grades. This is because of the speed generated on such trails and/or the strength required to cope with that speed and remain in control. The trails where in-turn downhill slope or downhill speed contributed to recommended grade increases include Captain Slapstick, Pamplona and Torero.

Downhill slope was a factor in recommended very high grades for the two, fall line trails on grass in the park: Boundary Rider and Grass Ridgeline. Both of these trails are strange ones that show little evidence of use. They seemingly contribute little to the network and would create erosion issues if properly formed. We recommend considering their deletion.

The downhill slopes of the cattle stops on Scenic Route (Northern) are less problematic than the uphill slopes at the recommended grades.

Finally, downhill slope was a factor in recommendations regarding Deviation and Shortcut Down. Neither is particularly steep, but their very steep final sections, just above Sweet As are seemingly very wet and require improvement.

### 2.2.3. *Width*

Width is not often an issue in the park since many of the trails are established on a wide bench. We did note some places where the cut bench was narrow, and/or had no safety margin. Lamb Chops, Mogwai and Trainspotting are trails whose width doesn't meet the Grade 4 minimum specification and we recommend Grade 5 for these trails. Each of them has other factors suggesting a high grade (see individual reports and 3.1.16, .18 and .33).

Width would be an issue on some of the low-graded trails in the park, if those grades are required to be retained. Apart from the cattle stops, Stockyard and Easy As are wide enough (or near enough to wide enough) for their grades (1/2). However, Wheezer Run, Cams Run, and Wiggles are all too narrow. The recommended solutions are covered in part 3 below and the individual trail reports (Appendix 2).

The cattle stops in the park are nominally wide enough for Grade 3 or above but might still be replaced with wider (and less sloped) ones in time, especially on Scenic Route (Northern). This is dependent on the grade ultimately chosen for these trails.

### 2.2.4. *Turn radius*

All three standards have virtually identical turn radius minima. Interestingly perhaps, turn radius specifications are the same for both ascending and descending, recognising that both high and low speed require a trade-off between stability: higher speed gives more stability and gravity assist but raises consequences.

Throughout the Wither Hills park, turns mostly meet those specifications - turn radii are seldom too small, reflecting the park's relatively soft soils and mellow slopes. The two trails where turn radius is a big issue are Scenic Route Northern and Scenic Route Southern.

On the northern trail, the first five turns are nowhere near the 4-metre radius required for a Grade 2 trail, and don't really achieve the Grade 3 minimum (2.5m). This is discussed in 3.1.23 below and the trail report in Appendix 2. Scenic Route Southern is much 'worse', with at least 15 tight turns in quick succession. Turn Radius considerations on these trails alone suggest they should be Grade 4, although there are other factors, and network reconfiguration options that should still allow a Grade 3 loop to be provided around the park's perimeter.

The (17) turns on Calorie Killer were very interesting. We measured all of them and found they are, on average, marginally below the minimum radius for the recommended grade – 3 (see Figure 20, p27). We consider they could easily be cleaned up a little and that this finding certainly doesn't make the trail a Grade 4. On the other hand, it surely means the trail could not be considered to be Grade 2 as it is currently marketed.

Wiggles is the other trail with significant turn radius issues. It is necessary to approach the trail as a genuinely Grade 1 (beginner) rider would and consider that the minimum radius requirement for the corners is a whopping six metres. This is barely achievable on a slope but it is achievable on the flat, where Wiggles is. Technically, most of the corners on Wiggles fall a bit short of the 6-metre mark but this was not the only factor driving our recommended grade increase for a trail that clearly should be Grade 1. There is more discussion of Wiggles in 2.2.7 below, Appendix 2 and in part 3.1.35.

The point about difficulty-based standards for an activity with some risk, is that some riders find things very challenging that other riders – including many trail builders – barely notice. The standards should be taken literally and those applying them should try to see beginner trails through beginners' eyes. In this light, an interesting point is made about the 'turns' on Stockyard that lead into the cattle stops. We note one place in particular where riders are still actually making their turn as they ride on to a cattle stop (Figure 14). We consider this to be too difficult for Grade 1 riding and suggest the track is realigned so the turn is fully complete before the cattle stop.

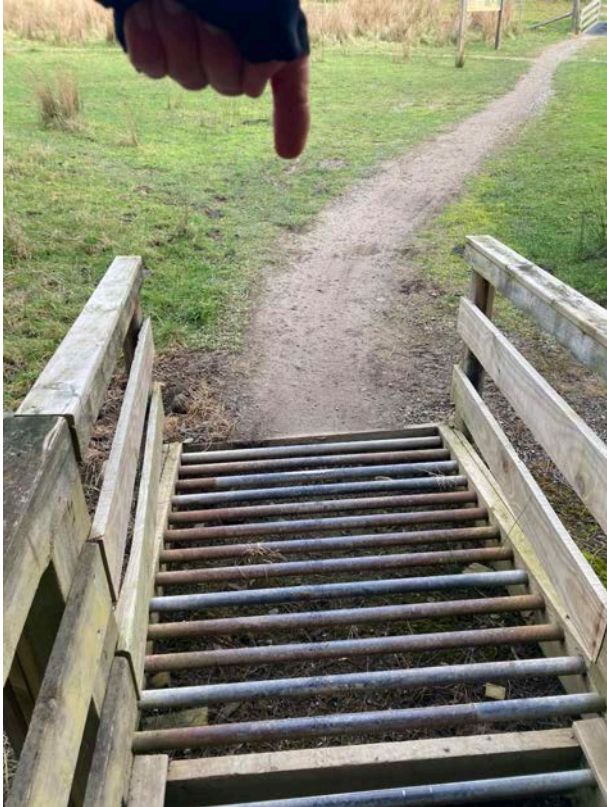


Figure 14. The (downhill) approach to one of the cattle stops on Stockyard. The corner is not quite finished when riders have to cross an obstacle with constricting, vertical sides that is narrower than the nominal minimum required for the track: 1.5m.

The hand is pointing at evidence of riders – probably competent ones travelling at speed – swinging more widely to cross this cattle stop.

#### 2.2.5. Surface Obstacles, Steps and Features

There are surface issues at play in Wither Hills Mountain Bike Park. These mainly arise from the fact that the trails are mostly unsurfaced and prone to wetness, potholing and under-runner erosion. The soft landform has broken down on to the track surface in places, which can add roughness and/or reduce turn radii (Deviation especially). All of these issues were heightened during our fieldwork by a recent incursion of cows, coinciding with a wet day just before we began riding.

In places, there are loose stones on trails (Autobahn and upper Scenic Route (Northern)) while channelling caused by erosion certainly increases riding difficulty here and there (Mogwai, Trainspotting, Scenic Route (Southern)). There are plenty of tree roots but these are certainly not problematic everywhere. For instance, the roots on lower Easy As should be eliminated if Grade 2 is the desired grade but those on Lamb Chops are part of the expected experience at the recommended Grade - 5.

There are seemingly only two built jumps in the park. One is a small B-line jump on Deviation that is not problematic, standards-wise. The other is on the A-line of Torero. There is no B-line provided and this jump is problematic at the current marketed grade (3) but not at the recommended one (4).

### 2.2.6. Structures (incl fences)

Built structures are more problematic than natural features (or even tracks) because they are pro-actively added by people and often must meet legal standards; they are more clearly someone's responsibility than terrain hazards. We found no buildings or bridge-type structures in the mountain bike park. Some of the signs are sharp-edged but only in one place did it seem that a sign was too close to a track (Fig 32, p36).

The most common human-added structures in the park are numerous cattle stops. In many cases their widths, approach ramp slopes and entry/exit lips are problematic, especially on Stockyard (approach corners, widths, lips) and Scenic Route (Northern) (slopes, lips, upward approach slopes). The one at the park boundary – at the northern end of Stockyard – is particularly difficult to approach and has particularly steep ramps.

The proximity of Electric Brae, Grass Ridgeline and Boundary Rider to fences (and a retaining wall on Electric Brae) is somewhat concerning, while unsignposted junctions or trail crossings (e.g. Captain Slapstick/Calorie Killer, Pamplona/Autobahn) could also be both confusing and dangerous.

### 2.2.7. Features in combination

In places in the park, riding is made more difficult or non-grade-compliant by combinations of features. These include tight turns with difficult surface and steep slopes on Scenic Route (near the bottom of both arms), very narrow trails with unformed corners on Lamb Chops, rough surface with steep slopes on Mt Vernon Connector.

On Wiggles, the slightly too-tight corners are OK in isolation for Grade 1, but the trail is too narrow as well. Nearby Weezer Run is too narrow too, something that is also compounded by roughness and grass. We spoke to a young girl (with a parent) who fell because of loose rocks while learning on that trail. At such low grades, tolerance for out-of-grade issues needs to be less.

### 2.2.8. Suitability for Accessible Mountain Biking

Accessible mountain biking (aMTB) was not in scope for this work. However, we note the increasing trend to allowing for fully accessible riding in planning new trails and trail renovation, and an emphasis on eliminating barriers in ancillary infrastructure such as carparks and toilets.

We would certainly recommend Council considers how to provide a meaningful riding experience for disabled visitors at Wither Hills. The Recreation Aotearoa standard has a section dedicated to aMTB specifications and we note three significant barriers:

- The gates at the park's entry
- The cattle stops
- The need for turn radii on accessible trails to be much wider, at all grades.

It is probable that none of the trails in the park meet aMTB standards. If issues with cattle stops and entry gates were resolved, Stockyard probably would, and, with the minor works recommended below (2.4.3), Wiggles and Weezer Run could too. We consider that a climb with no turns (or compliant ones) might be possible from Muncher to The Landing, and that a modified Deviation might provide the necessary downhill ride to give aMTB users a full and meaningful loop of the park.

### 2.2.9. Specific current hazards

We noticed two significant hazards in the park that should be eliminated: protruding waratahs on a retaining wall alongside Electric Brae and a piece of protruding timber on Wiggles (see Figure 44, page 45).



## 2.3. Destination-level Trail Grades Assessment

### 2.3.1. Summary of Findings

At the whole of Destination level, the key finding we are reporting is that the average 'under-grade' for the 34 trails assessed is 1.50 grades: trail grades at Wither Hills Mountain Bike Park seem to be 1½ grades higher than suggested by current official grades. A more meaningful way to consider this finding is to look at the change it means for the distribution of trails across the six grades, as per Figure 15.

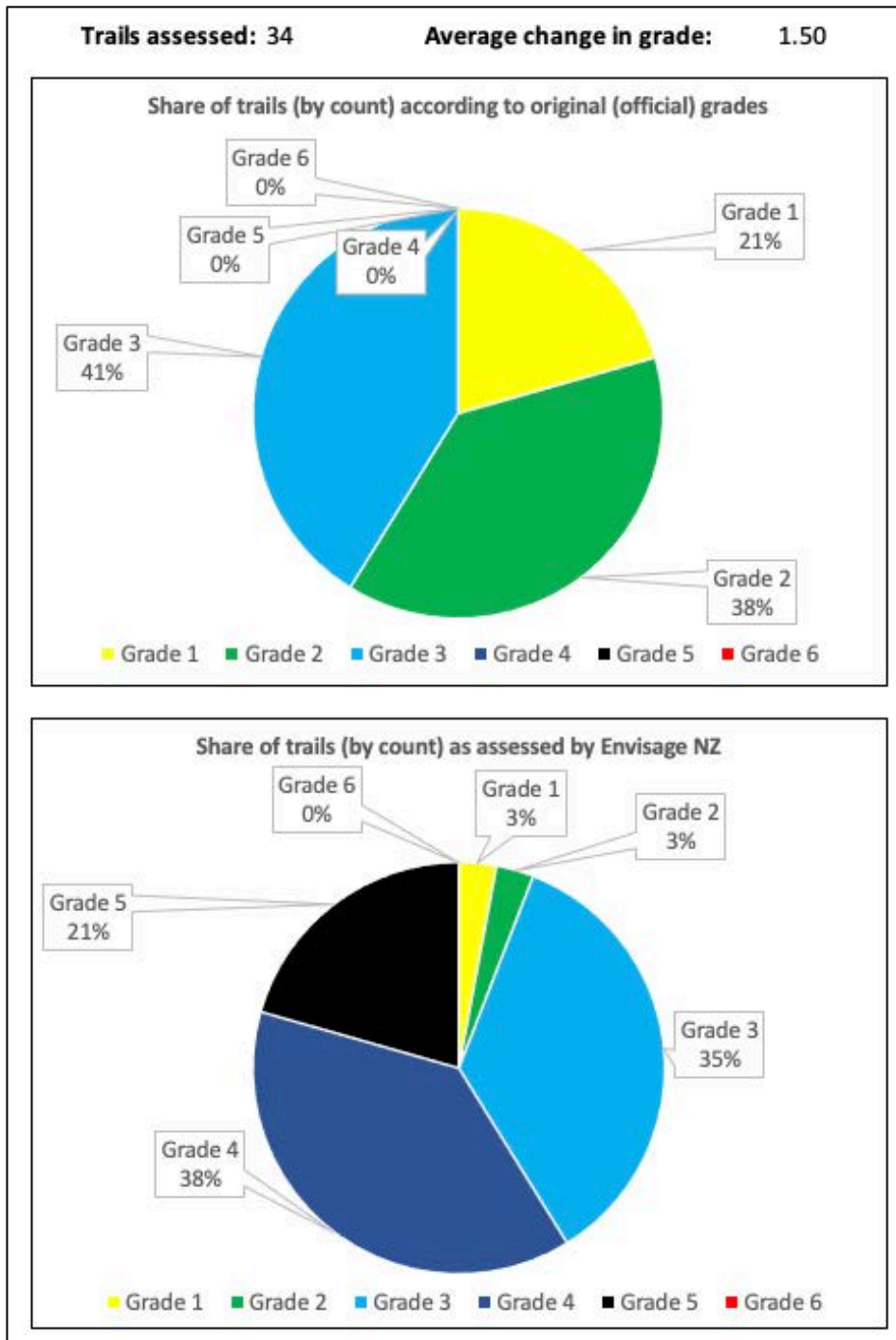


Figure 15. Change in trail grade distribution for 34 trails assessed at Wither Hills Mountain Bike Park. The upper chart shows the official grades we found at the time of our visit and the bottom chart shows our recommended assessed grades.

This amount of under-grading is much more than we have found anywhere else. Prior to visiting Wither Hills, the average under-grade revealed by our work on 132 trails nationally was 0.76 of a grade. Including Wither Hills, that figure is now 0.96 from 166 trails (see Figure 16).

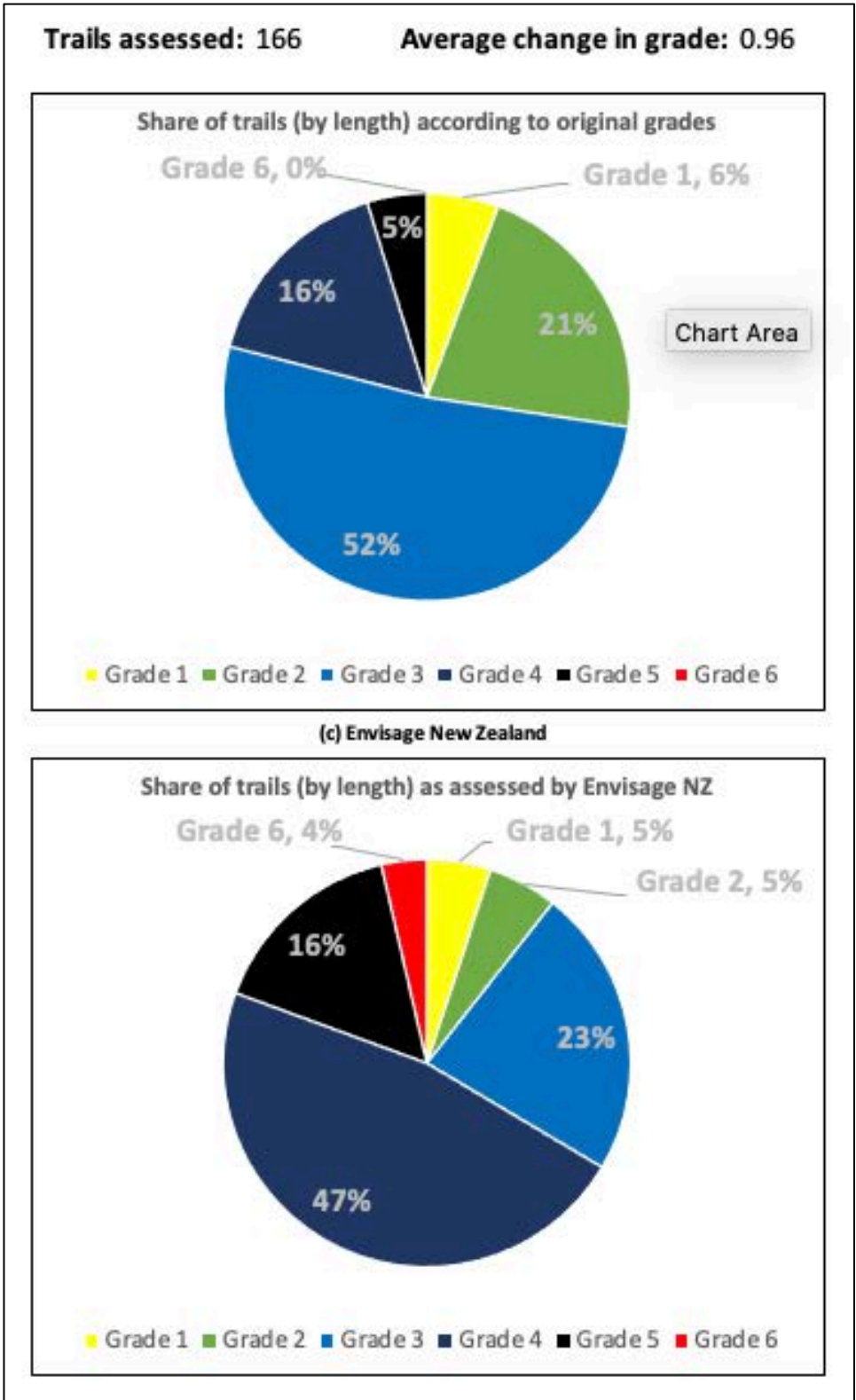


Figure 16. Trail grade distribution for 166 trails assessed nationally, including trails at Wither Hills.



It seems initially surprising that the trails in Wither Hills Mountain Bike Park would be so significantly under-graded – more than we have found anywhere else. However, there is some good news. First, there are at least some genuinely Grade 1 and 2 trails in the park. The soft soils, relatively low-angled hills and large flat area alongside Stockyard means there is plenty of space for these, which is not the case in hillier and rockier locations like much of Wellington and Nelson.

Second, with many of the current trails seemingly under-graded, regrading will reveal a much more diverse network than what is currently marketed. This is likely to increase its attractiveness to visitor riders and reduces the need to provide higher grade trails in the area. Again, this is the opposite situation to some other regions where trails are under-graded but regrading actually reduces diversity and might leave a big gap at the low/easy end of the trail spectrum.

