



Bairnsdale Sporting Facilities Plan 2018

Volume 3 – Sports Grounds Assessment Report

December 2016



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Facilities Plan was supported by the
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About this document

This report is the Sports Grounds Assessment Report for the East Gippsland Shire's **Bairnsdale Sporting Facilities Plan 2018**. It is one of four accompanying reports:

- Volume 1 – Sporting Facilities Provision Framework (2018)
- Volume 2 – Sporting Facilities Condition Report (2017)
- Volume 4 - Stakeholder Consultation Report (2018)

The **Sporting Facilities Provision Framework (2018)** contains all information and research assessed and considered during the planning study, and outlines a new vision for the future provision of sport and active recreation in Bairnsdale. The report includes key directions for the most popular sports in Bairnsdale, and recommendations to improve sporting facilities at the major recreation reserves and at other key sporting facilities within the town.

The **Sporting Facilities Condition Report (2017)** provides a general assessment of the condition of 11 sporting facilities located in Bairnsdale, and makes recommendations for refurbishment and redevelopment. The facility assessment was undertaken with the aim of confirming the condition of selected sports buildings, identifying functional and compliance issues, and assessing preliminary opportunities for redevelopment.

The **Stakeholder Consultation Report (2018)** is a record of all meetings and workshops conducted with stakeholder groups during the study. This includes the first round of engagement conducted with all stakeholders during period 28 November to 2 December 2016, and subsequent meetings with selected groups to further investigate options and scenarios, receive feedback on concept plans, and to collaboratively develop proposed future directions. The information collected during the engagement processes was a significant informant to *Volume 1, Bairnsdale Sporting Facilities Provision Framework*.

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Sports Grounds Assessment

1 Background

The following 10 sportsfields in East Gippsland Shire were assessed by Endeavour Turf Professionals Pty Ltd (ETP Turf) to provide details of the current status of the playing surface as part of the Bairnsdale Sporting Facilities Plan being prepared by Simon Leisure Consulting:

- Bairnsdale City Oval 1 & Oval 2
- WORLD hockey fields
- Howitt Park Athletics & Soccer Fields
- Lucknow Recreation Reserve Oval 1 & Oval 2
- West Bairnsdale Oval
- Wy Yung Recreation Reserve Oval 1 & Oval 2

The assessment was conducted by ETP Turf on the 3rd & 4th November 2016.

This report provides the following information for each sportsfield:

- Condition rating for each playing surface
- Surface hardness assessment
- Acceptability of playing surface to use
- Existing infrastructure for the playing surface.
- Capital improvements
- Prioritising capital works.
- Improvements to consider to optimise usage.

This report documents and discusses these findings and their implications on current use and any future work that should be considered for these grounds.

2 Methodology

2.1 Playing Surface Condition Rating

The following criteria was assessed to determine the condition of the playing surface:

- Turf condition; including surface cover, turf density, health/vigour and evenness of cover
- Pest Incidence; including weeds, insects & pests
- Surface condition; including surface levels, soft & boggy areas, cracks, ruts
- Mowing practices; including mowing height, presence of scalping & clippings
- Extent of wear, including goals, corridor, associated with training, rest of surface
- Status of cricket pitch / turf wicket where they exist.

A rating from 1 to 10 has been recorded for each turf factor assessed, where a rating of 10 indicates excellent or no issue and a rating of 1 means major issue on the surface.

The condition rating for each sportsfield is the total score of all factors divided by the maximum possible score expressed as a percent.

A rating of 75% or greater indicates that the sportsfield is in an acceptable condition and is coping under the current level of use, prevailing weather conditions and management practices.

A rating of 90% or greater indicates that the sportsfield is in excellent condition.

A rating between 80% & 90% indicates that the sportsfield is in satisfactory condition.

A rating of between 75% & 80% indicates that the condition of the sportsfield is marginal and minor works are needed to maintain a satisfactory playing surface.

A rating of < 75% indicates that the sportsfield is in poor condition under the current level of use, weather conditions and management practices.

The assessment undertaken on each sportsfield concentrates on the playing surface and does not include:

- Inspecting signage, fences, light towers, flag poles etc so that their position does not interfere with players or cause injury.
- The suitability and condition of the irrigation system and any fixture around a sportsfield should be inspected regularly by a suitable qualified person.

2.2 Surface Hardness Assessment

The surface hardness was measured at 45 positions over the playing surface. The locations of each measurement are provided in Figure 1. The positions are based on the standard locations normally assessed by the AFL when determining surface hardness, and will help to highlight whether issues exist on specific areas on the playing surface.

The surface hardness was recorded after the 1st drop of the Clegg Impact Hammer.

Details of the criteria used to assess surface hardness are as follows:

Performance Indicator	Unacceptably Low	Low Normal	Preferred Range	High Normal	Unacceptably high
Surface Hardness (CIV)	<31	31-54	55-75	76-120	>120

Reference: AFL Grounds, Turf Managers Seminar, August 2014

Excessively soft (<31 CIV) indicates players will have footing problems and the ground will cut up under play and is relevant for all users.

Excessively hard (>120 CIV) indicates the ground has high injury potential and is of relevance for sports such as football, soccer, rugby, athletics etc. These grounds should be amended and or closed until hardness is acceptable (31 to 120 CIV). Excessive hardness is of less importance for cricket, baseball and softball.

Hard (>120 CIV) or soft (<31 CIV) patch (es) indicates acceptable average hardness but at least one area on the ground that is hard or soft. Remedial work may be required before these grounds are used.

2.3 Acceptability for Use

When determining if a sportsfield is in an acceptable condition for use it is essential that its hardness, surface condition and any comments are taken into account.

Football, Soccer & Rugby grounds are considered to be in an **unacceptable** condition for play if:

- They are extremely soft (< 40 CIV) or excessively hard (> 120 CIV).
- The surface condition is unacceptably low (< 70% of the maximum rating).
- The covering (mat or soil) over the wicket is considered unsafe, or,
- There is any one observation that renders the playing surface unsafe.

Hard patches are common in front of the goals, in the centre of the ground and in front of the clubrooms where training often occurs. Grounds that have isolated hard patches require remedial work, such as tyning, forking or watering, before use. Grounds that have isolated soft patches need time to dry out or require remedial work such as spreading sand or soil over the affected areas and rolling (i.e. compacting).

Cricket, Baseball and Softball grounds are considered to be in an **unacceptable** condition for play if;

- They are excessively soft (<40 CIV).
- The surface condition is unacceptably low (<70% of the maximum rating).
- The wicket/diamond is considered unsafe, or,
- There is any one observation that renders the playing surface unsafe.

Athletics running tracks are considered to be in an **unacceptable** condition for use if;

- They are excessively soft (<40 CIV) or excessively hard (>120 CIV).
- The surface condition is unacceptably low (<70% of the maximum rating), or,
- There is any one observation that renders the playing surface unsafe.

2.4 Existing Infrastructure for the Playing Surface

The following was assessed to determine the existing infrastructure and any deficiencies that currently exist on each sportsfield that was impacting on the level of use that each ground can cope with:

- Surface shape; adequate (dome, ridge, single slope), inadequate (undulating).
- Turf composition; warm season (couch, kikuyu), cool season.
- Subsurface drainage; adequate, inadequate.
- Irrigation; adequate, inadequate (does not exist).
- Soil conditions; adequate (sand-sandy loam), inadequate (heavy soil).
- Training lights; adequate, inadequate (limited or do not exist).
- Level of cricket pitch surface; satisfactory, unsatisfactory.

This will provide details of all of the deficiencies that need addressing to improve at the level of usage that each ground can cope with before the surface deteriorates to the extent that it is not acceptable to use.

2.5 Capital Improvements

The capital improvements were determined that will address the deficiencies that exist with the infrastructure on these grounds.

These include the following:

- Convert the surface to warm season grasses (couch or kikuyu) to improve their durability.
- Reshape/relevel the surface.
- Import suitable sand profile.
- Install subsurface drains.
- Install/upgrade irrigation.
- Install training lights.
- Re-instate cricket pitch to match surface levels.

This information will be used when prioritising capital improvements for each sportsfield, as well as determining improvements needed to meet the current level of use and to optimise usage if required in the future.

2.6 Prioritising Capital Improvements

The capital works required must be prioritised based on their importance, to ensure that the work can be conducted where required as soon as possible within the budgetary and time restraints.

The capital works required for each sportsfield is prioritised based on the following criteria:

- Current condition (using results of the condition rating).
- Seasonal Usage (all year round, winter or summer use only).
- Level of usage (high, medium or low level of usage).
- Level of competition being played (seniors or juniors)

Each sportsfield receives a score for each of the four criteria as detailed below, and these scores are summed.

The higher the total score the higher the priority for conducting the recommended long term capital works.

The priorities for the recommended works are rated as:

- High (> 29).
- Medium (20-29).
- Low (< 20).

Current Condition

Condition Rating	Score
> 95%	2
90 – 94%	4
85 – 89%	6
80 – 84%	8
75 – 79%	10
70 – 74%	12
65 – 69%	14
60 – 64%	16

Seasonal Usage

Seasonal Usage	Score
All year round	8
Winter use only	8
Summer use only	2
Not used	0

Weekly Use During Winter

Weekly Winter Use	Score
High	8
Moderate	4
Low	2
Not used	0

Highest Level of Competition Played in Either Season

Level of Competition	Score
Premier / District	6
Seniors	4
Juniors	2

2.7 Improvements to Meet Current Usage

This involves examining and prioritising the capital works required on those grounds identified as being in a poor condition, to improve them to the stage that they can cope with the current level of use.

2.8 Improvements to Optimise Usage

This involves examining and prioritising the capital works needed on the rest of the sportsfields to optimise their level of use if required in the future.

3 Results

Details of the surface condition assessment for each sportsfield is provided in Appendix 1. The surface condition assessment summarises the general details of each ground, condition rating, existing infrastructure, comments on its condition and recommendations.

3.1 Playing Surface Condition Rating

Details of the condition rating for each sportsfield are presented in Table 1.

Results are summarised as follows:

- All grounds had an acceptable condition rating, which was above 75%.
- The condition rating of Wy Yung Recreation Reserve Oval 1 was between 75 & 80%. The condition of this ground was considered to be marginal and required minor work to maintain it in an acceptable condition to cope with the current level of use.
- The condition rating of the following four grounds was between 80% & 90%:
 - Bairnsdale City Oval 2
 - WORLD hockey fields
 - Howitt Park Athletics Field
 - Lucknow Recreation Reserve Oval 1
 These grounds were considered to be in a satisfactory condition, and coping with the current level of use.
- The condition rating of the following five grounds was > 90%:
 - Bairnsdale City Oval 1
 - Howitt Park Soccer Field
 - Lucknow Recreation Reserve Oval 2
 - West Bairnsdale Oval
 - Wy Yung Recreation Reserve Oval 2
 These grounds were considered to be in an excellent condition, and coping with the current level of use.