### 2.3.2. *Marlborough context*

We note that there are numerous other riding Destinations in the District, with a range of management models in place. These were out of scope and we have only limited recent experience of them. The particular value of the Wither Hills trails is that they are free to use, close to the largest population centre, and with lots of riding options. This complements nicely the District's other trails, which are mostly single experiences in more remote locations.

We would recommend grading assessments at the other Destinations in Marlborough to ensure grading consistency and a fair distribution of trails, for residents especially. It seems likely that many of these other trails would not be so significantly under-graded, since many of them are graded 4 or 5 already and these grades have much greater 'bandwidth' than Grades 1-3.

### 2.3.3. *National context and outcomes elsewhere*

The tendency for trails to be under-graded is repeated nationally: for the 166 trails we have evaluated fully for Council clients, we noticed a reduction in the percentage of Grade 1 and 2 trails from 27% down to 10%, and a consequent huge increase in the proportion of Grade 4 trails from 16-47%.

In the same way that re-grading only one part of Marlborough can be problematic for riders changing Destinations in the District, re-grading just one region could be problematic for riders changing regions. The re-grading work we have been involved in arguably now needs to be considered nationally to avoid this problem.

Nelson City Council increased virtually all trail grades in its territory (by nearly a whole grade on average) in 2021, after Envisage New Zealand completed grading assessments there. In neighbouring Tasman District, trail grades in some significant parks have also been increased. We have recently heard an anecdotal suggestion that mountain bike injury claims have fallen in Nelson City, and found some data from Accident Compensation Corporation that backs this up (Figure 17).

There has also been some activity in Wellington and Rotorua following grading assessments we completed there, both upward re-grading and remedial work to restore current grades. However, in plenty of other regions, most notably Queenstown Lakes and Christchurch, concerted grading assessment has not been undertaken.

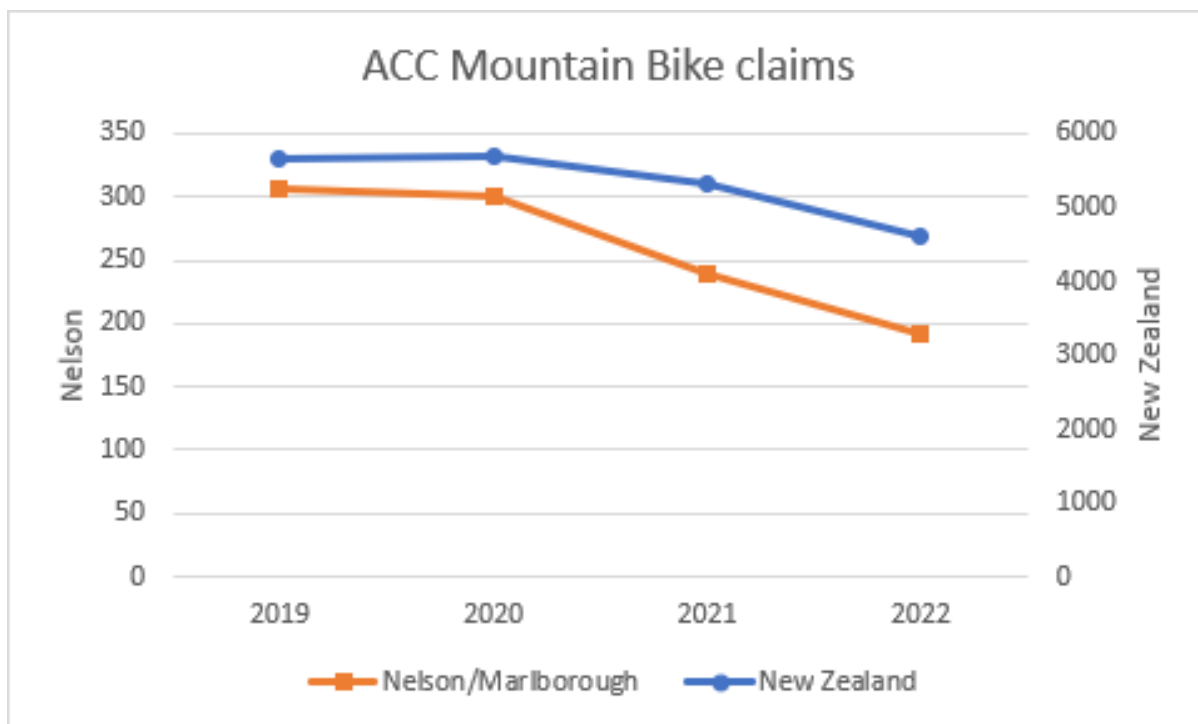


Figure 17. Accident Compensation Corporation mountain bike injury claim data, Nelson/Marlborough and nationwide, 2019-22.

## 2.4. Recommended approach to the findings of this work

Essentially, there are two options to deal with under-graded trails. The first, and easiest option is to regrade them. This only requires new signage and updating of visitor information. Doing this means that trail grades will be accurate: expectations that riders form about the trails are more likely to be met, which increases satisfaction, fosters continued riding, and reduces adverse outcomes. Regrading trails is cheap and leaves the network unchanged, which is important if riders or builders value the network in its current state.

The substantial problem with simply regrading under-graded trails is that it can reveal a lack of trails at the easier end of the difficulty spectrum. This is seen in the data from our work nationally but is not really a problem at Wither Hills, where retaining some easy trails won't be difficult.

The second option for dealing with an under-graded trail is to undertake remedial work. This involves retaining a trail's current grade and changing the trail in some way so that it matches that grade. This option saves the cost of changing the sign and other marketing materials but involves physical works, which can be much more expensive. It might also change the trail in a way that might disappoint regular users, even if those riders have improved technically and/or the trails concerned have deteriorated.

A mixture of actions is recommended for the 37 trails encountered at Wither Hills as outlined in 2.4.1-2.4.4 below.

Notes:

- all of these actions overlook issues with the cattle stops.
- they are presented in general terms here and are not detailed or complete.
- they are based on the current official grades from the official Council map, whereas the on-site signs or Trailforks might have different grades.

- This 'programme' ignores six trails that are closed or whose status is not clear: Ripper Run, Easy As Alternative Entrance, Squawking Magpie, Bullseye, Boundary Rider, Grass Ridgeline.

#### 2.4.1. No action

Where a trail's assessed grade matches its currently marketed grade, no action is required. This is the case for two trails: Muncher and Stockyard. A bit of tidying on the corners on Muncher is recommended and around the cattle stops on Stockyard.

#### 2.4.2. Regrading to higher grades

Re-grading seems to be the only practicable option to make the following trails grade-compliant without undertaking significant work.

Trail name	Grade change	Notes, recommended minor actions (See Part 3 and Appendix 2 for more details)
9, Autobahn	2 to 3	Consider 2-way but bearing in mind there are jumps that uphill riders would be facing into.
10, Bender	1 to 3	Configuration/naming issues. Too narrow for G1 and really too far into the network for G2, with no G2 exit.
11, Calorie Killer	2 to 3	Excellent trail with marginal corners – consider a tidy-up.
12, Cams Run	1 to 3	Perfect as it, at the easy end of G3. Too narrow for G2 as is. Nicely complements Weezer Run and Stockyard.
13, Captain Slapstick	3 to 4	Good as is – a bit long/sustained for G3.
14, Dirt Circus	2 to 3	Move entry sign up onto Easy As. Smooth out the lower turns. Nice exit option.
15, Electric Brae	3 to 4	Untidy and hazardous. Potentially a G3 exit option.
16, Easy Off	3 to 4	A strange trail. Consider 2-way.
17, Lamb Chops	3 to 5	Formal route not clear. The hardest trail in the park as valuable in its current state. More use could cause erosion.
18, Pamplona	3 to 4	Good as is – the most Grade 4 of any trail in the park.
19, Peter Pan	3 to 5	Formal route/ending not clear. Arguably a bit redundant.
20, Prima One	2 to 3	There are configuration issues (relative to Schools Out and Bender). Too steep for Grade 2 but important access trail.
21, Scenic Route (Northern)	2 to 4	Far too steep, narrow, rough and tight for Grade 2. Grade 3 could be achieved but not easily.
22, Scenic Route (Northern)	2 to 4	Numerous issues in both the upper, benched section and the turns section. Grades 2 and 3 are not achievable.
23, Scenic Route-Mt Vernon Connector	2 to 4	Not fully formed, with rough surface and a very steep pitch (technically at least Grade 5).
24, Schools Out	2 to 3	Configuration (relative to Prima One/Bender) is not clear. Consider folding into an upgraded Easy As (2.4.4).
25, Shortcut Down	3 to 4	Possibly redundant. Consider combining with Deviation at the bottom.

Trail name	Grade change	Notes, recommended minor actions (See Part 3 and Appendix 2 for more details)
26, Shortcut Up	3 to 5	Useful as a quick climb option, for e-bike riders especially. Potentially erosion-prone though.
27, Sweet As	3 to 5	A mostly G4 trail but with Grade 5 cruxes. The crossings of other trails could be better managed.
28, Torero	3 to 4	This is a short but quite committing trail – Grade 4. A G3 connector from Scenic Route to The Landing would be good.

#### 2.4.3. Minor upgrades

The following two, low-grade trails could be marketed at their current official grades with a small amount of work:

29, Easy As Intro	Restoration of this line would eliminate the steep initial climb on Easy As. Intro does still exist, but is unsignposted and littered with debris. It needs a tidy up, with special attention to the right-hand bend, where a full 4-metre turn radius will be hard to achieve.
31, Weezer Run	The underlying alignment of this trail is perfect currently for Grade 2. It provides a nice ride with gentle turns and a tiny bit of jeopardy, making it a small step up from Stockyard, but less exposed than Cams Run. Weezer Run just needs to be widened and to have stones/vegetation removed from its surface/edges.
30, Wiggles	The alignment is essentially fine. The rideable surface is too narrow though, as if grass growth has encroached on to it. A cut back with a digger and maybe some additional, binding gravel would help. Most of the corners don't technically achieve the minimum turn radius for Grade 1 (6m) but they would be acceptable with more width and visibility. The turns on the northern (Weezer Run) end are the tightest and the trail might be split into 2, part Grade 1 and part Grade 2.

#### 2.4.4. Significant upgrades

The following trails seemingly need more extensive interventions:

32, Skyline	The concave and moisture-retaining bottom section, near the junction with Calorie Killer badly needs a permanent fix, probably involving importing fill and providing both drainage and timber edging. This trail is a crucial two-way connector between Base Camp and mid-Scenic Route (northern). This fix would allow the trail to be marketed at Grade 3. If enough width is provided, Skyline down could be an accessible mountain bike (aMTB) trail.
33, Easy As	This trail is nowhere near Grade 2, with its very steep initial climb, general lumpiness, steep/wet finish into Base Camp and unsavoury junction with Deviation. There's little point in achieving Grade 2 with this trail if it only accesses higher-grade trails. This trail could be considered Grade 3 with some general surface tidying, but a range of further improvement options could make it Grade 2, especially if it was possible to return to Stockyard at that grade, making a decent loop for Grade 2 riders as well as serving the uphill and downhill trails above Base Camp. This option probably involves Schools Out.
34, Deviation	The surface of Deviation and the berms of the turns on it are rough. However, the major improvement suggested is shifting its lower junction with Easy As so it drains better, is less steep and joins more safely with that trail. Combining Deviation and Shortcut Down seems to be worthy of consideration.

	Grade 3 is very achievable on this trail given the pauses in it. Deviation may even have the best potential to be upgraded for downhill fully accessible mountain biking.
35, Landing to Deviation Connector	<p>This is a difficult situation because this little connector is very steep at its start. It is quite important though, being the only way up to Scenic Route (and the Grade 3 descending option provided by Deviation) from The Landing and from the park's main climbing trail, Calorie Killer.</p> <p>Only a realignment will resolve this issue, but that would be impactful and there isn't much room to undertake it. The best way to find space would arguably be by adjusting the bottom of Torero. This could potentially make The Landing, which is a very pleasant spot, a bit bigger.</p> <p>It may be possible to accept a short, too-steep section, and some improvement would come from defining this short connector as part of Calorie Killer, which would mean that trail went all the way from Base Camp up to Scenic Route.</p>
36/37, Mogwai and Trainspotting	<p>Being completely above the treeline, these trails have severely eroded corners. These require restoration and probably should be completely reshaped, with grade reversals.</p> <p>The radius and in-turn slope of these corners are distinctly Grade 5. If a lower grade was sought, this would be resolvable with more work, including widening the straight sections. Both trails probably require hardening to control erosion and decisions about their grade are affected by decisions about the Mt Vernon Connector.</p>

## 2.5. Network design

The above plan and recommendations essentially relate to the network in the park as it exists currently. However, there are issues and options at that level that we recommend considering. These are out of scope but the major ones are discussed briefly here.

- Different information sources show significant differences in the network in the area immediately behind the entry sign at the mountain bike carpark (Ripper Run, Dirt Circus, Easy As Intro etc). These should be clarified.
- There seem to be some extraneous trails – some that are open on the ground and some that are not – that might be completely deleted to make the network simpler and cheaper to maintain. These include Squawking Magpie, Bullseye, Grass Ridgeline and Shortcut Down.
- One of Lamb Chops or Peter Pan extends right down to Easy Off but none of the information sources show this.
- The trails that are largely in the open above Scenic Route are problematic, with severe erosion, steep side slopes and fall line slopes. These add little to the network currently but might do if properly formed. The trails covered by this are Mt Vernon Connector, Trainspotting, Mogwai and Boundary Rider.
- Both arms of Scenic Route have serious issues that make them technically Grade 4 trails. However, a Grade 3 trail looping the entire park, perhaps with a link to the high point is commended as a strategically important experience to provide. Both parts of Scenic Route could be improved to Grade 3 but only with substantial earthworks. There seem to be better options involving Muncher, Calorie Killer and Deviation.

### 3. THE EXPERIENCE LEVEL

This part of the report provides certain information additional to the one-page reports for each trail in Appendix 2. This part focuses more on each trail's role in the Destination and includes images where this is useful to demonstrate some of the issues.

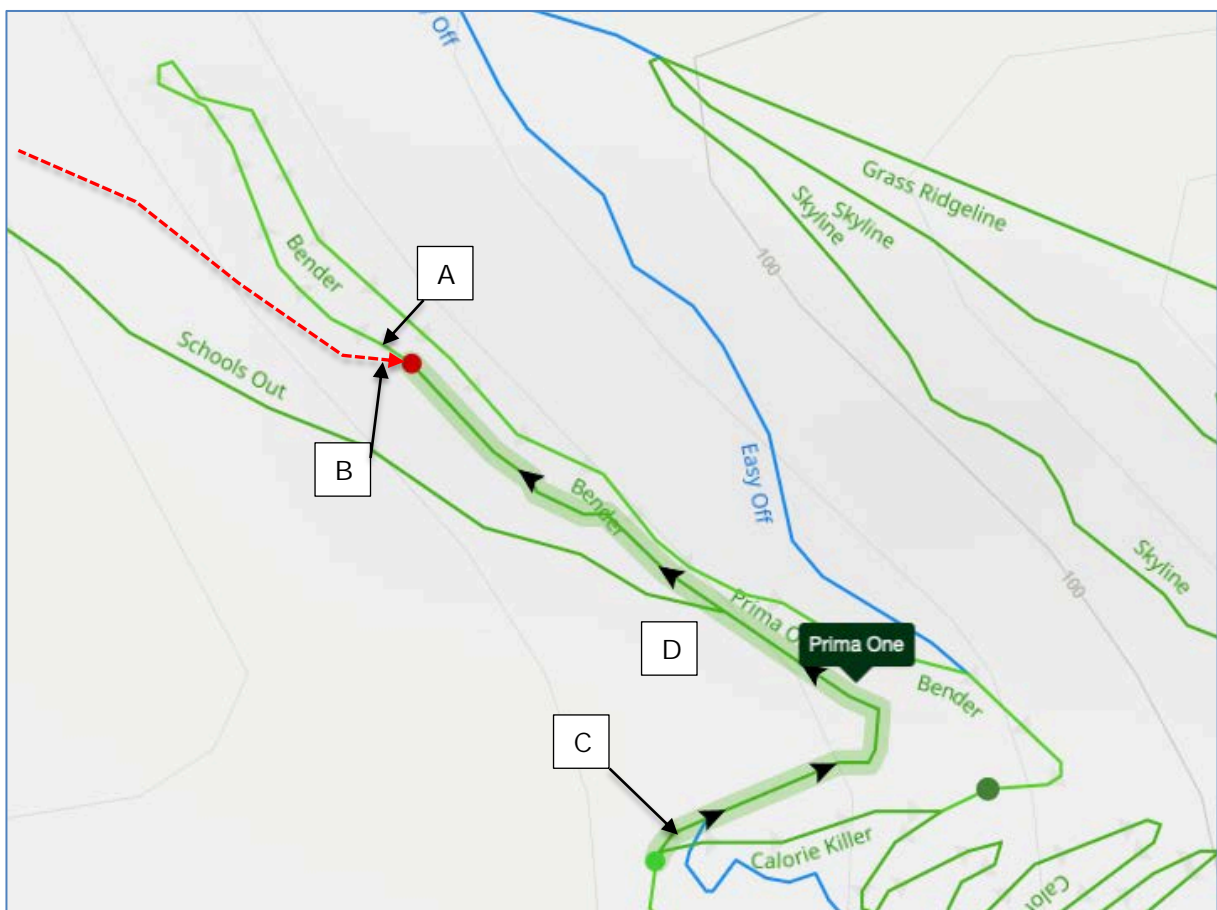
#### 3.1.1. *Autobahn*

Autobahn is currently a one-way trail and two-way use would be unsafe since riders using it uphill (towards the Landing) would face people jumping off the trail's various features. However, if The Landing is to continue to be a significant hub, whose quickest access from above currently is the Grade 4 Torero, then 2-way status for Autobahn may be considered an improvement.

#### 3.1.2. *Bender*

It is not at all clear on the ground where Bender actually starts and finishes. Figure 18 shows how Trailforks portrays Bender relative to Schools Out, Easy Off, Calorie Killer and Prima One, although not all of the latter trail.

Figure 18. There are entry or naming signs for Bender in three places (A, B and C on this map), but the trail starting at C on this map is actually Prima One. The situation is further complicated because Schools Out is not signposted at D and the map doesn't show Prima One's connection to Stockyard, indicated here with a red dashed line.



#### 3.1.3. *Boundary Rider*

Boundary Rider is a trail that might be deleted. It clearly sees minimal use and the fall line riding it offers is unsafe, less-than-appealing to most riders, and erosion-causing.

### 3.1.4. Bullseye

Bullseye is currently closed. It appears so on Trailforks, although Bullseye Off, a 16-metre-long link to Deviation, is still shown. We couldn't find any evidence of Bullseye, meaning it probably sees few, if any riders, and is indeed, effectively closed.