The assessment also revealed the following:

- The turf cover ranged from satisfactory to excellent. However, weeds formed a large part of the turf cover on most of these grounds apart from Wy Yung Recreation Reserve Oval 1.
- The weeds present in most grounds included clover, medic, jo-jo and wireweed. These weeds blended in with the turf surface and were inconspicuous especially if mown prior to play, and do not impact on the quality of the playing surface. However, steps are needed to control the weeds and further improve the turf surface.
- Very few flatweeds existed in the surface apart from the west side of Bairnsdale City Oval 2.
- Weed control is needed to improve the quality of the turf cover, especially in Bairnsdale City Oval 2 and Lucknow Recreation Reserve Oval 2, where the weed species will have more impact on the quality of the turf playing surface.
- Paspalum formed part of the cover in Lucknow Recreation Reserve Oval 2.

- A patchy turf cover and appearance existed on Wy Yung Recreation Reserve Oval 1 and Oval 2.
- Oval 1 and Oval 2 at Wy Yung Recreation Reserve had recently been sprayed to selectively control all grass species in the surface, apart from couch. Sufficient couch remained in Oval 1 to cover, although some loss of cover was evident in the goals and corridor. Couch constituted no more than 45% of the turf cover on Oval 2. The rest of the surface was discolored, especially the kikuyu which existed. Large patches of kikuyu and other grasses have been controlled. It is likely that the kikuyu will recover and minimise the loss of cover in the surface. Otherwise there could be a loss of cover on the oval surface.
- Disease was identified on Bairnsdale City Oval 1.
- Surface levels were undulating in some areas on Lucknow Recreation Reserve Oval 2.
- The playing surface at West Bairnsdale Oval was quite flat and undulating, but battered towards the perimeter of the oval surface.
- Small undulations existed in the surface of Wy Yung Recreation Reserve Oval 1.
- A raised area existed towards the middle of the surface of Howitt Park Soccer Fields and corresponded to the location of a concrete pitch which had been removed from the site. This area is impacting on the quality of the playing surface and needs to be resolved.
- Clippings existed on the surface of WORLD hockey fields and indicated less frequent mowing on this ground.
- Evidence of wear and damage to the goal squares on:
 - Bairnsdale City Oval 1.
 - WORLD hockey fields.
 - Howitt Park Soccer Field.
 - Lucknow Recreation Reserve Oval 1.
 - West Bairnsdale Oval.
 - Wy Yung Recreation Reserve Oval 1.
- Wear in run-ups on Lucknow Recreation Reserve Oval 1.
- Damage caused by training on Wy Yung Recreation Reserve Oval 1.
- Evidence of compacted soil conditions on:
 - Lucknow Recreation Reserve Oval 1.
 - Wy Yung Recreation Reserve Oval 1.
- Shallow depth of topsoil on both grounds at Howitt Park.
- Poor cricket pitch surface and damage to the synthetic cover on:
 - Bairnsdale City Oval, Oval 2
 - Wy Yung Recreation Reserve Oval 2
- The cricket pitch was quite narrow on Lucknow Recreation Reserve Oval 1.
- The turf wicket surface was exceptional at Wy Yung Recreation Reserve Oval 1.
- The turf wicket surface was satisfactory on Bairnsdale City Oval 1 and Lucknow Recreation Reserve Oval.

3.2 Surface Hardness Assessment

A detailed record of results is attached in Appendix 2.

Below is a brief summary of those results.

Sportsfield	Clegg Impact Value (CIV)				
	Average	Minimum	Maximum	Std. Deviation	% Variation
Bairnsdale City Oval 1	81.6	60	190	20.1	10.58
Bairnsdale City Oval 2	72.2	50	110	12.0	10.90
WORLD hockey fields	80.2	60	140	14.7	10.5
Howitt Park Athletics Field	90.9	60	200	28.4	14.2
Howitt Park Soccer Field	84.9	60	140	20.2	14.42
Lucknow Recreation Reserve Oval 1	86.9	50	170	28.5	16.76
Lucknow Recreation Reserve Oval 2	100.9	50	140	24.2	17.29
West Bairnsdale Oval	70.2	40	120	15.4	12.83
Wy Yung Recreation Reserve Oval 1	78.9	50	280	33.1	11.82
Wy Yung Recreation Reserve Oval 2	54.7	40	70	8.1	11.57

Legend

Results are summarised as follows:

- The average surface hardness reading was acceptable for all grounds.

	Unacceptably Low	Low Normal	Preferred Range	High Normal	Unacceptably High
Hardness Rating	< 31	31 - 54	55 - 75	76 - 120	> 120

- Hard patches were recorded on:
 - Bairnsdale City Oval 1.
 - WORLD hockey fields.
 - Howitt Park Athletics Field.
 - Howitt Park Soccer Field.
 - Lucknow Recreation Reserve Oval 1.
 - Lucknow Recreation Reserve Oval 2.
 - Wy Yung Recreation Reserve Oval 1.
- Most of the hard patches were confined to the goal squares.
- All other readings fell within the preferred, low normal and high normal range.
- The variation in surface hardness was acceptable, having a % variation of less than 20%.

3.3 Acceptability for Use

Details of the acceptability of each ground for use is summarised below.

Sportsfield	Hardness		Surface Condition		Suitability for Use
	Average	Comment	Rating	Comment	
Bairnsdale City Oval 1	81.6	√	92.3	√	√
Bairnsdale City Oval 2	72.2	√	87.1	√	√
WORLD Hockey	80.2	√	89.1	√	√
Howitt Park Athletics Field	90.9	√	89.3	√	√
Howitt Park Soccer Field	84.9	√	91.6	√	√
Lucknow Recreation Reserve Oval 1	86.9	√	87.4	√	√
Lucknow Recreation Reserve Oval 2	100.9	√	92.6	√	√
West Bairnsdale Oval	70.2	√	91.3	√	√
Wy Yung Recreation Reserve Oval 1	78.9	√	79.9	√	√
Wy Yung Recreation Reserve Oval 2	54.7	√	91.3	√	√

Results revealed that all grounds are currently in an acceptable condition for play and have no critical issues with hardness and surface condition.

3.4 Existing Infrastructure for the Playing Surface

Details of the existing infrastructure for each sportsfield is provided in Appendix 1.

The deficiencies that exist that need addressing for each sportsfield is summarised in Table 2.

Table 2 highlights that most grounds suffer from 1 or more deficiencies with their existing infrastructure, although the least concern was on Bairnsdale City Oval 1.

Many of the deficiencies are not yet impacting significantly on the condition of these grounds, especially those that are coping with the current level of use. However, they will be important especially in those grounds that are not coping with the current level of use as well as those grounds where usage may change and possibly increase in the future.

Although deficiencies are detailed, it is unlikely that all of these will ever be conducted. It is difficult to justify some of these if the sportsfield is not considered a high priority or does not need to be used to its optimum.

The following grounds were identified with inadequate or no irrigation:

- Bairnsdale City Oval 2.
- WORLD hockey fields.
- Howitt Park Athletics Field.
- Howitt Park Soccer Field.
- Lucknow Recreation Reserve Oval 1.
- Lucknow Recreation Reserve Oval 2.
- West Bairnsdale Oval.
- Wy Yung Recreation Reserve Oval 1.
- Wy Yung Recreation Reserve Oval 2.

The lack of or an inadequate irrigation system is perhaps the major limiting factor on these grounds although it is currently not impacting on the condition of the grounds.

Limited (or no) lighting exists on the following grounds, and could be considered as a strategy to shift training from main grounds to spread the wear and also to minimise the extent of damage to the playing surface:

- Bairnsdale City Oval 2.
- Howitt Park Soccer Field.
- Wy Yung Recreation Reserve Oval 2.

3.5 Capital Improvements

Details of capital improvements that could be considered on each sportsfield are summarised in Table 3, however, this information has to be assessed in the context of projected demand and future usage levels, which are part of the broader Bairnsdale Sporting Facilities Plan.

Capital improvements are required on most grounds apart from Bairnsdale City Oval 1.

Capital improvements for consideration include:

- Converting the surface to warm season grasses to improve their durability.
- Reshaping the surface to improve surface drainage and runoff.
- Importing suitable sand to improve the suitability of the topsoil layer to support and cope with a greater level of use before the surface deteriorates.
- Installing subsurface drains to remove excess water from the surface and subsurface before it can impact on the playing surface.
- Upgrading/installing irrigation to assist in maintaining a satisfactory turf cover and conditions.
- Installing training lights to spread wear to minimise damage to the surface.
- Replacing synthetic surfaces on selected concrete cricket pitches.

These works will be important especially on grounds that are struggling to cope with the current level of use or where it is needed to optimise the use on a ground.

3.6 Prioritising Capital Improvements

Details of the rating and priority of capital works required on each sportsfield is presented in Table 4. This information will assist in determining the order and extent of works needed to be conducted, based on the importance of each ground.

The priority given to each sportsfield is summarised below

High Priority (30 – 40)	Medium Priority (20 – 29)	Low Priority (< 20)
	Wy Yung Recreation Reserve Oval 1 (25) Howitt Park Athletics Field (23) Lucknow Recreation Reserve Oval 1 (23) Bairnsdale City Oval 1 (22) West Bairnsdale Oval (22) WORLD hockey fields (21) Howitt Park Soccer Field (20)	Bairnsdale City Oval 2 (9) Lucknow Recreation Reserve Oval 2 (8) Wy Yung Recreation Reserve Oval 2 (8)

There are currently no sportsfields considered a high priority.

Although grounds have been categorised low, medium and high priority, ultimately usage levels or other issues may determine their priority in terms of any improvement. Other grounds may be re-categorised as their importance changes.

3.7 Improvements to Meet Current Usage

The assessment identified that no grounds are struggling to cope under the current level of use. However, the condition of Wy Yung Recreation Reserve Oval 1 was marginal and requires some improvement to cope with the current use.

3.8 Improvements to Optimise Usage

It is possible to optimise the levels of usage that grounds can cope with by improving their condition. Grounds will benefit from installing/upgrading irrigation systems.

4 Discussion and Recommendations

The assessment was conducted on 10 grounds and showed that the condition of all grounds was acceptable. The condition of Wy Yung Recreation Reserve Oval 1 was marginal, which was associated with the wet conditions from flooding during winter and the impact this had on the condition of the ground and in conjunction with use and traffic during these wet conditions.

The damage that was evident on the surface was indicative of heavy use, possibly from the susceptibility of the heavy soil type and poor soil draining properties during wet weather. The damage is indicative of training, with the bulk of the damage and wear in the south end closest to the pavilion.

The oval and the extent of management being conducted at the time of the assessment suggests that recovery of the playing surface on this ground is likely to be rapid. However, there were areas on this ground, in particular the south goal square that will be slow to recover because of the extent of damage and wear that had occurred. It is recommended to returf and repair any bare areas that exist on this ground as soon as practically possible.

The assessment has identified that these grounds were coping satisfactorily with the current level of use, the prevailing weather conditions and the level of management.