### 3.1.5. Calorie Killer

This is a grand trail, well positioned and built for its important function of getting riders up to The Landing, and the several downhill trails accessed from there. Better signage is needed at the bottom and at the junction of the main trail with the steep shortcut near the top (Figure 19). We would also suggest the named trail – Calorie Killer – should go all the way up to Scenic Route (and Deviation). This is discussed under “35, Landing to Deviation Connector” in 2.4.4 above.



Figure 19. A flexopost marker at the junction of Calorie Killer and Calorie Killer Shortcut only indicates the shortcut. The main trail (more or less straight ahead at this point) is not signposted and somewhat overgrown.

While the shortcut would likely appeal to e-bikes, the main trail has an easier slope.

We consider Calorie Killer to be Grade 3. It is certainly wide enough for this grade and its average slope (3.84 degrees) is well below the nominal maximum for the grade (5 degrees). We made a point of measuring all of the turns on this trail, and the results are in Figure 20. This analysis shows that nearly half of the turns on the trail are too tight. However, they are all-but compliant on average, and likely would be more so with a one-off tidy up and regular maintenance.



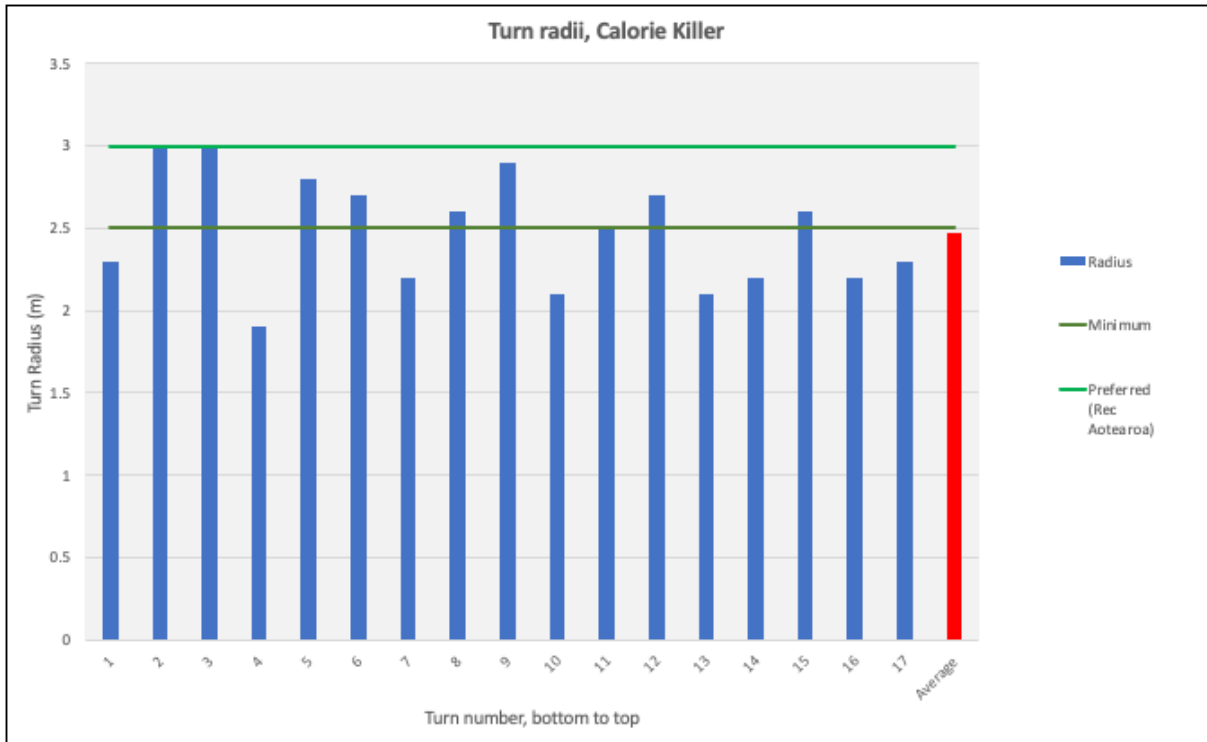


Figure 20. Turn radii on the (17) turns on Killer Calorie. On average, these are almost Grade 3 compliant. Regular maintenance is recommended and some work to ease a few, especially turn 4. (Note that we measure turn radius where we would expect competent riders of the relevant grade to be able to ride. This will not necessarily be the absolute maximum if there are rocks, roots or other difficulties.)

### 3.1.6. Cams Run

This trail, one of three exit options in this part of the park is a nice wee trail. In strict terms, it is Grade 3 because of its width but it's at the easy end of that grade. There is no clarity about where and how Cams Run joins into lower Scenic Route, and two options currently. The lower one is the recommended one, depending somewhat on how Scenic Route is configured, graded or improved in future. We recommend Grade 3 for Cams Run.

### 3.1.7. Captain Slapstick

This is a nice trail. It's one of those 'longish', nominally Grade 3 trails that we have observed in many locations nationally. While a little rough, it is largely benched and formed. It doesn't follow the fall line and is certainly not a Grade 5 trail. Its slope, width and turn radii are all nominally Grade 3 compliant. However, we consider a downhill trails of this length, with no rest sections, to be Grade 4, especially where speed accumulates and several turns are linked together, which is the case at the bottom of Slapstick.

The key criteria we use in this judgment is the speed accumulated on trails like this, and the ride duration with its required arm strength. Overall, we consider the kind of rider suited to riding trails like this one is more clearly described by the rider definition or target audience statements for Grade 4 in all the mountain bike trail standards. The Recreation Aotearoa standard describes Grade 4 (Advanced) riders "developing accurate line choice, controlling braking on the edge of traction", whereas Grade 3 (Intermediate) riders are described as 'only' having "the skills to...maintain balance...and steer to avoid or ride over obstacles".





Figure 21. A view back up Captain Slapstick from the bottom. The last 8 or so turns are essentially unrelenting.

### 3.1.8. Deviation

This is another nominally Grade 3 trail, like Captain Slapstick. However, we consider Grade 3 is the right grade for Deviation since this trail, while it is a bit rough, has flat sections that provide for resting. It's interesting to note that Deviation is 34% longer than Slapstick and descends 7% more, but its average slope (4.9 degrees) is quite a bit more gentle than Captain Slapstick's, at 6.1 degrees.

Given the several difficulties with the southern half of Scenic Route (see 3.1.24 and Appendix 2), we consider that the current Deviation trail could a better way to get down to Stockyard or the mountain bike carpark from the high part of the park.

### 3.1.9. Dirt Circus

Like many trails in the park, Dirt Circus is well-formed but roughing up somewhat. It is likely to be considered a more interesting way out of the park by some riders than the lowest section of Easy As and it is more direct. However, Dirt Circus is barely visible because its entry sign is out of sight on a junction that no longer exists (Point A in Figure 23)

### 3.1.10. Easy As

This is an important trail but one with lots of issues. For many reasons, it's not Grade 2 (see report in Appendix 2). This trail doesn't actually need to be Grade 2 given that it only accesses Grade 3 and 4 climbs from the Base Camp hub. However, the current Sweet As could be important as part of a single-grade loop from Stockyard (at the mountain bike carpark) back to Stockyard, at Point C on Figure 23, including the current Schools Out.



Figure 22. The section of Easy As immediately beyond the first cattle stop has a strange and unnecessary wavy surface configuration.

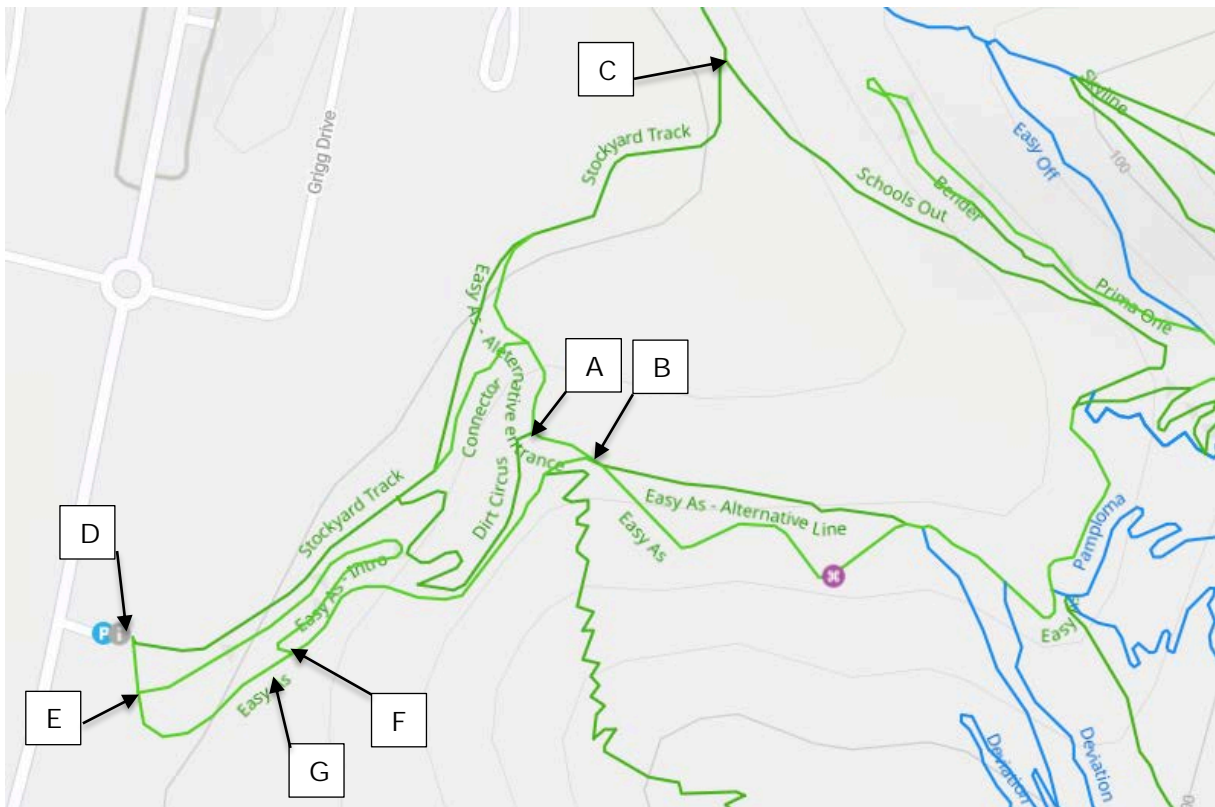


Figure 23. Trail configuration around Dirt Circus, from Trailforks. The current Dirt Circus entry sign is at Point A, but given that 'Easy As Alternative Entrance' is now closed, that sign should be moved to Point B. 'Easy As Alternative Entrance' and 'Connector', are no longer signposted and should be deleted from Trailforks.

Easy As is shown here as a Grade 1 but certainly isn't. It's not Grade 2 either given its slopes and issues caused by its wetness. A one-name, one-grade loop experience from point D to C on this map seems like a potentially strategic enhancement to the overall Network.

### 3.1.11. Easy As Alternate Entrance

The old Alternate Entrance is still visible but it's very steep and the grass is so thick that riding is impossible. It is presumed to be closed even though it still exists on Trailforks. No report is provided. This trail should be removed from the Trailforks website.

### 3.1.12. Easy As Intro

Easy As Intro shows on Trailforks but the entrance (Point E on Figure 23) is not signposted and the trail appears to have fallen out of use. Easy As Intro gives a much nicer slope for climbing from Point E to Point F whereas Easy As itself, around Point G is very steep in the uphill direction.

### 3.1.13. *Easy Off*

This is a somewhat odd and perhaps superfluous trail, being heavily covered in pine needles and seemingly little-used. The trail is too narrow for Grade 3. The visibility is good so arguably *Easy Off* could be two-way or it might be better marketed as a one-way uphill trail accessing *Electric Brae*.

### 3.1.14. *Electric Brae*

This is a ragged and variable trail with some hazards requiring management (a fenceline, a pipe, upstanding waratahs and roots). *Electric Brae* is distinctly Grade 4 and a useful exit option for Advanced riders.

### 3.1.15. *Grass Ridgeline*

Like *Boundary Rider*, this grass-surface trail is difficult to ride, especially uphill and not very satisfying. It may be best to be removed from the Network, especially given that the alternative – *Skyline* – is very good.

### 3.1.16. *Lamb Chops*

It's not entirely clear this trail actually exists since it is not indicated on the ground and since only the upper part of it is shown on the map (it's not visible at all on *Trailforks*). We followed a trail from *Autobahn* right down to *Easy Off* that we presume was *Lamb Chops*. This was actually quite a nice trail. It is probably the hardest trail in the entire park and as such it carries Destination-level significance. It is Grade 5 because of its width in places, natural-surface fall line riding and occasional excess steepness.



*Figure 24. This is pretty typical of Lamb Chops, a steep natural-surface showing not much use and minimal formation.*

### 3.1.17. *Landing to Deviation Connector*

This is a very important connection in the network, joining as it does a major hub (*The Landing*) to the easiest downhill trail (*Deviation*) and to the high trail that rings the entire destination: *Scenic Route*. The first part of this little connector is nominally very steep – at least grade 5. There is limited space for realignment but this would be good to do if



possible, to match the average uphill slope of Calorie Killer (3.8 degrees). Indeed, it might be a good idea to add this connector to Calorie Killer, giving a single trail all the way from the Base Camp hub (via The Landing) to Scenic Route.

### 3.1.18. Mogwai (Mogwai on Trailforks)

This short trail is Grade 5 in its current condition but could perform at Grade 4 if the severely damaged corners were smoothed and widened. Some of the uppermost section has recently been reformed by hand but even this does not meet the minimum width for Grade 4 (400-600mm depending on the side slope). At the second (bottom, right-hand) turn, there appears to be a newish and informal connection down to Scenic Route, which is very steep.

There is arguably a place for a difficult trail in this part of the park, but it needs to be more sustainable than Mogwai is currently, partly because it is in the open. Another option might be deleting it because of its erosion proneness.



Figure 25. The entry, and the first few metres of Mogwai. Recent hand-completed work has smoothed the track but it's only 300-500mm wide. The standards vary but with this side slope, it needs to be 400-600mm.



Figure 26. The badly eroded, tight and steep lower (second) corner on Mogwai. Some work could restore this to Grade 5 but probably not Grade 4, without realignment. Most importantly, the trail is eroding badly and is not sustainable.

The straight ahead option, at the bottom of the photo, seems to be new and is extremely steep.

### 3.1.19. *Muncher*

This trail is discussed in its own report (in Appendix 2) and in Part 4 since it is part of the course for an upcoming race event. Muncher is a nice trail; in our view, it could be the principal climbing route into the park instead of Scenic Route. Muncher is essentially fit for purpose at Grade 3 already, whereas the lowest part of Scenic Route (Section 1 of the trail in Figure 38 on p41) is Grade 4 - that trail is stony and has tight turns on a steep hill where it will be difficult to widen.

This recommendation is made with the idea that Muncher, like Scenic Route, would remain two-way.

### 3.1.20. *Pamplona (Pamploma on Trailforks)*

This is a nice trail - more technical than Captain Slapstick but, like that trail, too demanding, varied and technical for Grade 3. We commend it in its current condition.

### 3.1.21. *Peter Pan*

This is another trail, like Lamb Chops, that was somewhat difficult to find and follow, given its configuration via-a-vis Sweet As and Lamb Chops. We're sure enough that we rode and graded the trail that is visible on Trailforks – Grade 5.

### 3.1.22. *Prima One*

The lower part of this trail – the Stockyard end - doesn't appear at all on Trailforks and the way Prima One is shown varies between different media, including the signs. While the trail has lots of width, it is spoiled by its wet initial climb section.

We wonder about combining the alignments of Prima One and Schools Out into a single, genuinely Grade 2, two-way trail. Such a trail could act, in conjunction with (an upgraded) Easy As, as a nice loop trail for Grade 2 riders from Stockyard back to Stockyard. It would also provide good access between Stockyard and Base Camp, and the many trails there.

### 3.1.23. *Scenic Route (Northern)*

This is perhaps the most important trail in the park, with or without its southern pair. It gives access to and from the high reaches, and the all-day riding in the eastern hills (the Farm Park) for adventure-type riders. It also gives access to the downhill trails for shorter rides, challenge seekers and thrill seekers.

As it stands, it is certainly not Grade 2. It is arguably Grade 3 but doesn't meet several of the specifications for that, mainly because the first 350 metres is too narrow and steep, with five too-tight corners. This is fully explained in the trail report in Appendix 2. Because this trail is included in a major upcoming event, it is also discussed, complete with a detailed profile diagram, in part 4 (page 41).

Scenic Route (Northern) is distinctly Grade 4 and would require substantial realignment to be Grade 3. Muncher (both uphill and down) could provide a much better Grade 3 option.

### 3.1.24. *Scenic Route (Southern)*

Like its northern counterpart, Scenic Route (Southern) is nowhere near compliant with its current official grade. The reasons are similar but the southern arm of the trail is even more steep, with many more turns that could not be resolved to Grade 3 without major realignment. Above its turns section, this trail is rough and poorly marked, and has damp patches.

Scenic Route (Southern) is distinctly Grade 4. Deviation (down) and Calorie Killer (up) would provide much better Grade 3 options.





Figure 27. Puggy and hoof-pocked section of Scenic Route (Southern) above the turns.

### 3.1.25. Schools Out

On the ground it is not entirely clear where this trail starts, given the lack of clarity about Bender and Prima One. We wonder about combining its alignment with Easy As to make a single, genuinely Grade 2, two-way trail. Such a trail could act as a nice loop trail for Novice riders, from Stockyard back to Stockyard. It would also provide good direct access to and from Base Camp and the many trails there.

### 3.1.26. Shortcut Down

This trail is rough and little-used. We couldn't find an entry sign but did find a 'reassurance' sign just below its crossing of Deviation. The very bottom of both trails, where they join with Easy As, was wet and very messy at the time of our visit (Figure 28). We recommend combining the bottom of Deviation and Shortcut Down into one trail and shifting its junction with Easy As to a better location.



Figure 28. The bottom of Shortcut Down.

### 3.1.27. Shortcut Up

Like Shortcut Down, this trail is very steep. Although it is not as rough, there is a wet section. This a very easy trail to measure and grade; its average upward slope is 7.8 degrees, which is distinctly Grade 5. Like Shortcut Down, this trail could be deleted to reduce the maintenance commitment and because steep trails are erosion-prone. However, it is clearly more popular than its downhill pair, and this is understandable in the e-bike era.

### 3.1.28. Skyline

It's not obvious why this trail is called Skyline, but it does provide access to the main skyline trail, Scenic Route. Apart from Scenic Route, Skyline is the major two-way trail in the park. It functions well both as a climbing trail to complement Calorie Killer, part way up which it begins, and which it is marginally less steep than. Skyline is also the widest, smoothest and easiest of all the trails that descend towards the Base Camp Hub.