All of the grounds suffered from one or more deficiencies with their infrastructure, whether surface conditions, drainage, irrigation etc. In most cases these deficiencies were not greatly impacting on the condition of the playing surface. It is therefore possible to improve the condition of these grounds through capital improvements to the stage where they may cope with the current level of use they are receiving.

All grounds appear to have the capacity to cope with increased usage providing strategies are in place to address any deficiencies in the infrastructure that exist on these grounds.

The condition of most grounds will also benefit from changes in training practices. Many of the inspected grounds were showing signs of wear and even damage in front of the pavilion and in one or more of the goal squares. Examples of this include Bairnsdale City Oval 1, WORLD hockey fields, Howitt Park Soccer Field, West Bairnsdale Oval and Wy Yung Recreation Reserve Oval 1. The monitoring of training alone should be sufficient to improve the condition of most of the grounds identified as being marginal to the stage that they have an acceptable condition. However, any further improvement will involve capital improvements.

It is important to ensure that grounds that are being used to a large extent all year round have a satisfactory irrigation system. This is perhaps the major limiting factor on many of the grounds within Bairnsdale Shire, and will also impact on the usage levels that the grounds can cope with. The grounds that lack an irrigation system or have an inadequate irrigation system include all grounds except Bairnsdale City Oval 1.

While it may be difficult to justify the installation of irrigation on some grounds, there is no doubt the management and overall capacity that grounds can cope with will greatly improve by the installation of an appropriate irrigation system.

A number of grounds are currently not being used during winter, hence the reason why they are rating highly. These grounds include Bairnsdale City Oval 2, Lucknow Recreation Reserve Oval 2 and Wy Yung Recreation Reserve Oval 2.

Based on this sportsfield surface assessment, the following work is recommended to enable grounds to better cope with the current level of use, and also to further improve their capacity for use and ensure the playing surface remains safe.

- Monitor training on all grounds to spread wear and minimise damage to the surface.
- Repair/replace cricket pitches on:
 - Bairnsdale City Oval 2.
 - Lucknow Recreation Reserve Oval 1.
 - Wy Yung Recreation Reserve Oval 2.
- Install/upgrade irrigation in those grounds currently lacking irrigation including:
 - Bairnsdale City Oval 2.
 - WORLD hockey fields.
 - Howitt Park Athletics Field.
 - Howitt Park Soccer Field.
 - Lucknow Recreation Reserve Oval 1.
 - Lucknow Recreation Reserve Oval 2.
 - West Bairnsdale Oval.
 - Wy Yung Recreation Reserve Oval 1.
 - Wy Yung Recreation Reserve Oval 2.

- Improve surface levels on Lucknow Recreation Reserve Oval 2.
- Reshape & resurface West Bairnsdale Oval to optimise the playing surface for soccer.
- Repair/returf goal squares and/or any weakly grassed and bare areas on:
 - Bairnsdale City Oval 1.
 - WORLD hockey fields.
 - Howitt Park Athletics Field.
 - Howitt Park Soccer Field.
 - Lucknow Recreation Reserve Oval 1.
 - West Bairnsdale Oval.
 - Wy Yung Recreation Reserve Oval 1.
- Install additional training lights on:
 - Bairnsdale City Oval 2.
 - WORLD hockey fields.
 - Howitt Park Soccer Field.
 - West Bairnsdale Oval.
 - Wy Yung Recreation Reserve Oval 1.

It is possible to utilise and upgrade other sportsfields that will benefit the condition of other grounds. This is the case where more than 1 ground may exist on a reserve or in close proximity in terms of access and travel. These include Bairnsdale City Oval 2, Lucknow Recreation Reserve Oval 2 and Wy Yung Recreation Reserve Oval 2, which currently lack drainage, irrigation and lighting, but could be upgraded to provide relief to the Number 1 Grounds at each respective Reserve.

It will also be important to take into account Council's internal criteria. Council may determine its priorities for capital improvements around the determinants above and in addition also consider:

- Opportunities for increased usage and multi-use of facilities.
- Need to meet standards for sport played at the venue.
- Ability to attract external funding.
- Impact on maintenance and operational costs.
- Addressing gaps in current provision to meet community needs.
- Improving access and participation for target population groups.
- Increasing viability of site.

Please contact me directly if there are any questions regarding this report.

David McGeary
8th December 2016

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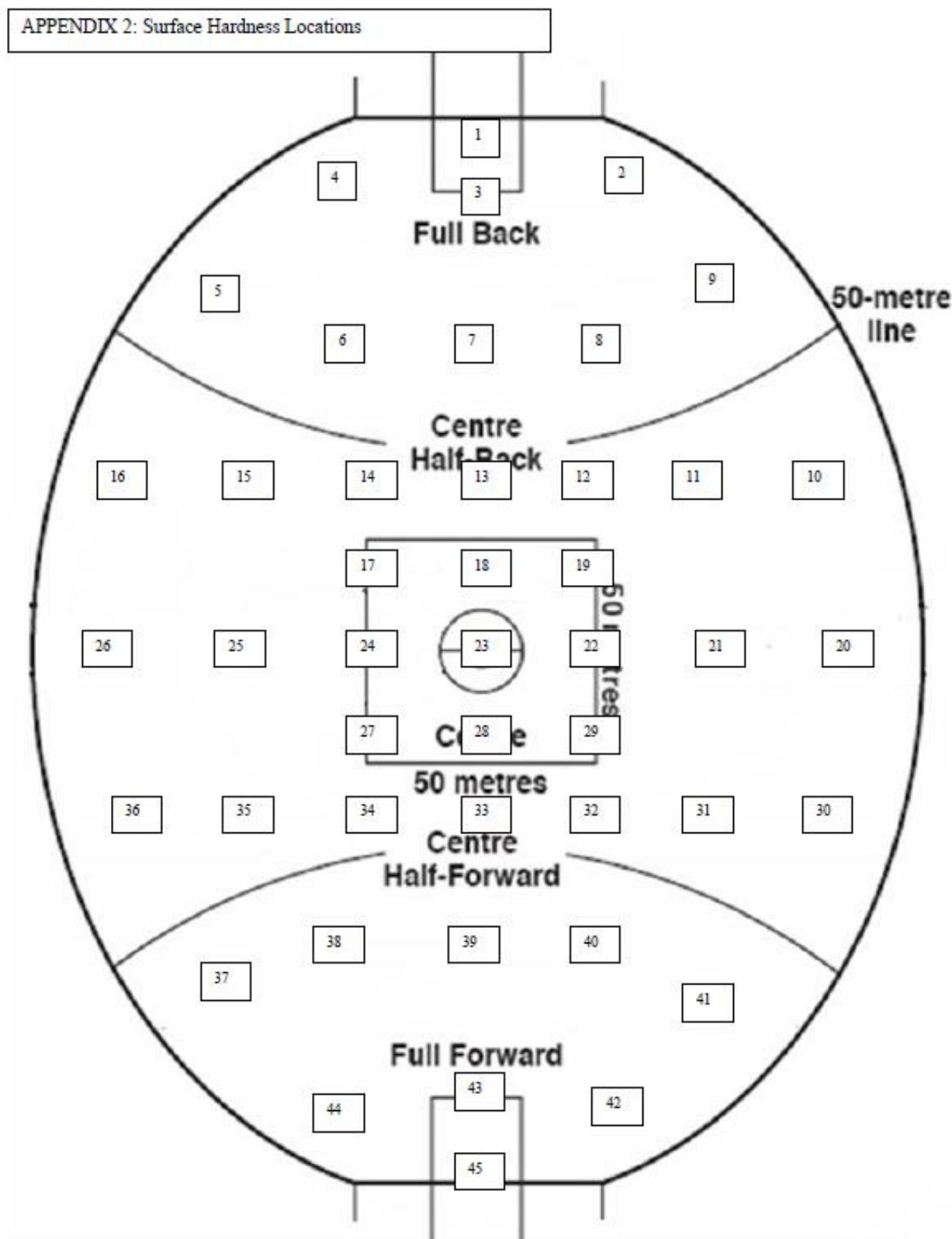
Figure 1: Site Assessment Plan

Table 1 Details of Condition Rating of Sportsfields

	Turf Condition				Pest Incidence		Surface Condition								Mowing			Extent of Wear					Soil Condition			Cricket Pitch		Condition Score
	Surface Cover	Turf Density	Health/Vigour	Evenness of Cover	Weed	Insect/Disease	Surface Levels	Boggy/Soft/Unstable	Holes/Cracks	Turf/Sparse Growth	Rutting/Pitting	Sunken Trenches	Wheel Ruts	Animal/Bird Damage	Grass Height	Mower Scalping	Clippings/Rubbish	Goals	Runups	Corridor	Rest of Surface	Training	Compaction	Thatch/Rootmat	Soil Depth/Layers	Pitch Condition	Pitch Levelness	
Weighting	40%	2%	2%	2%	2%	2%	5%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	100%
Bairnsdale City Oval 1	9.5	10	9	9	7	7	10	10	10	10	9	10	10	10	9	10	10	5	9	9	10	10	8	8	8	9	9	92.3
Bairnsdale City Oval 2	9.0	8	8	9	4	10	7	10	10	10	10	10	10	10	8	10	8	10	10	10	10	10	8	8	7	2	3	87.1
WORLD Hockey Fields	9.5	9	9	7	2	10	9	10	10	7	9	10	10	10	8	10	7	4		10	10	10	8	8	7			89.1
Howitt Park Athletics Field	9.0	9	9	9	5	10	9	10	10	7	10	10	10	10	10	10	9	7		7	10	10	8	8	8			89.3
Howitt Park Soccer Field	9.5	9	9	9	5	10	9	10	10	8	10	10	10	10	10	10	10	5		10	10	10	7	8	6			91.6
Lucknow Recreation Reserve Oval 1	9.5	9	9	9	6	9	9	10	10	7	10	10	10	10	9	10	9	3	6	9	10	9	6	8	5	8	5	87.4
Lucknow Recreation Reserve Oval 2	9.5	9	9	9	6	10	6	10	10	8	10	10	9	10	10	10	10	10	10	10	10	10	8	9	7	9	10	92.6
West Bairnsdale Oval	9.5	9	9	9	6	10	9	10	8	10	10	10	10	10	9	10	9	5		7	10	10	8	9	8			91.3
Wy Yung Recreation Reserve Oval 1	8.0	9	9	4	6	10	8	10	8	7	9	10	10	10	9	10	9	3	9	7	8	6	6	7	7	10	10	79.9
Wy Yung Recreation Reserve Oval 2	9.5	9	9	9	9	10	7	10	10	10	9	10	9	10	9	10	9	10	8	10	10	10	7	8	7	5	8	91.3