There is a critical issue with Skyline that affects its fitness for purpose currently: the very muddy c200-metre section at the bottom. This requires a fix that might just be the most important single task at the entire Destination – it looks like some drainage, timber edging and perhaps some surface materials will be required.



Figure 29. The very muddy and mud-prone lower section of Skyline. A permanent fix seems to be required.



Figure 30. The bottom of Skyline from Calorie Killer (with part of Slapstick at top right). Skyline is badly rutted here and there is some confusion (see Figure 31).



Figure 31. The Trailforks map showing the Skyline/Calorie Killer/Pamplona/Captain Slapstick nexus: Nappy Change Junction. If our recommendations are adopted, all of these trails will be one grade harder than they are shown here. Whatever grades are adopted, riders descending Skyline are 'grade-hung' if there isn't an exit option that is as easy as Skyline is. The suggestion would be that the bottom section of Calorie Killer (including seven turns) should be two-way.



### 3.1.29. Squawking Magpie

This trail has become all but unrideable; if retained it badly needs to be cleared of grass and duff, including across two slip areas. It's not clear what value Squawking Magpie has in the network given how similar it is to Deviation or Scenic Route. The fact it is overgrown probably reflects how little it is used.

### 3.1.30. Stockyard

This trail is largely fit for purpose, at Grade 1, as it is. It provides an excellent, no-surprises link through the park, and access to other easy trails (Wiggles and Weezer Run). The experience of Stockyard is undermined only by aspects of the several cattle stops on it. Indeed, these currently undermine Stockyard's suitability for accessible mountain biking.

### 3.1.31. Sweet As

Sweet As is an excellent trail. Mostly, it is Grade 3-4 but it has enough unformed, fall line sections in it to require Expert skills overall and to be a grade 5. Sweet As provides an excellent variety of terrain and riding and, somewhat unusually, it cuts across the landscape. The crossings should be better marked.

### 3.1.32. Torero

It's a good idea to have a trail connecting Scenic Route to The Landing, given that several trails are accessed from there. Torero is too difficult though, with huge corners requiring a lot of commitment and bike speed to execute. There is also a rollable Grade 4 jump at the bottom with no bypass option. The turns on the trail and the jump mean that Torero is Grade 4 rather than 3.





Figure 32. Signs too close to the riding line on Stockyard.

### 3.1.33. Trainspotting

Like Mogwai, this short trail is Grade 5 in its current condition but could perform at Grade 4 – downhill only though - if the severely damaged corners were smoothed and widened. We initially 'rode' this trail uphill since there was no "Exit only" sign at the bottom. It seems logical that there should be an uphill trail to the high point of the park if there is a downhill trail from there. They should all, including Scenic Route-Mt Vernon Connector, have their grades considered at the same time.

There is arguably a place for a difficult trail in this part of the park, but it needs to be more sustainable than Trainspotting is currently since it is out in the open. Another option might be deleting it because of its erosion proneness.

### 3.1.34. Weezer Run

We met a wee girl, with her mother who had just ridden this trail on a typically heavy kids' bike with little wheels. She had fallen after hitting a loose stone and was bit disconcerted, included about the dirt on her brake lever. This incident reinforced our view that wavy and interesting Weezer Run is configured perfectly for riders who have just graduated beyond the genuinely Beginner (Grade 1) stage. It just needs widening and tidying so more of it is visible as the rider descends, and the surface needs to be kept clear of stones.

### 3.1.35. Wiggles

There is a nice trail that, with some widening, could easily be retained at its marketed grade – 1. Some of the turn radii are nominally too small at the moment but with widening we would consider this okay in such flat terrain.

## 4. ASSESSMENT OF TRAILS INVOLVED IN THE 2023 SECONDARY SCHOOL NATIONALS

The brief for this work has a specific component requiring some advice on a proposed new trail and eight existing trails that are slated to be part of the course for the 2023 national Secondary School Mountain Bike Championships. This event will be held at Wither Hills in October 2023, with the Marlborough Mountain Bike Club (MMTBC) as host

That advice is set out in this part of the document but with a few caveats.

- Commentary on race courses and events is not usually part of our core business. We are not familiar with the event rules or the usual procedures and standards for setting up, certifying or managing an event like this.
- Specifically, while we were involved in the same event at the same location as a parent in 2013, we do not know precisely how 'expert' or otherwise participants in this event will be and what type or grade of riding they should be expected to cope with safely.
- We only audited tracks slated for use in the event that already exist. We didn't look at the terrain or the potential alignment for those parts of the event course that are still to be built.
- While we think we found all of Lamb Chops, from Autobahn right down to Easy Off, we cannot be completely sure we were on the route of this trail.
- We did not look at the Enduro or Downhill courses.
- Information about the course, its difficulty and the safety precautions that will be in place is contradictory (Figures 33 and 34). Most notably, the Event Manual suggests the course for the relay event will be Grade 2, whereas the FAQ information on the MMTBC's website says that "All tracks will be Grade 4 plus...". This matter is discussed in detail in Section 4.1.

### 4.1. Race Information

#### 4.1.1. The Event Manual

The event manual makes it clear that the XC (Cross Country) Relay course is Grade 2 (28 August version, p21 and Fig 33). It also provides grades for the Enduro and Downhill courses but not for the main XC course. We consider that neither the relay course nor the main course are Grade 2 by any of the relevant standards.

<b>rider from their turn. Failure to do so will result in disqualification.</b>	
<b>Course Difficulty:</b>	Grade 2
<b>Course XC Relay:</b>	
<b>Total lap length</b>	4km

Figure 33. A 'Course Difficulty' – Grade 2 - is provided for the Relay course and the Downhill (Grade 4-5) and Enduro (Grade 3-4) courses, but not for the main Cross Country course.

#### 4.1.2. The club website

As the host club, the Marlborough Mountain Bike Club has information about the event on its website, including an FAQ page (Figure 34) with a link to the Event Manual. The FAQ page has a statement about the course difficulty that disagrees with both the Event Manual and a schedule of pre-event works (discussed in 4.1.3), and does not reflect the course, plenty of which is easier than Grade 4.

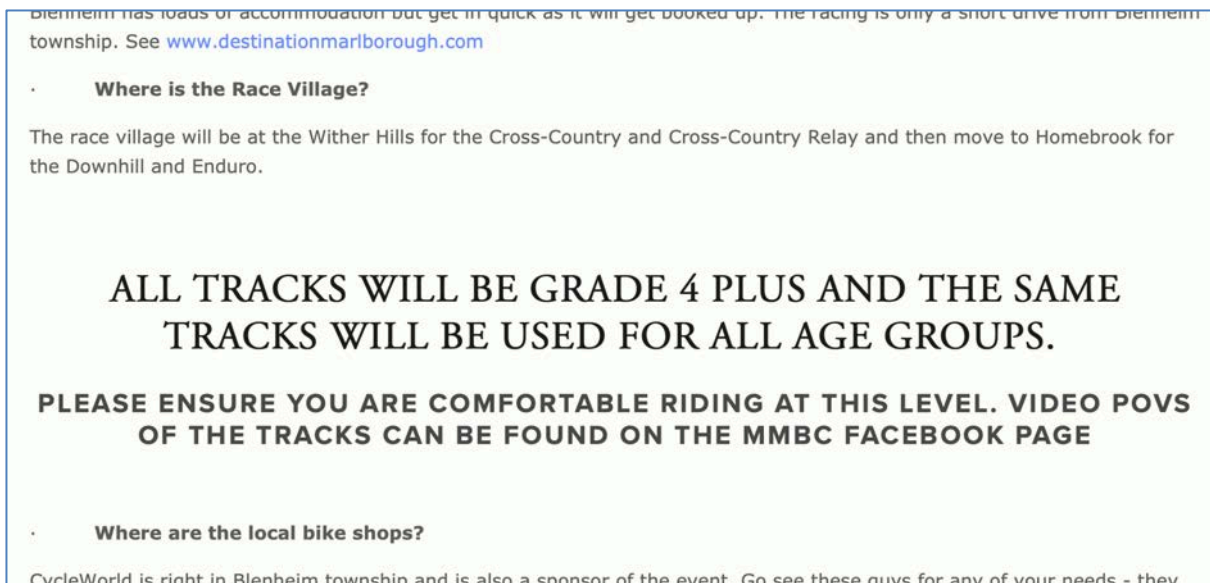


Figure 34. From the Marlborough Mountain Bike Club website, 21 September 2023.

#### 4.1.3. The Pre-event Works Schedule

The Club has provided Council with a document that proposes a new trail and certain repair and maintenance works on existing trails, to be completed before the event. The document doesn't have a title – for the purposes of this report we will call it the Pre-event Works Schedule or the Schedule.

The Schedule is presumably not a public document, and not available to event participants. However, it should certainly agree with any official documents that are available to them (see 4.1.1 and 4.1.2 above), which it does not. In particular, we note the following inconsistencies on page 1.

1. The grades distribution (under the heading: “Grading”) is not consistent with the FAQ (see 4.1.2). The existing trails on the ground include lots of Grade 4 elements and some are Grade 5 (see part 4.3 and Appendix 2).
2. The map is very hard to read and doesn't show trail names like the event manual. It omits Wiggles and the bottom part of Scenic Route (up to Muncher) and is not consistent with the Event Manual.
3. The “Course Requirements” are very different to what is implied by the FAQ page and what the Event Manual says about the grade of the main course. The requirements would be essentially impossible to comply with since the course is mostly Grade 3, not Grade 2, with Grade 4-5 features<sup>1</sup> and Grade 1-2 features<sup>2</sup>. Providing B-lines for all Grade 4 features and marking all Grade 3 and 4 features will not be practical.

#### 4.2. The Proposed New Trail

While we did not view the layout or terrain for the proposed new trail, we consider it may indeed be possible to build a genuinely Grade 2 trail in the terrain where it is shown on the photo in the Schedule. This would certainly be appropriate for inclusion in the relay part of the upcoming championships, assuming the relay is ‘less serious’ and more participation-focused than the main event. However, it needs to be carefully designed, and set out so it is actually (and sustainably) Grade 2, and so it doesn't impact the walking network.

We note that the Pre-event Works Schedule suggests this new, 2-way trail will be 60/40% digger-/hand-built and “Grade 2, with Grade 3 features”, with “B-lines available”. This is

<sup>1</sup> We consider that the bottom of the Scenic Route climb is Grade 4 and that Lamb Chops is Grade 5.

<sup>2</sup> Stockyard is Grade 1.

insufficient detail for building a new trail in a zone where there are otherwise only walking tracks, in delicate terrain and in winter/spring. We recommend a lot more clarity should be provided to Council about this trail and specifically, that it should be built to an agreed standard rather than an unspecified notion of what Grade 2 actually means.

We are concerned that the trail is intended to be “Grade 2, with Grade 3 features”; trails are generally built and sustained at one grade and should be graded, within reason, according to their hardest grade or hardest feature. In our view, a Grade 2 trail with Grade 3 features is really a Grade 3 trail. Using B-lines (bypasses or secondary lines) to provide easier or more difficult options for riders gives some flexibility but needs careful thought and design, and agreement of the permission-giver in advance of construction.

At the proposed grade and so close to the park entry, the main line of this trail should be entirely Grade 2. Grade 3 features are not recommended at all, but we can imagine more difficult options might be provided here and there on signposted B lines. This distinction, between difficult-but-grade-compliant features on the A(main)-line of a trail and harder features on a B-line is critical, especially at higher levels of service (e.g., on Great Rides) or at the entry level – on Grade 1 and 2 trails.

In developing this trail, particular attention should be paid to its maximum and average slopes, the length of any over-steep sections and to the turns. By any of the standards, the turns should have 4-metre radii, which is quite a lot to squeeze in with any kind of side slope. We consider that Grade 3 – allowing much tighter 2.5-metre turns and a shorter, narrower trail – might be perfectly adequate for this trail and might actually be what it is intended by its advocates.

While we didn't view the proposed trail on site, there is one part of it we can provide some analysis of, partly in order to demonstrate the kind of detailed design needed before construction. This is the northernmost part of the proposed trail, which is intended to be two-way but in the upcoming relay event will be a descent with several hairpin bends.

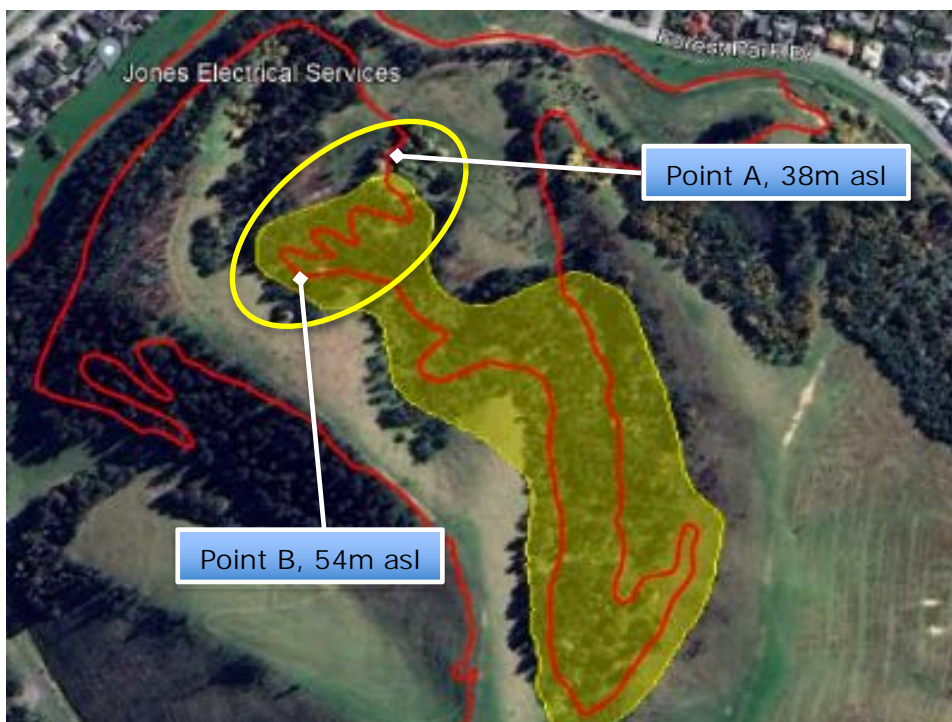


Figure 35. The new trail proposed for construction for the October 2023 Secondary Schools National Championships (red line). It's difficult to comment on the route, appropriateness, impact and sustainability of this trail without visiting.



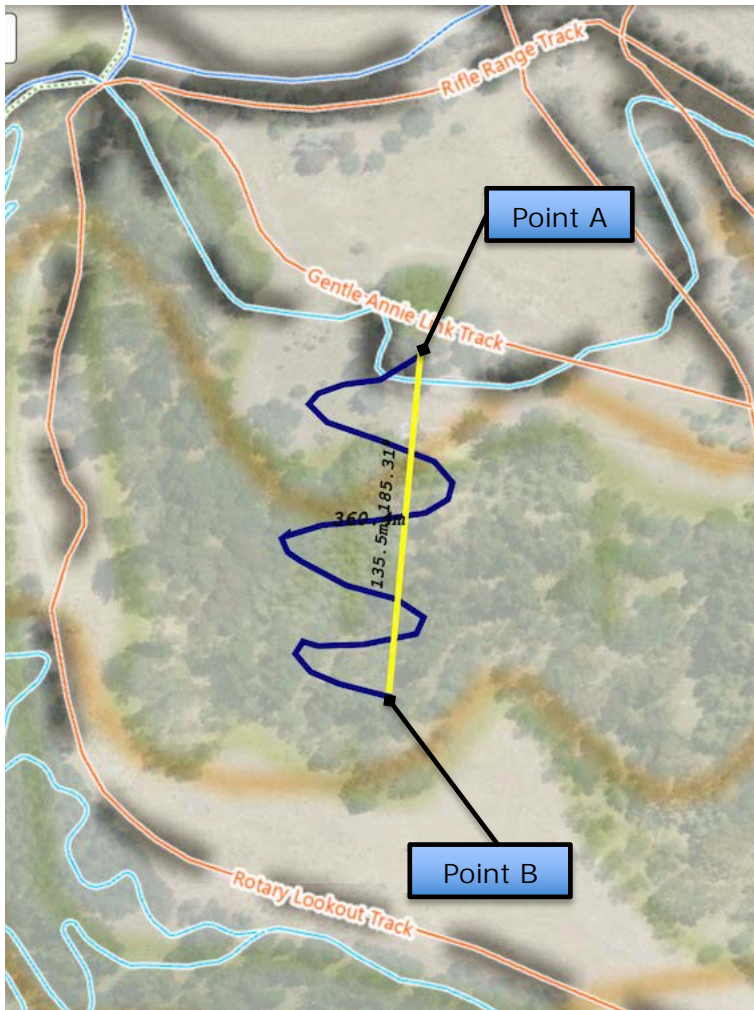


Figure 36. A straight line between points A and B (yellow) would be 135 metres long, with an average slope of  $6.8^\circ$ , which is Grade 4 up and Grade 2 down. In order to achieve the maximum uphill slope for Grade 2 ( $3.5^\circ$ ), 262 metres of trail would be needed between points A and B, or 306 metres at a more comfortable  $3.0^\circ$ . The blue line in this image is 360 metres long ( $c2.5^\circ$ ) suggesting building this part of the trail should be quite doable.



Figure 37. By way of contrast to the gentle terrain show for a proposed trail in Figure 36, this is the actual configuration of the zig-zag section of Scenic Route (Southern) above the mountain bike carpark. The slope of the yellow direct line is a whopping  $18^\circ$  - essentially unrideable upwards and difficult terrain to build curves in.

The actual trail climbs 54 metres vertically in 680 lineal metres. This is an average slope of  $4.55^\circ$  - the Grade 3 maximum is  $5^\circ$  - but these 19 or so turns are so tight and persistent that they render the entire trail Grade 5.



## Summary

We are aware that special permission has been granted to build this trail outside of the usual, mountain bike-only part of the wider park and that this might be controversial. We consider that a genuinely Grade 2 trail – aimed at true novices, carefully constructed and essentially without challenging ‘features’ – has merit in this location.

We agree it should be a two-way trail but, while the Grade 2 maximum slope is nominally 3.5°, we consider that 3 degrees would be a better target, especially for the section discussed in Figures 35 and 36. To discourage potential user conflict and the adding of features, we recommend against designating this trail as a skills area. Such a concept would be better provided near the dedicated mountain bike carpark.

### 4.3. Existing Trails Slated for inclusion in the Event

The following commentary is made on the suitability of the existing tracks (or parts of tracks) slated for use in this event. These comments are made regarding the trails in their current state and assuming that:

1. The average rider on the XC course can cope with Grade 4 trails (as per the host club’s website’s FAQ page, Fig 34), and
2. Riders on the relay course can cope with Grade 2 trails (as per the Event Manual, Fig 33).