Condition Rating

Poor

Marginal

Satisfactory

Excellent

Table 2 Infrastructure Currently Deficient on Sportsfields

Sportsfield	Poor Turf Composition	Poor Surface Shape / Levels	Poor Soil Conditions	Inadequate Drainage	Inadequate Irrigation	Inadequate Lighting	Condition of Cricket Pitch
Bairnsdale City Oval 1				X			
Bairnsdale City Oval 2		X	X	X	X	X	X
WORLD Hockey Fields			X	X	X	X	
Howitt Park Athletics Field			X	X	X		
Howitt Park Soccer Field			X	X	X	X	
Lucknow Recreation Reserve Oval 1			X	X	X		X
Lucknow Recreation Reserve Oval 2		X	X	X	X		
West Bairnsdale Oval		X	X	X	X	X	
Wy Yung Recreation Reserve Oval 1			X	X	X	X	
Wy Yung Recreation Reserve Oval 2			X	X	X		X

Table 3 Capital Improvements Required on Sportsfields

Sportsfield	Convert to Warm Season Grass	Reshape / Relevel Surface	Import Sand Profile	Install Subsurface Drains	Install / Upgrade Irrigation	Install Training Lights	Upgrade/Repair Cricket Pitch
Bairnsdale City Oval 1				X			
Bairnsdale City Oval 2		X	X	X	X	X	X
WORLD Hockey Fields			X	X	X	X	
Howitt Park Athletics Field			X	X	X		
Howitt Park Soccer Field			X	X	X	X	
Lucknow Recreation Reserve Oval 1			X	X	X		X
Lucknow Recreation Reserve Oval 2	X	X	X	X	X	X	
West Bairnsdale Oval		X	X	X	X	X	
Wy Yung Recreation Reserve Oval 1			X	X		X	
Wy Yung Recreation Reserve Oval 2			X	X	X	X	X

Table 4 Details of Rating and Priority of Capital Works Required on Sportsfields for East Gippsland Shire

Sportsfield	Seasonal		Highest competition		Usage in winter		Condition Rating		Score	Priority
	Comment	Rating	Comment	Rating	Comment	Rating	Result (%)	Rating		
Bairnsdale City Oval 1	All Year	8	Senior	4	high	8	92.3	2	22	Medium
Bairnsdale City Oval 2	Summer	2	Senior	4	Not used	0	87.1	3	9	Low
WORLD Hockey Fields	Winter	8	Senior	4	High	8	89.1	3	23	Medium
Howitt Park Athletics Field	All Year	8	Senior	4	High	8	89.3	3	23	Medium
Howitt Park Soccer Field	All year	8	Junior	2	High	8	91.6	2	20	Medium
Lucknow Recreation Reserve Oval 1	All year	8	Senior	4	High	8	87.4	3	23	Medium
Lucknow Recreation Reserve Oval 2	Summer	2	Senior	4	Not used	0	92.6	2	8	Low
West Bairnsdale Oval	All year	8	Senior	4	High	8	91.3	2	22	Medium
Wy Yung Recreation Reserve Oval 1	All year	8	Senior	4	High	8	79.9	5	25	Medium
Wy Yung Recreation Reserve Oval 2	Summer	2	Senior	4	Not used	0	91.3	2	8	Low

APPENDIX 1

SURFACE CONDITION ASSESSMENT - BAIRNSDALE CITY OVAL 1

General	
Importance	High level cricket and AFL football Main oval in the municipality.
Turf ID	Mixed sward consisting of kikuyu, fine fescue, rye & small amount of Poa annua
Weed Species % & Type	<5%, consisting of clover & medic, no flatweeds, blending in well with turf
Surface Condition Rating	
Result	92.30%
Comments	Good overall condition Good turf cover, although weeds form part of the turf cover Disease evident in surface Smooth surface Good mowing practices evident Wear evident in north goal square resulting in loss of cover Wicket bench in good condition
Surface Hardness Assessment	
Result	81.6 CIV
Comments	Satisfactory in high normal range Hard patch in north goal square
Sportsfield Infrastructure	
Comments	Large oval surface (152m wide x 183m long). Contains 5 strip turf wicket bench. Good overall dome, apart from outer 7m which batters up to boundary fence and could be remnants of velodrome around oval surface. Sandy loam topsoil (200mm deep). Satisfactory automatic irrigation system. Limited subsurface drainage confined to perimeter drain. Good lighting surrounding oval.
Additional Comments	
	Good surface condition apart from hard and bare area in north goal square. Currently coping with level of usage (training plus games).
Recommendations	
	Replace/returf north goal square. Implement surface & subsurface aeration. Consider converting outfield to warm season grasses, preferably couch.

APPENDIX 1

SURFACE CONDITION ASSESSMENT - BAIRNSDALE CITY OVAL 2

General	
Importance	Low priority ground Limited use in winter Used for cricket over summer
Turf ID	Mixed sward consisting of kikuyu, rye & Poa annua
Weed Species % & Type	Large weed population (20-30%). Weeds dominate west side. Include capeweed, bindii.
Surface Condition Rating	
Result	87.10%
Comments	Good overall condition Good turf cover, although weeds form large part of the turf cover especially west side Cricket pitch in poor condition; exposed concrete in edge of pitch, damage evident to synthetic turf surface. Good mowing practices evident Wear evident in north goal square resulting in loss of cover
Surface Hardness Assessment	
Result	72.2 CIV
Comments	Satisfactory in preferred range No hard patches
Sportsfield Infrastructure	
Comments	Wide playing surface (110m long x 150m wide. Contains concrete pitch with synthetic turf surface. Appears to be dome shape although numerous uneven areas throughout Heavy soil type, loam topsoil (200mm deep). Inadequate irrigation system. Lacking subsurface drainage. No lighting.
Additional Comments	
	Receiving limited use. Satisfactory condition and coping well during spring Struggles to cope with winter use due to wet soil and surface conditions that can develop. Currently coping with level of usage (cricket training plus games).
Recommendations	
	Control weeds Tree root prune Implement surface & subsurface aeration. Improve surface shape Install irrigation system Install subsurface drainage Consider converting surface to warm season grasses, preferably couch.