#### 4.3.1. *Muncher (downhill only, relay course only)*

We certainly consider this trail fit for purpose for an event like this and that participating riders should all be able to cope with Muncher, up or down, as it is. However, the Event Manual says the Relay course will be Grade 2 and Muncher is certainly Grade 3 – its turn radii are much tighter than the 4 metres required for Grade 2 by any of the standards. It is also narrower than it should be and has more difficult surface obstacles than what the standards envisage for Grade 2 riders - novices.

#### 4.3.2. *Scenic Route (Northern). (uphill only, both the Main Loop and the Relay course)*

We consider that the bottom section of Scenic Route (North) is, Like Muncher, nowhere near Grade 2. There are several reasons:

- The first 330m – up to the first plateau – is much narrower than required for Grade 2 (900-1500mm tread width)
- The surface of that section is made difficult by erosion, roots and loose stones.
- The average slope (5.7°) is above the nominal maximum for Grade 3 (5°)
- The average turn radius for the five turns is c2.2m – the Grade 3 minimum is 2.5m.
- The slope of the cattle stop-to-cattle stop section above Muncher is also steeper than the Grade 3 maximum (Section 4 in Figure 38).
- The cattle stops themselves are at least Intermediate-level riding and, in the uphill direction, have slopes up to 15° (this is nominally Grade 6).

Despite these issues, and our view that they render Scenic Route (Northern) a Grade 4 trail, we consider it fit for purpose for the event and would expect participants to cope with it. We generally endorse the works proposed by the club, which we presume will occur in Sections 4 and 5 in Figure 38 (from the first cattle stop to the third one).

However, we consider it would be more beneficial, in light of the track’s overgrown current state, to completely realign Section 4 while the opportunity is available, so its average slope is less than 5°. This realignment should ideally include reorienting the cattle stops so they are easier to approach and ride over. We recommend 4.5 degrees for this realignment, requiring 344m of trail for Section 4.

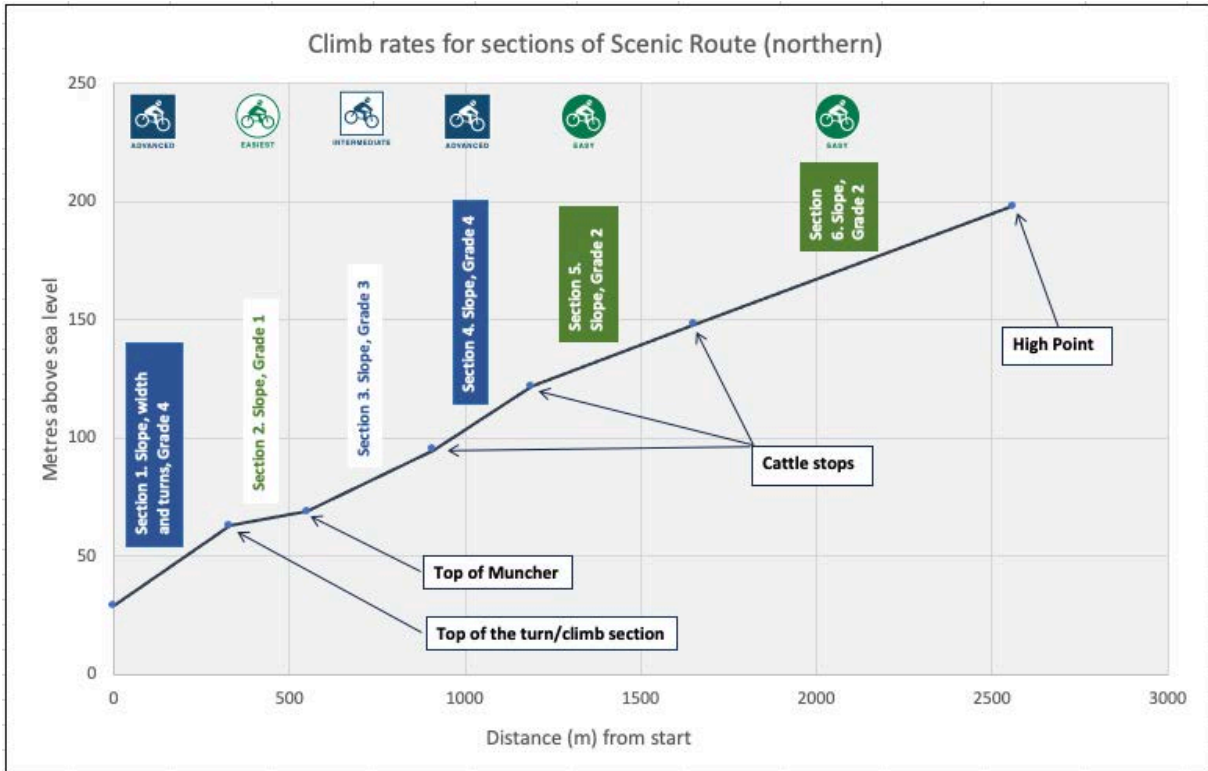


Figure 38. Detailed analysis of the apparent sections of Scenic Route (northern). The current marketed grade is 2 but the overall average slope of this trail is 3.7° - Grade 3. Sections 1 and 4 are Grade 4 in several ways, including being too steep. Nearly a quarter of the total length is over-steep, more than the allowable proportion of over-steep trail in any of the standards (5-10%). Grade 3 seems to be the logical grade strategically for this important trail.



Figure 39. Part of Section 1 of Scenic Route (North). Not all of the formation is available to ride on. It's also rooty and stony with too-tight turns. Without realignment, the lowest grade this trail could be compliant with is Grade 4



Figure 40. All of the cattle stops on Scenic Route are somewhat difficult to ride (and to walk). Lips, very steep ramps and tight approaches heighten the difficulty.



#### 4.3.3. Captain Slapstick (Scenic Route down to Autobahn)

The short section of Captain Slapstick slated for inclusion in the race course is suitable for the event already. We didn't measure the corner slated for upgrade but consider Captain Slapstick above Autobahn compliant for Grade 3. However, the trail below Autobahn, and when considered as a whole, is typical of many non-stop descending trails we have seen nationally and we recommend the whole trail be marketed as a Grade 4 (see 3.1.7 and Appendix 2). As such, while we support the proposed works, we consider that a narrower tread width than 1.2m will suffice. In fact, minimal work is required on this trail full stop, with sustainability and erosion control being most pressing.



Figure 41. Captain Slapstick, from its beginning on Scenic Route (yellow dashed line) down to Autobahn (yellow solid line) is slated for some work and for inclusion in the upcoming event. This part of the trail seems to be adequate in its current state.

#### 4.3.4. Lamb Chops (or Lamb Chops and Tinder)

While a trail called Lamb Chops appears on the park map, it is not on Trailforks and we were unable to find any signs for it. We found no evidence of a trail called Tinder anywhere. We did find an (in-places obscure) trail descending all the way from Autobahn to Easy Off, which we thought was Lamb Chops, which is discussed here under that name.

While Lamb Chops appears on the park map and in the Schedule for the upcoming event as a Grade 3, we consider it is distinctly Grade 5 due to its narrowness, large roots, very steep sections and unformed turns that require fall line riding at slopes of 15-25°. It is essentially an unsustainable trail that only works currently because it is unfrequently ridden. Notwithstanding the caveat made above – that we are not completely sure of the competency level of event participants – we consider it unfit in its current state for this event because it will be dangerous, especially in wet weather, and excessive use of it will cause erosion.

It would be possible to upgrade Lamb Chops to a safer and more sustainable state for the event but the work required to achieve this will likely be much more than is described in the Pre-event Works Schedule:

- Much more of the trail is narrower than the 'repairs and maintenance' plan suggests, 900mm might be the right width for Grade 3 but achieving this with, with such severe

side slopes will be a big and impactful job<sup>3</sup> – much more than “minor hand work”. It will surely involve removing trees that play a key role in erosion control.

- The track is otherwise not Grade 3-compliant, due to its steepness and unformed bits. Forming the corners to a 2.5m minimum radius, at 900mm wide without descending more steeply than 11 degrees will be much more demanding than simply accepting a higher grade.

The expense, risk and sustainability implications of upgrading Lamb Chops to Grade 3 (or even Grade 4) suggest the upgrade should not proceed. More importantly though, Lamb Chops is, in our view, the most technically difficult trail in the park. While it would be possible to upgrade it, this would represent a loss of trail diversity at the Destination level. It would seem unfortunate to do this for a one-off event given that the trails in the park are needed for the long-term enjoyment of all riders.

Our recommendation is that Skyline or Captain Slapstick should be used for the upcoming event instead of Lamb Chops and the latter trail should be marketed as a Grade 5 trail, with minimal improvements undertaken. We are aware that Skyline and Slapstick only connect to Easy Off via a muddy-to-very-muddy length of trail that would need upgrading for the event (see Figure 29 on p33).



Figure 42. Detail of the second (RH) corner on Lamb Chops (dashed line). It is essentially unformed and very rooty, and crosses the fall line at 15-20° - Grade 5. Lamb Chops is not suitable for the upcoming event but if it is used, we'd recommend entering the trail from Captain Slapstick (above, yellow arrow) to avoid the first two unformed corners.



Figure 43. A stony section of Lamb Chops just below a very steep section. Much of the trail is unformed, as seen in the background, which is not sustainable for heavy use.

<sup>3</sup> For track construction in new (uncut) terrain, a 900mm-wide trail (the nominal Grade 3 minimum) creates 5.06 times the amount of spoil as a 400mm-wide one (the nominal Grade 4 minimum). At 900mm wide, and with a 15°/25° side slope, one cubic metre of spoil will be created for every 5.3/9.2 lineal metres of new track built. At 400mm width, it takes 27/47 lineal metres to generate the same amount.



#### 4.3.5. *Easy Off*

Easy off is a short, one-way descending trail. Evidence, in the form of thick pine needle litter, suggests it sees little use. It is marketed as Grade 3 currently and while an argument could be made for this, it is really too narrow, seldom achieving the necessary width – 800-1200mm depending on side slope – for its one-way designation. We consider Grade 4 is a more accurate grade for this trail (see 3.1.13 and the trail report in Appendix 2).

Part of the trail – that part above what we assume to be Lamb Chops/Tinder – is slated for use in the upcoming secondary schools event. Riders will be riding uphill, against the trail's normal flow. Our best estimate of the average slope of this piece of track is that it would be more than 5 degrees, so Grade 4. At this grade, Easy Off seems to be fit for purpose for inclusion in the event, in its current form. We understand that a passing lane is suggested here but again we'd recommend care is taken to balance the event's short-term requirements with the Destination's long-term ones.

#### 4.3.6. *Electric Brae*

Electric Brae is a curious and little-used, short trail with more human-added elements than most. It is a nicely placed exit-way from the park, allowing good riders to drop out on to Stockyard and quickly get out of the park if they want.

This trail is marketed as a Grade 3 in all information sources currently. However, while its current condition is affected by hoof marks following a cow incursion, we consider Grade 4 to be a better grade for it. This is because it is not benched or completely formed, and it runs close to the fall line beside a fence and a waterpipe, with some big roots and a low retaining wall that has at least one (capped but) protruding waratah.

We consider the current alignment would be suitable for inclusion in the 2023 secondary schools event providing the human-built and hazardous features mentioned above are made safe.

#### 4.3.7. *Stockyard*

The section of Stockyard that is slated for use in the secondary school champs is fit for purpose in its current state. We consider this to be a compliant Grade 1 trail, despite being nominally over-steep in a couple of spots. However, the cattle stops present an issue both for the upcoming event and for post-event use. For both purposes, we recommend that the approaches to them be made more straight, probably with tape markings for the event.

For long-term use we also recommend that the lips on the cattle stops be eliminated. Ideally, all the cattle stops should be flatter and wider (1.5m is probably the best guidance) and they would benefit from installation of flared handrails. Whatever width is available at these structures should be matched in at least the 10-metre approach zone so riders are not forced to suddenly adjust their position on the trail to fit across the cattle stop.

#### 4.3.8. *Wiggles*

Wiggles is an interesting trail. Technically, it actually not Grade 1-compliant because it is much narrower (c500mm) than it should be (1500mm). Most of the turns are tighter than the required 6-metre radius measurement. There is plenty of scope to resolve these matters for the long-term in the terrain available: we recommend doing so, for at least half the trail. For the upcoming event however, there is no need to do this. The trail is fit for purpose as it is but two things should be noted:

1. The numerous turns in Wiggles currently are – rightly, given the low grade – minimally bermed. This will provide a good test of racers' skills, braking, power and fitness, but may lead to some riders leaving the trail at high speed. Consideration should be given to padding trees on some of these corners.



2. There is a cut-off piece of timber protruding from a small gravel mound somewhere on Wiggles that presents a bad hazard and should be removed (Figure 44).



Figure 44. Protruding timber on Wiggles Trail (with tape measure for scale).



Figure 45. This is typical of the turns on Wiggles; large-radius but not necessarily grade-compliant. They are – appropriately – minimally bermed and while they might be challenging for their usual target riders (Beginners), they will be easy for racers in the secondary school champs. In places however, riders will need impact protection if they overshoot these corners at race speeds.



# APPENDIX X 1 – SLOPE CONVERSION CHART

Indicative off-road trail Grade	Degrees	Percent	Slope
	0°	0%	NA
	1°	1.7%	1:57
	2°	3.5%	1:29
	3°	5.2%	1:19
	4°	7.0%	1:14
	5°	8.7%	1:11
	6°	10.5%	1:10
	7°	12%	1:8
	8°	14%	1:7
	9°	16%	1:6
	10°	18%	1:6
	12°	21%	1:5
	15°	27%	1:4
	20°	36%	1:3
	30°	58%	1:2

This slope conversion chart is from the New Zealand Cycle Trail Design Guide, version 5, (August 2019).





## APPENDIX 2 – INDIVIDUAL TRAIL REPORTS

This appendix contains the 34 individual trail reports, in alphabetical order.



# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date

### A. INVENTORY INFORMATION

Bike/conditions

Destination

Trail name

TLA (RTO)

Select from drop-down menu

Direction   
Configuration

Land owner   
Trail mgr

User(s)   
User Priority

Functions

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
-	730m	710m	-	-	741m	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
2	2	2	-	-	-	-

Anomalies in the information sources

Current official grade

Primary official source

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length) -33.181818

Track configuration

Length (m)	730	Start alt	170	End alt	148	Altitude change	-22
------------	-----	-----------	-----	---------	-----	-----------------	-----

This track has an overall FALL of 1 in -33.2 or -1.73 degrees which is nominally a Grade 1 (down)

Rise/fall, slope and nominal grade for a specific section 0

Description

Length (m)	N/A	Start alt	0	End alt	0	Altitude change	0
------------	-----	-----------	---	---------	---	-----------------	---

This section has an overall rise of Not applicable so it's nominally a N/A

### D. GRADE ASSESSMENT

Fixed components grades:   
(width, gradient and turn radius)

Fixed componentry issues

**We assess this trail as a Grade 3 (Intermediate)** (harder than its marketed grade)

Explanation/Justification

Low hanging fruit

Notes

# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date **5-Jul-23**

### A. INVENTORY INFORMATION

Bike/conditions **Hardtail, drying and dry.**

Destination **Wither Hills MTB Park** Trail name **Bender**

TLA (RTO) **Marlborough District (Marlborough)** Direction **1-way (up)** Land owner **Council**  
 Configuration **Part loop** Trail mgr **Council**

User(s) **MTB only** Functions **It's not clear what role this ponderous trail performs. The configuration is unusual here.**  
 User Priority **Bikers**

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
-	650m	650m	-	-	-	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
1	2	1	-	-	3	Other (old) signs

Anomalies in the information sources **The map and Trailforks disagree with the signs, of which there are multiple, in different spots. The relationship between Bender and Prima One is not clear.**

Current official grade **1 (Beginner)** Primary official source **Printed Medium**

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length) **217.5**

Track configuration **Ponderous easy trail that is somewhat cryptic on the ground.**

Length (m)	Start alt	End alt	Altitude change
435	76	78	2

This track has an overall rise of **1 in 217.5 or 0.26 degrees** so it's nominally a **Grade 1**

Rise/fall, slope and nominal grade for a specific section **0**

Description **No specific section is analysed.**

Length (m)	Start alt	End alt	Altitude change
N/A	0	0	0

This section has an overall rise of **Not applicable** so it's nominally a **N/A**

### D. GRADE ASSESSMENT

Fixed components grades: **Width and slopes, Grade 2. The single (RH) turn is Grade 4 (2.3m)**  
 (width, gradient and turn radius)

Fixed componentry issues **The one turn on the trail is too tight, certainly for Grade 1.**

**We assess this trail as a Grade 3 (Intermediate)** (harder than its marketed grade)

Explanation/Justification **The trail is too narrow for Grade 1 but it's also very isolated from other Grade 1 trails. Bender is a difficult trail to understand and the relationship/distinction between it and several others requires rationalisation.**

Low hanging fruit **The easy thing to do with this trail is to remove the two old entry signs (see written report) so that it is clear that Bender begins part-way along Prima One rather than at the bottom of Calorie Killer. Prima One is shown wrongly on Trailforks - rectifying this would help clarify the Bender situation. A higher grade is required - Grade 3 is theoretically the lowest grade option given the single, 2.3m-radius corner on the trail currently.**

Notes **It seems that tracks have been reconfigured in this part of the destination in recent years, such that the signs/map and Trailforks disagree on the true situation. A bigger rationalisation might be considered that connects Bender to Skyline and thereby perhaps eliminates the very wet section at the bottom of the latter trail.**



# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date **5-Jul-23**

### A. INVENTORY INFORMATION

Bike/conditions **Hardtail, damp and hoof-marked**

Destination **Wither Hills MTB Park** Trail name **Boundary Rider**

TLA (RTO) **Marlborough District (Marlborough)** Direction **1-way (dn)** Land owner **Council**  
 Configuration **Descent but not constant** Trail mgr **Council**

User(s) **MTB only** Functions **Boundary-located exit and DH/speed trail**  
 User Priority **Bikers**

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
-	-	-	-	-	744m	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
2	None	1	-	-	-	-

Anomalies in the information sources **Trailforks and the map disagree.**

Current official grade **1 (Beginner)** Primary official source **Printed Medium**

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length) **-9.4303797**

Track configuration **An essentially unformed and little-ridden fenceline/boundary descent trail**

Length (m)	745	Start alt	219	End alt	140	Altitude change	-79
------------	-----	-----------	-----	---------	-----	-----------------	-----

This track has an overall FALL of **1 in -9.4 or -6.06 degrees** which is nominally a **Grade 2 (down)**

Rise/fall, slope and nominal grade for a specific section **0**

Description **None, but there is a very steep climb/uphill section about 120m into this trail (at the top of Mogwai)**

Length (m)	N/A	Start alt	0	End alt	0	Altitude change	0
------------	-----	-----------	---	---------	---	-----------------	---

This section has an overall rise of **Not applicable** so it's nominally a **N/A**

### D. GRADE ASSESSMENT

Fixed components grades: **Width, N/A. Slopes up to G5 (down) and G6 (uphill). No turns.**

Fixed componentry issues **Being a straight line trail on a ridgeline the slopes are occasionally severe.**

**We assess this trail as a Grade 5 (Expert)** (harder than its marketed grade)

Explanation/Justification

This trail is a strange one, being essentially unformed but also being established close to a fenceline and on a ridgeline. It is currently badly affected by cattle and seems to get little use by bikes. This is likely a good thing since a formed and well-used track here would be severely eroded. The grade recommended mainly reflects the fact the severely hoof-marked track is very steep and requires 'expert' skills to negotiate. The slopes do exceed the nominal maximum for Grade 4.

Low hanging fruit

Regrading would be the only easy solution here. However, given that the trail is little used and not formed on the ground, a better solution might be to officially delete it.

Notes

This kind of trail, being unformed and close to the fall line, seems to be an undesirable one in a modern network. It contributes little and see little use.

# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date

### A. INVENTORY INFORMATION

Bike/conditions

Destination  Trail name

TLA (RTO)  Direction  Land owner   
 Configuration  Trail mgr

User(s)  Functions   
 User Priority

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
-	1480	1410	-	None	1.4km	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
2	2	2	-	-	-	-

Anomalies in the information sources

Current official grade  Primary official source

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length) 14.893617

Track configuration	Classic and very rideable climbing line - serves many DH tracks						
Length (m)	1400	Start alt	64	End alt	158	Altitude change	94

This track has an overall rise of 1 in 14.9 or 3.84 degrees so it's nominally a Grade 3

Rise/fall, slope and nominal grade for a specific section 8.84210526

Description	The shortcut option in the top 1/4 of Calorie Killer is assessed here but it is a separate trail.						
Length (m)	168	Start alt	139	End alt	158	Altitude change	19

This section has an overall rise of 1 in 8.8 or 6.47 degrees so it's nominally a Grade 4

### D. GRADE ASSESSMENT

Fixed components grades:   
(width, gradient and turn radius)

Fixed componentry issues

**We assess this trail as a Grade 3 (Intermediate)** (harder than its marketed grade)

Explanation/Justification

Low hanging fruit

Notes

# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date **5-Jul-23**

### A. INVENTORY INFORMATION

Bike/conditions **Hardtail, dry**

Destination **Wither Hills MTB Park** Trail name **Cams Run**

TLA (RTO) **Marlborough District (Marlborough)** Direction **2-way** Land owner **Council**  
 Configuration **Linear/Point to Point** Trail mgr **Council**

User(s) **MTB only** Functions **0**  
 User Priority **Bikers**

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
None	480	350	None	None	3.9km (?)	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
1	2	1	-	-	-	-

Anomalies in the information sources **Sign has the Grade 2 symbol and word but also says Grade 1 not 2**

Current official grade **1 (Beginner)** Primary official source **Printed Medium**

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length) **-175**

Track configuration **Simple benched traverse providing exit option.**

Length (m)	Start alt	End alt	Altitude change
350	38	36	-2

This track has an overall FALL of **1 in -175.0 or -0.33 degrees** which is nominally a **Grade 1 (down)**

Rise/fall, slope and nominal grade for a specific section **0**

Description **No specific section**

Length (m)	Start alt	End alt	Altitude change
N/A	0	0	0

This section has an overall rise of **Not applicable** so it's nominally a **N/A**

### D. GRADE ASSESSMENT

Fixed components grades: **Slopes: Grade 1 and 2. Turns: None. Width: Grade 2-3.**  
 (width, gradient and turn radius)

Fixed componentry issues  
 The track is benched and is bit more width could be achieved. However, it's probably too narrow for Grade 2 (900-1200 minimum) given the side slope, especially if 2-way is preferred (1200mm minimum). Min widths here are decidedly varied in the standards.

**We assess this trail as a Grade 3 (Intermediate) (harder than its marketed grade)**

Explanation/Justification

While this trail is very close to the roadend and fairly gentle, it is simply too narrow to be Grade 2, especially if it is to be marketed as a 2-way trail. The presence of a sideslope means this trail is quite different in character to the trails below it: Stockyard (slightly narrow here and there but essentially a nice Grade 1 trail) and Weezer Run (a potentially great-fun Grade 2 trail currently a bit narrow and stony).

Low hanging fruit

Regrading is the quick solution, while retaining the current rise and fall pattern, and width. Certainty is required in the connection to Scenic Route - the lower connection point is commended for this but better signs are needed. The side slope should be checked but the recommendation here is to leave the trail's width as it is. If widening is indicated by the side slope, we suggest it would be better to consider this trail as a one-way (down) instead of doing that.

Notes

This is a neat wee ride. It nicely complements Weezer Run (Grade 2 with widening) and Stockyard (Grade 1 as is), giving riders three different options, at different grades, for exiting the park.

# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date

### A. INVENTORY INFORMATION

Bike/conditions

Destination  Trail name

TLA (RTO)  Direction  Land owner   
 Configuration  Trail mgr

User(s)  Functions   
 User Priority

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
None	830	810	None	None	4.0km	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
3	3	3	-	-	-	-

Anomalies in the information sources

Current official grade  Primary official source

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length)

Track configuration

Length (m)  Start alt  End alt  Altitude change

This track has an overall FALL of  which is nominally a Grade 2 (down)

Rise/fall, slope and nominal grade for a specific section

Description

Length (m)  Start alt  End alt  Altitude change

This section has an overall rise of  so it's nominally a N/A

### D. GRADE ASSESSMENT

Fixed components grades:   
 (width, gradient and turn radius)

Fixed componentry issues

**We assess this trail as a Grade 4 (Advanced)** (harder than its marketed grade)

Explanation/Justification

Low hanging fruit

Notes



# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date **5-Jul-23**

### A. INVENTORY INFORMATION

Bike/conditions **Hardtail, mostly dry.**

Destination **Wither Hills MTB Park** Trail name **Deviation**

TLA (RTO) **Marlborough District (Marlborough)** Direction **1-way (dn)** Land owner **Council**  
 Configuration **Descent but not constant** Trail mgr **Council**

User(s) **MTB only** Functions **Easiest of several the trails from the park's critical hub, The Landing**  
 User Priority **Bikers**

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
None	1.17km	1.18km	None	None	1.1km	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
3	-	3	-	3	-	-

Anomalies in the information sources **None**

Current official grade **3 (Intermediate)** Primary official source **Printed Medium**

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length) **-11.702128**

Track configuration **Meandering DH trail from Scenic Route to Easy As**

Length (m)	1100	Start alt	170	End alt	76	Altitude change	-94
------------	------	-----------	-----	---------	----	-----------------	-----

This track has an overall FALL of **1 in -11.7 or -4.89 degrees** which is nominally a **Grade 2 (down)**

Rise/fall, slope and nominal grade for a specific section **0**

Description **None. Unlike some descending trails, Deviation does have rest sections and the overall average without these might be considered.**

Length (m)	N/A	Start alt	0	End alt	0	Altitude change	0
------------	-----	-----------	---	---------	---	-----------------	---

This section has an overall rise of **Not applicable** so it's nominally a **N/A**

### D. GRADE ASSESSMENT

Fixed components grades: **Width: Grade 2-3. Slopes: Grades 2-3. Turns: mostly Grade 3.**  
 (width, gradient and turn radius)

Fixed componentry issues  
**None**

**We assess this trail as a Grade 3 (Intermediate)** (the same as its marketed grade)

**Explanation/Justification**  
 This trail provides good riding for Intermediate riders. It is distinctly easier than the other descending trails served by Calorie Killer: wider and with rests (flat sections) that mean it is not too testing for those still learning to control a bike at speed for more than a few minutes. Despite the trail's fixed components being distinctly Grade 3, the roughness of the surface make the experience both tougher and less pleasing than it should be. Finding the top of Deviation is difficult.

**Low hanging fruit**  
 While the fixed componentry is pretty mellow, the trail surface and berm faces are rough, eroded in places and pocked with hoof prints. The worst section is at the very bottom where the junction with Easy As is very wet. These surface issues require resolution. A bigger improvement would come from realigning the junctions of Deviation (and perhaps Shortcut Down) with Easy As so it is in a drier place with better visibility.

**Notes**  
 The rest sections on this trail mean it works well as a Grade 3 trail and is distinctly easier than other downhill trails served by Calorie Killer and Autobahn, which are unrelenting (Captain Slapstick, Shortcut Down, Pamplona, Sweet As, Lamb Chops).

# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date

### A. INVENTORY INFORMATION

Bike/conditions

Destination  Trail name

TLA (RTO)  Direction  Land owner   
 Configuration  Trail mgr

User(s)  Functions   
 User Priority

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
-	-	340	-	-	285m	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
2	-	2	-	-	-	-

Anomalies in the information sources

Current official grade  Primary official source

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length) -14.166667

Track configuration

Length (m)	340	Start alt	67	End alt	43	Altitude change	-24
------------	-----	-----------	----	---------	----	-----------------	-----

This track has an overall FALL of **1 in -14.2 or -4.04 degrees** which is nominally a **Grade 2 (down)**

Rise/fall, slope and nominal grade for a specific section -10.294118

Description

Length (m)	17.5	Start alt	1.7	End alt	0	Altitude change	-1.7
------------	------	-----------	-----	---------	---	-----------------	------

This section has an overall FALL of **1 in -10.3 or -5.56 degrees** which is nominally a **Grade 2 (down)**

### D. GRADE ASSESSMENT

Fixed components grades:   
 (width, gradient and turn radius)

Fixed componentry issues

**We assess this trail as a Grade 3 (Intermediate)** (harder than its marketed grade)

Explanation/Justification

Low hanging fruit

Notes

# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date **4-Jul-23**

### A. INVENTORY INFORMATION

Bike/conditions **Hardtail, varied conditions.**

Destination **Wither Hills MTB Park** Trail name **Easy As**

TLA (RTO) **Marlborough District (Marlborough)** Direction **2-way** Land owner **Council**  
 Configuration **Linear/Point to Point** Trail mgr **Council**

User(s) **MTB only** Functions **Quick/easy entry /exit option to 'Base Camp' hub.**  
 User Priority **Bikers**

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
-	-	1.06	-	-	-	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
1	2	1	-	-	-	-

Anomalies in the information sources **The sources disagree. The entry sign has the symbol for Grade 2 but the words "Grade 1".**

Current official grade **1 (Beginner)** Primary official source **Printed Medium**

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length) **34.6153846**

Track configuration **0**

Length (m)	Start alt	End alt	Altitude change
900	38	64	26

This track has an overall rise of **1 in 34.6 or 1.65 degrees** so it's nominally a Grade **1**

Rise/fall, slope and nominal grade for a specific section **10.8333333**

Description **The first 130m up to where it levels at the point where Easy As Intro joins (note that the average slope of Easy As Intro is just 2 degrees).**

Length (m)	Start alt	End alt	Altitude change
130	43	55	12

This section has an overall rise of **1 in 10.8 or 5.28 degrees** so it's nominally a Grade **4**

### D. GRADE ASSESSMENT

Fixed components grades: **Width: Grade 2, mostly. Turns: Grade 1-2. Slopes: mostly Grades 2-3 but reaching above the nominal maximum for Grade 3 (the eroding slope in the first 130 metres).**

Fixed componentry issues **The key issue is that there are quite steep sections, in both directions (made worse by a tendency to wetness).**

**We assess this trail as a Grade 3 (Intermediate) (harder than its marketed grade)**

Explanation/Justification

As it stands, the trail is too steep in a couple of critical places for Grade 2, Novice riders, something heightened by the trail's slowness to dry out after rain. The trail is also pocked here and there and has a wavy section between the two cattle stops (see photo in report). Technically, the trail's slopes actually exceed the Grade 3 uphill maximum (10° for more than 10 metres) but Grade 4 is not indicated.

Low hanging fruit

There is perhaps no really easy solution other than re-grading. On one hand it seems to be pointless to have a Grade 2 trail that only accesses higher grade trails. However, there is perhaps the potential, using a combination of realigning and recombination of trails, to create a circular Grade 2 trail, starting and finishing on Stockyard and including (a realigned) Schools Out and a widened Easy As (Intro).

Notes

We rode this trail several times as it dried out following wintry rain. It clearly has potential to be an important trail in the wider network, but it has over-steep sections and some hard-to-ride, mud-prone bits. The connections from Shortcut Down and Deviation are rough and should be moved. The signs at the trail's end, and the exact starting points of Calorie Killer, Bender and Prima One are very unclear.

# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date

### A. INVENTORY INFORMATION

Bike/conditions

Destination

Trail name

TLA (RTO)

Select from drop-down menu

Direction   
Configuration

Land owner   
Trail mgr

User(s)   
User Priority

Functions

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
-	330	-	-	-	305m	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
1	No sign	2	-	-	-	-

Anomalies in the information sources

Current official grade

Primary official source

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length)

Track configuration

Length (m)  Start alt  End alt  Altitude change

This track has an overall rise of  so it's nominally a Grade 1

Rise/fall, slope and nominal grade for a specific section

Description

Length (m)  Start alt  End alt  Altitude change

This section has an overall rise of  so it's nominally a N/A

### D. GRADE ASSESSMENT

Fixed components grades:   
(width, gradient and turn radius)

Fixed componentry issues

**We assess this trail as a Grade 3 (Intermediate)** (harder than its marketed grade)

Explanation/Justification

Low hanging fruit

Notes



# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date **5-Jul-23**

### A. INVENTORY INFORMATION

Bike/conditions **Hardtail, dry**

Destination **Wither Hills MTB Park** Trail name **Easy Off**

TLA (RTO) **Marlborough District (Marlborough)** Direction **1-way (dn)** Land owner **Council**  
 Configuration **Steady Descent** Trail mgr **Council**

User(s) **MTB only** Functions **Essentially a short linking trail**  
 User Priority **Bikers**

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
None	-	-	None	No lgth	810m	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
3	3	3	-	-	-	-

Anomalies in the information sources **Trail forks and the printed map show the trail beginning at a corner (by a water trough) on the Skyline Trail but the only entry sign is at the top of Electric Brae. The headline length**

Current official grade **3 (Intermediate)** Primary official source **Printed Medium**

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length) **-14.5**

Track configuration **Slightly odd, short linking trail, compromised somewhat by the state of the bottom of Skyline and the configuration of other trails (Lamb Chops, Prima One/Bender especially).**

Length (m)	290	Start alt	102	End alt	82	Altitude change	-20
------------	-----	-----------	-----	---------	----	-----------------	-----

This track has an overall FALL of **1 in -14.5 or -3.95 degrees** which is nominally a **Grade 1 (down)**

Rise/fall, slope and nominal grade for a specific section **14.5**

Description **This is the slope assessment for the whole trail, if ridden backwards (uphill)**

Length (m)	290	Start alt	82	End alt	102	Altitude change	20
------------	-----	-----------	----	---------	-----	-----------------	----

This section has an overall rise of **1 in 14.5 or 3.95 degrees** so it's nominally a **Grade 3**

### D. GRADE ASSESSMENT

Fixed components grades: **Slope: 1 and 2. Turns: N/A. Width: 3 and 4, narrowed by roots.**  
 (width, gradient and turn radius)

#### Fixed componentry issues

Not really steep and no turns really. The formed bench is restricted by roots here and there. It's quite rideable but has fall exposure.

We rode Easy Off backwards (uphill). The average slope is gentle but there are steep pinches.

**We assess this trail as a Grade 4 (Advanced) (harder than its marketed grade)**

Explanation/Justification

This is a marginal and somewhat conservative call, based mainly on the width restrictions on this short, little-used trail. A Grade 3 trail would be achieved easily.

Low hanging fruit

Establishing a wider bench, by cutting wider and removing a tree or two, would provide a Grade 3 trail or it could be left as is and considered a G4. Changing to a two-way trail might improve the network flow overall by improving access to Electric Brae and avoiding the very muddy lower section of Skyline where it connects to Calorie Killer.

Notes

There seem to be several options with Easy Off including deciding of the desired grade in light of decisions made about Lamb Chops and Skyline. The latter's very muddy/wet connection to Calorie Killer requires a major upgrade but Easy Off might actually be a better option, although it would need to be made a two-way trail to continue the capability available on Skyline.

# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date

### A. INVENTORY INFORMATION

Bike/conditions

Destination

Trail name

TLA (RTO)

Select from drop-down menu

Direction   
Configuration

Land owner   
Trail mgr

User(s)   
User Priority

Functions

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
None	390m	380m	None	No lgth	401m	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
3	3	3	-	-	-	-

Anomalies in the information sources

Current official grade

Primary official source

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length)

Track configuration

Length (m)  Start alt  End alt  Altitude change

This track has an overall FALL of  which is nominally a Grade 2 (down)

Rise/fall, slope and nominal grade for a specific section

Description

Length (m)  Start alt  End alt  Altitude change

This section has an overall rise of  so it's nominally a N/A

### D. GRADE ASSESSMENT

Fixed components grades:   
(width, gradient and turn radius)

Fixed componentry issues

**We assess this trail as a Grade 4 (Advanced)** (harder than its marketed grade)

Explanation/Justification

Low hanging fruit

Notes

# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date

### A. INVENTORY INFORMATION

Bike/conditions

Destination  Trail name

TLA (RTO)  Direction  Land owner   
 Configuration  Trail mgr

User(s)  Functions   
 User Priority

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
-	360m	360m	-	No lgth	303m	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
2	-	2	-	-	-	-

Anomalies in the information sources

Current official grade  Primary official source

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length) 8.18918919

Track configuration

Length (m)	Start alt	End alt	Altitude change
303	102	139	37

This track has an overall rise of 1 in 8.2 or 6.98 degrees so it's nominally a Grade 4

Rise/fall, slope and nominal grade for a specific section -8.1891892

Description

Length (m)	Start alt	End alt	Altitude change
303	139	102	-37

This section has an overall FALL of 1 in -8.2 or -6.98 degrees which is nominally a Grade 2 (down)

### D. GRADE ASSESSMENT

Fixed components grades:   
(width, gradient and turn radius)

Fixed componentry issues

**We assess this trail as a Grade 4 (Advanced)** (harder than its marketed grade)

Explanation/Justification

Low hanging fruit

Notes

# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date **7-Jul-23**

### A. INVENTORY INFORMATION

Bike/conditions **Hard tail/fully dry**

Destination **Wither Hills MTB Park** Trail name **Lamb Chops**

TLA (RTO) **Marlborough District (Marlborough)** Direction **1-way (dn)** Land owner **Council**  
 Configuration **Steady Descent** Trail mgr **Council**

User(s) **MTB only** Functions **Downhill thrill/technical challenge**  
 User Priority **Bikers**

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
None	500m	460m	None	No sign	Not shown	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
Not shown	No sign	3	-	-	-	-

Anomalies in the information sources **The sources show no consistency, given that the track, or at least the lower 2/3 seem to be unofficial. Trailforks doesn't show Lamb Chops and there are no signs.**

Current official grade **3 (Intermediate)** Primary official source **Printed Medium**

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length) **-7.7966102**

Track configuration **A gnarly, partly benched technical trail. connecting the upper park (Autobahn) to nearly the bottom of Calorie Killer. The most difficult trail in the park.**

Length (m)	460	Start alt	145	End alt	86	Altitude change	-59
------------	-----	-----------	-----	---------	----	-----------------	-----

This track has an overall FALL of **1 in -7.8 or -7.33 degrees** which is nominally a **Grade 2 (down)**

Rise/fall, slope and nominal grade for a specific section **0**

Description **No specific section was evaluated. Grade 5 maximum downhill slope exceeded in several places.**

Length (m)	N/A	Start alt	0	End alt	0	Altitude change	0
------------	-----	-----------	---	---------	---	-----------------	---

This section has an overall rise of **Not applicable** so it's nominally a **N/A**

### D. GRADE ASSESSMENT

Fixed components grades: **Turn Radius: varied, mostly open. Width: G4/5. Slope: 2-6.**  
 (width, gradient and turn radius)

Fixed componentry issues **The terrain is very steep. The benched, traversing sections fall gently. The turns, which are essentially unformed, exceed the maximum slope for Grade 5. The entry slope and turn provides a very difficult manoeuvre.**

**We assess this trail as a Grade 5 (Expert)** (harder than its marketed grade)

Explanation/Justification

Lamb Chops is largely either benched but very narrow (about the Grade 4 minimum, with constant side-fall) or it is unformed, steep and rooty (especially where it involves fall line riding as part of turning). This fall line riding is very steep and distinctly 'expert' (Grade 5). There are also numerous difficult and large roots to ride over and, sometimes, roots and narrowness or roots and steepness combined.

Low hanging fruit

The easy solution is to assign Grade 5 and signpost the entry and junctions accordingly. Carving out a wider track with proper turns would allow the grade to be 4 but this is impactful, would cost a lot more and would reduce network diversity.

Notes

The first decision required is whether or not Lamb Chops is even a sanctioned trail and if so, whether this is just the top part (as shown on the map) or the entire track down to Easy Off. We consider this to be essentially the toughest ride in the park and a good trail for expert riders. As such, 'sterilising' it by upgrading it so it is like several other tracks in the park seems unfortunate.



# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date

### A. INVENTORY INFORMATION

Bike/conditions

Destination  Trail name

TLA (RTO)  Direction  Land owner   
 Configuration  Trail mgr

User(s)  Functions   
 User Priority

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
-	110	100	-	-	325m	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
3	3	2	-	-	-	-

Anomalies in the information sources

Current official grade  Primary official source

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length) 8.75

Track configuration

Length (m)  Start alt  End alt  Altitude change

This track has an overall rise of  so it's nominally a Grade 4

Rise/fall, slope and nominal grade for a specific section 0

Description

Length (m)  Start alt  End alt  Altitude change

This section has an overall rise of  so it's nominally a N/A

### D. GRADE ASSESSMENT

Fixed components grades:   
 (width, gradient and turn radius)

Fixed componentry issues

**We assess this trail as a Grade 4 (Advanced)** (harder than its marketed grade)

Explanation/Justification

Low hanging fruit

Notes

# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date **4-Jul-23**

### A. INVENTORY INFORMATION

Bike/conditions **Hardtail - a little damp**

Destination **Wither Hills MTB Park** Trail name **Mogwai**

TLA (RTO) **Marlborough District (Marlborough)** Direction **1-way (dn)** Land owner **Council**  
 Configuration **Steady Descent** Trail mgr **Council**

User(s) **MTB only** Functions **Joiner trail. Pt of the link from the park's high point to Scenic Route.**  
 User Priority **Bikers**

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
None	420	-	None	-	3.9km (?)	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
3	3	3	-	-	-	-

Anomalies in the information sources **The trail name on Trailforks is misspelled "Mogwal" instead of Mogwai.**

Current official grade **3 (Intermediate)** Primary official source **Printed Medium**

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length) **-5.5384615**

Track configuration **Very narrow and quite steep trail from high in the park linking down to Scenic Route. A severely eroded trail with very tight turns.**

Length (m)	216	Start alt	217	End alt	178	Altitude change	-39
------------	-----	-----------	-----	---------	-----	-----------------	-----

This track has an overall FALL of **1 in -5.5 or -10.29 degrees** which is nominally a **Grade 3 (down)**

Rise/fall, slope and nominal grade for a specific section **0**

Description	None
Length (m)	N/A
Start alt	0
End alt	0
Altitude change	0

This section has an overall rise of **Not applicable** so it's nominally a **N/A**

### D. GRADE ASSESSMENT

Fixed components grades: **Slopes: Grade 3-4. Turns: Grade 4-5. Width: Grade 4-5.**  
 (width, gradient and turn radius)

Fixed componentry issues  
 The fixed components are somewhat locked in because the steep side slopes mean the narrow trails and tight turns would be difficult to change.

**We assess this trail as a Grade 5 (Expert)** (harder than its marketed grade)

Explanation/Justification

Mogwai is a very gnarly trail, partly because of its narrowness and exposure, but also because its corners are very tight and badly eroded.

Low hanging fruit

There is none because the width is far too narrow and the turns are too tight to be restored to Grade 4, especially with the very steep side slopes in erosion-prone terrain with no cover.

Notes

This is a very gnarly trail, as much because of severe erosion in the corners as its extreme narrowness. We note there are two options at the bottom for the final drop on to Scenic Route. One seems to be quite new and we wonder if it is sanctioned.

# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date

### A. INVENTORY INFORMATION

Bike/conditions

Destination  Trail name

TLA (RTO)  Direction  Land owner   
 Configuration  Trail mgr

User(s)  Functions   
 User Priority

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
None	290	270	None	-	284m	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
2	No sign	2	-	-	-	-

Anomalies in the information sources

Current official grade  Primary official source

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length) 11.875

Track configuration

Length (m)	Start alt	End alt	Altitude change
285	198	222	24

This track has an overall rise of  so it's nominally a Grade 3

Rise/fall, slope and nominal grade for a specific section 0

Description

Length (m)	Start alt	End alt	Altitude change
N/A	0	0	0

This section has an overall rise of  so it's nominally a N/A

### D. GRADE ASSESSMENT

Fixed components grades:   
(width, gradient and turn radius)

Fixed componentry issues

**We assess this trail as a Grade 4 (Advanced)** (harder than its marketed grade)

**Explanation/Justification**  
 The steep section is long enough and quite rough, meaning Grade 3 is really out of reach this far into the park. Of course, marketing this trail as a Grade 3 means the trails leading to it (the two legs of Scenic Route) need to be Grade 3 as well, which they are not currently but could be. Ideally there would also be a Grade 3 trail at the uphill end too, which there is not.

**Low hanging fruit**  
 The quick solution is to regrade to Grade 4, which may be the best solution given that eliminating the steep section would mean substantial realignment in a sensitive location and probably an additional corner.

**Notes**  
 This trail seems to get little use and is messy, with wet sections and grass growth. Arguably, it adds little given that it only accesses Mogwai, Boundary Rider and Trainspotting (and people seemingly access them by pushing their bikes up the 'walking' side of the boundary fence). Alternatively, this connector is important since it serves the (out of scope) 'back country' trails. If so, it doesn't have to be any lower graded than they are.

# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date **5-Jul-23**

### A. INVENTORY INFORMATION

Bike/conditions **Hard Trail - a little damp down low**

Destination **Wither Hills MTB Park** Trail name **Muncher**

TLA (RTO) **Marlborough District (Marlborough)** Direction **2-way** Land owner **Council**  
 Configuration **Steady Climb** Trail mgr **Council**

User(s) **MTB only** Functions **Access/egress**  
 User Priority **Bikers**

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
None	-	0.63km	None	None	3.9km (?)	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
3	3	3	-	-	-	-

Anomalies in the information sources **None**

Current official grade **3 (Intermediate)** Primary official source **Printed Medium**

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length) 21.25

Track configuration **Nice climb from Stockyard to Scenic Route (less steep than Scenic Route itself).**

Length (m)	680	Start alt	37	End alt	69	Altitude change	32
------------	-----	-----------	----	---------	----	-----------------	----

This track has an overall rise of **1 in 21.3 or 2.70 degrees** so it's nominally a Grade 2

Rise/fall, slope and nominal grade for a specific section -21.25

Description **Descending the entire track**

Length (m)	680	Start alt	69	End alt	37	Altitude change	-32
------------	-----	-----------	----	---------	----	-----------------	-----

This section has an overall FALL of **1 in -21.3 or -2.70 degrees** which is nominally a Grade 1 (down)

### D. GRADE ASSESSMENT

Fixed components grades: **Width: 3/4, Turns: 3/4, Slope: 2/3**  
 (width, gradient and turn radius)

Fixed componentry issues  
**None really**

**We assess this trail as a Grade 3 (Intermediate)** (the same as its marketed grade)

Explanation/Justification

This recommendation is a close call. While the fixed components suggest strongly this is a Grade 3 trail at heart, it is a little rooty (especially turn 5 (ascending)) and a little narrow/damp at the bottom. The turn radii are borderline too. With a little work, we consider this a potentially important trail at the key strategic grade of 3.

Low hanging fruit

Widening at the bottom, smoothing the turns and dealing with some roots would make the trail more compliant. At one of the turns, root removal might mean a tree must be removed but fully rebuilding that turn is also an option.

Notes

This is a less steep, wider and much less stony trail than the parallel section of Scenic Route (from the main entry up to the first cattle stop). It is arguably the better way to climb to this cattle stop and could be promoted as such. It could be one-way (probably up) or 2, depending partly on what is decided for Scenic Route, which would need significant realignment to be Grade 3-compliant, in either direction.



# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date

### A. INVENTORY INFORMATION

Bike/conditions

Destination  Trail name

TLA (RTO)  Direction  Land owner   
 Configuration  Trail mgr

User(s)  Functions   
 User Priority

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
None	1240	1240	None	None	1100	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
3	-	3	-	4	-	-

Anomalies in the information sources

Current official grade  Primary official source

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length)

Track configuration

Length (m)  Start alt  End alt  Altitude change

This track has an overall FALL of  which is nominally a Grade 2 (down)

Rise/fall, slope and nominal grade for a specific section

Description   
 Length (m)  Start alt  End alt  Altitude change

This section has an overall rise of  so it's nominally a N/A

### D. GRADE ASSESSMENT

Fixed components grades:   
 (width, gradient and turn radius)

Fixed componentry issues

**We assess this trail as a Grade 4 (Advanced)** (harder than its marketed grade)

Explanation/Justification

Pamplona is a great trail - a model Grade 4 experience. It is sufficiently rough, variable and committing to justify Grade 4 instead of 3, especially with its very tight beginning, some sizeable stepped drops and big turns where a lot of speed is created.

Low hanging fruit

None really. At the recommended grade (4), no change is required.

Notes

A thorough upgrade to Grade 3 is theoretically possible, on the current alignment. However, that would lead to even higher speeds on a trail that isn't particularly long but doesn't provide much of a rest. Such an upgrade would also eliminate a fit-for-purpose trail.

# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date

### A. INVENTORY INFORMATION

Bike/conditions

Destination  Trail name

TLA (RTO)  Direction  Land owner   
 Configuration  Trail mgr

User(s)  Functions   
 User Priority

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
None	-	-	None	No lgth	-	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
3	-	3	-	-	-	-

Anomalies in the information sources

Current official grade  Primary official source

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length)

Track configuration

Length (m)  Start alt  End alt  Altitude change

This track has an overall FALL of  which is nominally a Grade 1 (down)

Rise/fall, slope and nominal grade for a specific section

Description

Length (m)  Start alt  End alt  Altitude change

This section has an overall rise of  so it's nominally a N/A

### D. GRADE ASSESSMENT

Fixed components grades:   
 (width, gradient and turn radius)

Fixed componentry issues

**We assess this trail as a Grade 5 (Expert)** (harder than its marketed grade)

Explanation/Justification

Low hanging fruit

Notes

# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date

### A. INVENTORY INFORMATION

Bike/conditions

Destination  Trail name

TLA (RTO)  Direction  Land owner   
 Configuration  Trail mgr

User(s)  Functions   
 User Priority

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
-	-	-	-	-	-	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
2	-	2	-	-	-	-

Anomalies in the information sources

Current official grade  Primary official source

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length)

Track configuration

Length (m)  Start alt  End alt  Altitude change

This track has an overall rise of  so it's nominally a Grade 2

Rise/fall, slope and nominal grade for a specific section

Description

Length (m)  Start alt  End alt  Altitude change

This section has an overall rise of  so it's nominally a N/A

### D. GRADE ASSESSMENT

Fixed components grades:   
 (width, gradient and turn radius)

Fixed componentry issues

**We assess this trail as a Grade 4 (Advanced)** (harder than its marketed grade)

Explanation/Justification

Low hanging fruit

Notes

# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date 4-Jul-23

### A. INVENTORY INFORMATION

Bike/conditions Hardtail, dry

Destination Wither Hills MTB Park Trail name Scenic Route (Northern)

TLA (RTO) Marlborough District (Marlborough) Direction 2-way Configuration Climb but not constant Land owner Council Trail mgr Council

User(s) MTB only User Priority Bikers Functions Major entry/exit trail. Loops park and accesses other trails.

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
None	2.59	2.48km	None	None	2.55km	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
2	2	2	-	-	-	-

Anomalies in the information sources The map key - the way Grade 2 is shown - is hard to read.

Current official grade 2 (Novice) Primary official source Printed Medium

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length) 15.7407407

Track configuration A mostly wide-open trail climbing from the main entry area up a prominent ridge to the high point of several other trails and linking around to the MTB carpark (via Scenic Route (South)).

Length (m)	Start alt	End alt	Altitude change
2550	34	196	162

This track has an overall rise of 1 in 15.7 or 3.64 degrees so it's nominally a Grade 3

Rise/fall, slope and nominal grade for a specific section 10

Description The first 340m up to the first landing through five tight turns

Length (m)	Start alt	End alt	Altitude change
340	29	63	34

This section has an overall rise of 1 in 10.0 or 5.72 degrees so it's nominally a Grade 4

### D. GRADE ASSESSMENT

Fixed components grades: Width: mostly unconstrained, G4 at the bottom. Turns: 5x Grade 4 turns at the bottom. Slope: Grade 1-4.

#### Fixed componentry issues

A full, section-by-section analysis is provided in a separate written report. Two of the six analysis sections are Grade 4 steep (up), most notably the lowest (330-metre) one, which is also narrow with five Grade 4 turns.

**We assess this trail as a Grade 4 (Advanced) (harder than its marketed grade)**

Explanation/Justification

Plenty of this pivotal trail is actually fairly easy and Grade 3 is the obvious difficulty level to aim for strategically. However, more than an allowable 10-20% of the trail is too steep for G3 and this implies G4 is the right grade, especially given that the lowest section is also too narrow for G3 with too-tight turns.

Low hanging fruit

While Grade 3 might be achievable for all of this trail, Grade 2 is not realistic. To achieve G3, a full realignment of the bottom section (especially) will be required - hardly low-hanging fruit. The easiest solution is considered to be using Muncher as an alternative entry/egress instead (uphill and downhill), with the current Scenic Route alignment retained (as is) as a Grade 4 option.

Notes

Note that we have split Scenic Route (as it is usually marketed) into two separate trails. This is because the two halves of it are so very different, have different access and different issues. By the specifications, it's clear enough that this half of Scenic Route is Grade 4 but there seems to be some good option available for providing a Grade 3 option.

# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date **4-Jul-23**

### A. INVENTORY INFORMATION

Bike/conditions **Hardtail, damp-to-dry**

Destination **Wither Hills MTB Park** Trail name **Scenic Route (Southern)**

TLA (RTO) **Marlborough District (Marlborough)** Direction **2-way** Land owner **Council**  
 Configuration **Climb but not constant** Trail mgr **Council**

User(s) **MTB only** Functions **Major entry/exit trail. Loops park and accesses other trails.**  
 User Priority **Bikers**

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
None	-	-	None	-	-	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
2	None	2	-	-	-	-

Anomalies in the information sources **There is no sign on this trail where it begins on Easy As.**

Current official grade **2 (Novice)** Primary official source **Printed Medium**

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length) **10.6060606**

Track configuration **A mostly wide-open trail descending from a high point down to the MTB carpark through light forest then down a grassy ridge. Makes a complete loop of the park with Scenic Route (North).**

Length (m)	1400	Start alt	68	End alt	200	Altitude change	132
------------	------	-----------	----	---------	-----	-----------------	-----

This track has an overall rise of **1 in 10.6 or 5.39 degrees** so it's nominally a Grade 4

Rise/fall, slope and nominal grade for a specific section **11.5555556**

Description **The zig-zag section that climbs the ridge from near the first cattle stop on Easy As**

Length (m)	520	Start alt	68	End alt	113	Altitude change	45
------------	-----	-----------	----	---------	-----	-----------------	----

This section has an overall rise of **1 in 11.6 or 4.95 degrees** so it's nominally a Grade 3

### D. GRADE ASSESSMENT

Fixed components grades: **Slopes: 2-4. Turns: 4-5. Width: 2-4.**  
 (width, gradient and turn radius)

Fixed componentry issues  
 This trail is somewhat messy, varying greatly in grades if the specifications are applied carefully. The critical fixed componentry issue is the tightness of the multiple turns in the section closest to Easy As. These are steep, tight and narrow, in either direction.

**We assess this trail as a Grade 4 (Advanced)** (harder than its marketed grade)

Explanation/Justification  
 The trail is a 2-way one but is evaluated here principally as a descent. Grade 4 is a marginal call since many of the turns are overtight for that grade, especially because they combine turning with descending and have erosion effects to avoid. In the wider, benched part of the trail there are wet/soft and very rough pinches here and there and there is also a lack of signage at the junctions.

Low hanging fruit  
 There is no low-hanging fruit. Even the surface work that was partly completed during our visit will not last long in the open and doesn't change the width or slope of the turns section or the tightness of the turns. Accepting a higher grade for the trail is the low hanging fruit, although some surfacing work and drainage would alleviate difficulties posed by the spongy sections. Improved signage would help.

Notes  
 Note that we have split Scenic Route (as it is usually marketed) into two separate trails. This is because the two halves of it are so very different, have different access and different issues. This half will be difficult to upgrade to the currently marketed grade.



# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date

### A. INVENTORY INFORMATION

Bike/conditions

Destination

Trail name

TLA (RTO)

Select from drop-down menu

Marlborough District  
(Marlborough)

Direction   
Configuration

Land owner   
Trail mgr

User(s)   
User Priority

Functions

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
-	290	290	-	-	4.0km(?)	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
2	-	2	-	-	-	-

Anomalies in the information sources

Current official grade

Primary official source

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length) -10.961538

Track configuration

Length (m)	Start alt	End alt	Altitude change
285	78	52	-26

This track has an overall FALL of 1 in -11.0 or -5.22 degrees which is nominally a Grade 2 (down)

Rise/fall, slope and nominal grade for a specific section 10.9230769

Description

Length (m)	Start alt	End alt	Altitude change
284	52	78	26

This section has an overall rise of 1 in 10.9 or 5.24 degrees so it's nominally a Grade 4

### D. GRADE ASSESSMENT

Fixed components grades:   
(width, gradient and turn radius)

#### Fixed componentry issues

As a one-way exit trail, Schools Out is essentially fine. Nominally, the maximum downhill slope is Grade 4 so the trail could hardly be Grade 2 without realigning. Grade 3 would be adequate unless School Out was to be co-opted to make a complete (Stockyard to Stockyard) Grade 2 loop with Easy As.

**We assess this trail as a Grade 3 (Intermediate) (harder than its marketed grade)**

Explanation/Justification

Schools Out is easy and very functional as a quick way out from the upper park or Base Camp hub. However, it is probably too steep to be grade 2 and doesn't need to be given the trails it serves/is served by.

Low hanging fruit

Regrading is the low-hanging fruit given that a slope issue can't be easily rectified.

Notes

Schools Out is a good trail, given it allows for rapid exit. There is little point having a Grade 2 trail here though, if it doesn't connect to any other Grade 2 trails. Logically, it forms a loop from Stockyard back to Stockyard with Easy As, but this trail (marketed as a Grade 1) is Grade 3. There is an option to align the grades of these two trails.

# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date

### A. INVENTORY INFORMATION

Bike/conditions

Destination

Trail name

TLA (RTO)

Select from drop-down menu

Direction

Land owner

Configuration

Trail mgr

User(s)   
User Priority

Functions

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
-	450	520	-	-	521m	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
3	-	3	-	-	-	-

Anomalies in the information sources

Current official grade

Primary official source

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length)

Track configuration

Length (m)	Start alt	End alt	Altitude change
521	143	69	-74

This track has an overall FALL of  which is nominally a Grade 3 (down)

Rise/fall, slope and nominal grade for a specific section

Description	Length (m)	Start alt	End alt	Altitude change
<input type="text" value="0"/>	N/A	0	0	0

This section has an overall rise of  so it's nominally a N/A

### D. GRADE ASSESSMENT

Fixed components grades:   
(width, gradient and turn radius)

#### Fixed componentry issues

**We assess this trail as a Grade 4 (Advanced)** (harder than its marketed grade)

Explanation/Justification

Low hanging fruit

Notes

# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date

### A. INVENTORY INFORMATION

Bike/conditions

Destination  Trail name

TLA (RTO)  Direction  Land owner   
 Configuration  Trail mgr

User(s)  Functions   
 User Priority

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
-	-	-	-	-	-	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
2	-	3	-	-	-	-

Anomalies in the information sources

Current official grade  Primary official source

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length) 7.35

Track configuration

Length (m)	441	Start alt	74	End alt	134	Altitude change	60
------------	-----	-----------	----	---------	-----	-----------------	----

This track has an overall rise of  so it's nominally a Grade 5

Rise/fall, slope and nominal grade for a specific section 0

Description	<input type="text" value="0"/>						
Length (m)	N/A	Start alt	0	End alt	0	Altitude change	0

This section has an overall rise of  so it's nominally a N/A

### D. GRADE ASSESSMENT

Fixed components grades:   
(width, gradient and turn radius)

Fixed componentry issues

**We assess this trail as a Grade 5 (Expert)** (harder than its marketed grade)

Explanation/Justification

Low hanging fruit

Notes

# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date **5-Jul-23**

### A. INVENTORY INFORMATION

Bike/conditions **Hardtail - OK but wet at the bottom**

Destination **Wither Hills MTB Park** Trail name **Skyline**

TLA (RTO) **Marlborough District (Marlborough)** Direction **2-way** Land owner **Council**  
 Configuration **Steady Climb** Trail mgr **Council**

User(s) **MTB only** Functions **Important two-way connecting trail allowing mid-sized circuits**  
 User Priority **Bikers**

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
None	840	840	None	-	815.4m	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
2	-	2	-	-	-	-

Anomalies in the information sources **None**

Current official grade **2 (Novice)** Primary official source **Printed Medium**

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length) **15.9803922**

Track configuration **Two-way zig-zag trail with long stretches joining Scenic Route to Base Camp (via Calorie Killer)**

Length (m)	Start alt	End alt	Altitude change
815	89	140	51

This track has an overall rise of **1 in 16.0 or 3.58 degrees** so it's nominally a Grade 3

Rise/fall, slope and nominal grade for a specific section **-15.980392**

Description **The entire trail, ridden downhill**

Length (m)	Start alt	End alt	Altitude change
815	140	89	-51

This section has an overall FALL of **1 in -16.0 or -3.58 degrees** which is nominally a Grade 1 (down)

### D. GRADE ASSESSMENT

Fixed components grades: **Width: 2. Slopes (up): 3. Corners: 2/3.**  
 (width, gradient and turn radius)

Fixed componentry issues  
 The wet bit near the bottom is a narrow. The very lowest c20m (between Slapstick and Calorie Killer) is very steep and has a nasty channel forming.

**We assess this trail as a Grade 3 (Intermediate)** (harder than its marketed grade)

Explanation/Justification  
 This trail is essentially grade-compliant with just the right grade for its purpose and location. It presents a nice test for Intermediate riders in both directions.

Low hanging fruit  
 The very lowest section (below Slapstick) is too steep in both directions and begs realignment - medium-level fruit rather than low-hanging perhaps.

Notes  
 There is an elephant in the room with this trail - the nasty and seemingly slow-to-dry-out piece about 50 metres above Slapstick. A full repair, probably involving timber work, drainage and some imported aggregate is called for here to make this excellent and important trail fit for purpose.

# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date

### A. INVENTORY INFORMATION

Bike/conditions

Destination  Trail name

TLA (RTO)  Direction  Land owner   
 Configuration  Trail mgr

User(s)  Functions   
 User Priority

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
None	500	510	None	-	490m	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
2	2	2	-	-	-	-

Anomalies in the information sources

Current official grade  Primary official source

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length)

Track configuration

Length (m)  Start alt  End alt  Altitude change

This track has an overall FALL of  which is nominally a Grade 1 (down)

Rise/fall, slope and nominal grade for a specific section

Description   
 Length (m)  Start alt  End alt  Altitude change

This section has an overall rise of  so it's nominally a N/A

### D. GRADE ASSESSMENT

Fixed components grades:   
 (width, gradient and turn radius)

Fixed componentry issues

**We assess this trail as a Grade 4 (Advanced)** (harder than its marketed grade)

Explanation/Justification

Low hanging fruit

Notes



# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date

### A. INVENTORY INFORMATION

Bike/conditions

Destination

Trail name

TLA (RTO)

Select from drop-down menu

Direction   
Configuration

Land owner   
Trail mgr

User(s)   
User Priority

Functions

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
None	670m	650m	None	None	650m	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
3	3	3	-	-	-	-

Anomalies in the information sources

Current official grade

Primary official source

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length) -13.75

Track configuration

Length (m)	660	Start alt	122	End alt	74	Altitude change	-48
------------	-----	-----------	-----	---------	----	-----------------	-----

This track has an overall FALL of 1 in -13.8 or -4.16 degrees which is nominally a Grade 2 (down)

Rise/fall, slope and nominal grade for a specific section 0

Description	None						
Length (m)	N/A	Start alt	0	End alt	0	Altitude change	0

This section has an overall rise of Not applicable so it's nominally a N/A

### D. GRADE ASSESSMENT

Fixed components grades:   
(width, gradient and turn radius)

#### Fixed componentry issues

The coincidence of unbenched (natural surface) sections with fall line riding (instead of bermed turns) makes the corners quite intimidating. Sweet As is also rough and quite narrow in places, suggesting overall it trails requires expert-level skills.

**We assess this trail as a Grade 5 (Expert)** (harder than its marketed grade)

Explanation/Justification

This trail is long and meandering, crossing several others. There are long narrow sections and many surface obstacles. In some places, especially just below Nappy Change Junction, turns are unformed meaning riders must commit to crossing the fall line on natural surface.

Low hanging fruit

Regrading to Grade 5 is the low-hanging fruit. Grade 4 would be achievable with some smoothing of the surface and by benching in those turns that cross the fall line and/or are natural-surface.

Notes

This is a nice trail and probably the most technical one in the park (depending somewhat on greater clarity about the configuration of Peter Pan and Lamb Chops). As such, Sweet As has a high strategic value, enhanced by the fact that it connects Scenic Route to the Base Camp.

# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date **6-Jul-23**

### A. INVENTORY INFORMATION

Bike/conditions **Hard tail/fully dry**

Destination **Wither Hills MTB Park** Trail name **Stockyard**

TLA (RTO) **Marlborough District (Marlborough)** Direction **2-way** Land owner **Council**  
 Configuration **Linear/Point to Point** Trail mgr **Council**

User(s) **Shared use** Functions **Significant and multi-function connecting trail**  
 User Priority **Bikers**

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
-	-	1.43km	-	-	1.5km	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
2	1	Not clear	-	-	-	-

Anomalies in the information sources **Trailforks and the sign disagree. At the bottom end, two signs showing different grades in symbols both claim to be Grade 1 in words. The map is not clear.**

Current official grade **1 (Beginner)** Primary official source **Entry Sign**

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length) **506.666667**

Track configuration **An essentially flat beginners trail connecting two main carparks, giving access to many other trails and providing egress from the network. Shared use trail. (Note: the length used is the detail from Strava)**

Length (m)	1520	Start alt	35	End alt	38	Altitude change	3
------------	------	-----------	----	---------	----	-----------------	---

This track has an overall rise of **1 in 506.7 or 0.11 degrees** so it's nominally a **Grade 1**

Rise/fall, slope and nominal grade for a specific section **28.8235294**

Description	<b>The first 50 metres, which appears as a wee climb from the start at the bottom of Scenic Route</b>						
Length (m)	49	Start alt	0	End alt	1.7	Altitude change	1.7

This section has an overall rise of **1 in 28.8 or 1.99 degrees** so it's nominally a **Grade 1**

### D. GRADE ASSESSMENT

Fixed components grades: **Width: Grade 1/2 - a little narrow here and there, especially alongside a bank. Turns: none. Slopes: There are pieces that are over steep in both directions.**

Fixed componentry issues **In 2-3 spots (depending on direction) Stockyard is technically too steep. Collectively, these probably exceed the standard for Grade 1 (they likely exceed 4 degrees for lengths more than 10m and 2 degrees for more than 2% of the overall trail length).**

**We assess this trail as a Grade 1 (Beginner)** (the same as its marketed grade)

Explanation/Justification **While the trail probably exceeds the slope requirements for the lowest possible grade (where tolerance for exceptions should be minimal), we consider this trail is, overall, easy enough to be Grade 1, and that being Grade 1 is strategically important for the overall network.**

Low hanging fruit **It will be difficult to realign the trail to eliminate the over-steep sections. Instead, smoothing the surface is recommended by a targeted (and sustained) removal of loose river-run (i.e., rounded) stones. Some work might be done along the narrowest section (beneath Electric Brae) to increase the trail width. The approaches to the cattle stops need stabilising and improving so there are no lips, straighter approaches and, ideally, more width.**

Notes **Rifle Range Trail was out of scope for our work but is also marketed as a Grade 1 trail. Like Stockyard, it has a critical strategic role for riders at the beginner end of the skills spectrum. We did ride part of Rifle Range Track (and all of Lower Farm Track) and recommend it is fully assessed. We consider it likely that trail would be under width, and would exceed the Grade 1 slope maxima.**

# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date

### A. INVENTORY INFORMATION

Bike/conditions

Destination

Trail name

TLA (RTO)

Select from drop-down menu

Direction

Land owner

Configuration

Trail mgr

User(s)

Functions

User Priority

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
None	-	300	None	None	295m	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
3	3	3	-	-	-	-

Anomalies in the information sources

Current official grade

Primary official source

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length)

Track configuration

Length (m)  Start alt  End alt  Altitude change

This track has an overall FALL of  which is nominally a Grade 2 (down)

Rise/fall, slope and nominal grade for a specific section

Description

Length (m)  Start alt  End alt  Altitude change

This section has an overall rise of  so it's nominally a N/A

### D. GRADE ASSESSMENT

Fixed components grades:   
(width, gradient and turn radius)

Fixed componentry issues  
The turns are too big and steep/fast for Grade 3. Significant speed and commitment is required to execute them - more skill and control than Intermediate (G3) riders should be expected to muster.

**We assess this trail as a Grade 4 (Advanced)** (harder than its marketed grade)

**Explanation/Justification**  
The huge turns on this trail require more skill and control than is reasonable to expect Intermediate riders to have. The slopes certainly exceed the maximum for Grade 3 but it's the length of steep trail while turning that is really rules out Grade 3. There is also a large jump on the trail at the bottom, with no B-line. If the Rec Aotearoa specification is applied to this jump, it too is Grade 4.

**Low hanging fruit**  
None really to achieve Grade 3. Grade 3 would be possible if the turns were benched and bermed more, and involved a lot less fall. This could not be achieved without major realignment and earthworks. While the RA standard is currently not clear, Grade 3 would also require removal of the jump or provision of a B-line. The surface is roughing up; this could be easily resolved but is not necessary for Grade 4.

**Notes**  
This is a fun trail but a very committing one. It is the only trail giving direct access to The Landing from above and as such, should ideally be Grade 3 as it is marketed since uphill access to The Landing is Grade 3 and there are Grade 3 trails beginning there. Better signposting to The Landing from Scenic Route (Southern) would help this, as would designating Autobahn as a 2-way trail.

# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date

### A. INVENTORY INFORMATION

Bike/conditions

Destination  Trail name

TLA (RTO)  Direction  Land owner   
 Configuration  Trail mgr

User(s)  Functions   
 User Priority

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
-	200	.21km	-	-	3.9km (?)	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
3	No sign	3	-	-	-	-

Anomalies in the information sources

Current official grade  Primary official source

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length)

Track configuration	Descending 1-way single track from the park's high point						
Length (m)	200	Start alt	240	End alt	217	Altitude change	-23

This track has an overall FALL of  which is nominally a Grade 2 (down)

Rise/fall, slope and nominal grade for a specific section

Description	0						
Length (m)	N/A	Start alt	0	End alt	0	Altitude change	0

This section has an overall rise of  so it's nominally a N/A

### D. GRADE ASSESSMENT

Fixed components grades:   
 (width, gradient and turn radius)

Fixed componentry issues  
 This trail is very difficult. Even if the turns were filled in their radii are very tight. Where there is a steep side slope there is minimal width.

**We assess this trail as a Grade 5 (Expert)** (harder than its marketed grade)

Explanation/Justification  
 The (severely eroded) condition of the turns on this trail, and their tightness means Expert-level skills are required on this trail.

Low hanging fruit  
 There is no low-hanging fruit. The turns could be repaired, probably with imported materials, but would still have severe slopes and Grade 5 radii. Only realignment would give a lower grade. Ore width is probably needed to for Grade 4 too.

Notes  
 Arguably, this trail adds little to the network in its position. Being so high and above the shelter of the forest means that like Mogwai it is very erosion prone.

# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date **4-Jul-23**

### A. INVENTORY INFORMATION

Bike/conditions **Hardtail, dry**

Destination **Wither Hills MTB Park** Trail name **Weezer Run**

TLA (RTO) **Marlborough District (Marlborough)** Direction **2-way** Land owner **Council**  
 Configuration **Linear/Point to Point** Trail mgr **Council**

User(s) **MTB only** Functions **Testing little fun trail providing an exit option near the main entry.**  
 User Priority **Bikers**

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
-	420m	400m	-	-	3.9km (?)	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
1	1	1	-	-	-	-

Anomalies in the information sources **Trailforks shows the name as Wheezer but the sign says Weezer.**

Current official grade **1 (Beginner)** Primary official source **Printed Medium**

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length) **-125.66667**

Track configuration **Easy exit and challenge/growth track parallel to Stockyard.**

Length (m) **377** Start alt **37** End alt **34** Altitude change **-3**

This track has an overall FALL of **1 in -125.7 or -0.46 degrees** which is nominally a **Grade 1 (down)**

Rise/fall, slope and nominal grade for a specific section **0**

Description **0**  
 Length (m) **N/A** Start alt **0** End alt **0** Altitude change **0**

This section has an overall rise of **Not applicable** so it's nominally a **N/A**

### D. GRADE ASSESSMENT

Fixed components grades: **Turns: None. Width: 2-3. Slopes: 1-3.**  
 (width, gradient and turn radius)

Fixed componentry issues  
 The trail is certainly too narrow for its grade. It rises and falls, nicely, but also too steeply. It would be acceptable for Grade 2 because riders build some momentum.

**We assess this trail as a Grade 3 (Intermediate)** (harder than its marketed grade)

Explanation/Justification  
 This is a current condition assessment and not a reflection of the fixed components. They cry out for this trail to be a perfect Novice challenge, with just a little bit of simple work.

Low hanging fruit  
 Trimming away grass to improve visibility and width would help a lot, as would periodic removal of round stones.

Notes  
 Widened and smoothed a bit, this wee trail could act as a really nice step-up for riders just getting the hang of Stockyard and/or Wiggles. In the longer term, applying binding gravel might give a bit more reliability.



# Marlborough District Off-Road Cycling Trails

## TRAIL GRADE ASSESSMENT REPORT

Assessment date

### A. INVENTORY INFORMATION

Bike/conditions

Destination

Trail name

TLA (RTO)

Select from drop-down menu

Direction   
Configuration

Land owner

Trail mgr

User(s)   
User Priority

Functions

Official length (m)	Other trail length information						
	Bike Computer	Riding App	Printed Medium	Entry Sign	Trailforks	Website	Other
-	-	-	-	-	587m	-	-

### B. CURRENT GRADE(S)

Official information sources				Unofficial/other sources		
Trailforks	Entry Sign	Printed Medium	Website	Classic MTB Rides book	Other	Other whom
1	1	1	-	-	-	-

Anomalies in the information sources

Current official grade

Primary official source

### C. SLOPE, AVERAGE SLOPE AND NOMINAL GRADE

Rise/fall, average slope and nominal grade (for the whole track, based on the working length)

Track configuration

Length (m)  Start alt  End alt  Altitude change

This track has an overall rise of  so it's nominally a N/A

Rise/fall, slope and nominal grade for a specific section

Description

Length (m)  Start alt  End alt  Altitude change

This section has an overall rise of  so it's nominally a N/A

### D. GRADE ASSESSMENT

Fixed components grades:   
(width, gradient and turn radius)

Fixed componentry issues

**We assess this trail as a Grade 2 (Novice)** (harder than its marketed grade)

Explanation/Justification

Low hanging fruit

Notes