APPENDIX 1 SURFACE CONDITION ASSESSMENT - WORLD HOCKEY FIELDS

General	
Importance	Used exclusively for hockey in winter
Turf ID	Mixed sward consisting mainly of cool season grasses (rye, Poa annua, fine fescue, bent) with very little kikuyu
Weed Species % & Type	Large weed problem (30%) consisting of clover, medic & flatweeds, all blend well with turf and forming good turf cover.
Surface Condition Rating	
Result	89.13%
Comments	Good overall condition Good turf cover, although weeds form large part of the turf cover Smooth surface Good mowing practices evident Weakly grassed & bare in goals.
Surface Hardness Assessment	
Result	80.2 CIV
Comments	Satisfactory in high normal range Hard patches
Sportsfield Infrastructure	
Comments	Large surface consisting of a number of fields (135m long x 184m wide). Good ridge shape on each field. Heavy & shallow soil conditions (60mm deep) consisting of loam topsoil and clay subgrade. Lacking adequate irrigation system. Lacking subsurface drainage although good surface runoff for each field. No lighting.
Additional Comments	
	Good surface condition apart from hard areas Currently coping with level of usage
Recommendations	
	Control weeds Replace/returf weakly grassed & bare goals Implement surface & subsurface aeration. Install irrigation system. Consider converting surface to warm season grasses, preferably couch. Install lighting.

APPENDIX 1

SURFACE CONDITION ASSESSMENT - HOWITT PARK ATHLETICS FIELD

General	
Importance	Used for athletics in summer & soccer all year round Currently used for soccer 7s over summer
Turf ID	Mixed sward containing large % of kikuyu with rye & fine fescue
Weed Species % & Type	Weeds form part of cover (25%), including clover, medic, flatweeds
Surface Condition Rating	
Result	89.34%
Comments	Good overall condition Good turf cover, although weeds form part of the turf cover Smooth surface Good mowing practices evident Wear evident in middle with some weakly grassed areas
Surface Hardness Assessment	
Result	90.2 CIV
Comments	Satisfactory in high normal range Hard patches in north end
Sportsfield Infrastructure	
Comments	Size restricted by athletics track surrounding surface (93m wide x 174m long). Satisfactory ridge shape that batters down in each end. Heavy & shallow soil conditions (130mm deep). Inadequate irrigation system. Lacking subsurface drainage. Good lighting surrounding ground. Bordered by bollards. Lines marking lanes 'burnt' into surface creating a potential injury risk.
Additional Comments	
	Good surface condition apart from hard areas in north end. Currently coping with level of usage (training plus games).
Recommendations	
	Control weeds Improve turf cover in middle Implement surface & subsurface aeration. Install irrigation system Consider converting surface to warm season grasses, preferably kikuyu.

APPENDIX 1**SURFACE CONDITION ASSESSMENT - HOWITT PARK SOCCER FIELD**

General	
Importance	Used for soccer all year round.
Turf ID	Warm season grasses, mainly kikuyu.
Weed Species % & Type	Weeds form large part of cover (25%), including clover, flatweeds, jo-jo, capeweed
Surface Condition Rating	
Result	91.61%
Comments	Good overall condition Good turf cover, although weeds form part of the turf cover Smooth surface apart from raised area corresponding to site of old cricket pitch Good mowing practices evident Wear evident in north goal
Surface Hardness Assessment	
Result	84.9 CIV
Comments	Satisfactory in high normal range Hard patch in north goal & corresponding to site of old cricket pitch.
Sportsfield Infrastructure	
Comments	Limited size (90m wide x 120m long). Verging on ridge shape. Heavy & shallow soil conditions (130mm) consisting of loam topsoil Inadequate irrigation system. Lacking subsurface drainage. No lighting.
Additional Comments	
	Good surface condition apart from hard areas in north end and corresponding to old cricket pitch site. Currently coping with level of usage (training plus games).
Recommendations	
	Control weeds Improve surface levels corresponding to old cricket pitch Implement surface & subsurface aeration. Install irrigation system Promote kikuyu in surface.

APPENDIX 1 SURFACE CONDITION ASSESSMENT - LUCKNOW RECREATION RESERVE OVAL 1

General	
Importance	Cricket and AFL football
Turf ID	Mixed sward consisting of kikuyu, fine fescue, rye & small amount of Poa annua
Weed Species % & Type	Moderate weed issue (15%) including clover.
Surface Condition Rating	
Result	87.41%
Comments	Good overall condition Good turf cover, although weeds form part of the turf cover Smooth surface Good mowing practices evident Wear evident in both goals and around pitch resulting in loss of cover Issue with level of cricket pitch (slightly proud)
Surface Hardness Assessment	
Result	86.9 CIV
Comments	Satisfactory in high normal range Hard patches through corridor
Sportsfield Infrastructure	
Comments	Large oval surface (130m wide x 169m long). Contains concrete cricket pitch although thin strip of synthetic turf on surface Good overall dome. Heavy & shallow soil conditions (100mm). Inadequate irrigation system. Limited subsurface drainage confined to perimeter drain. Good lighting surrounding oval. Synthetic pads in both access points near clubrooms
Additional Comments	
	Good surface condition apart from hard and bare area in north goal square. Currently coping with level of usage (training plus games).
Recommendations	
	Control weeds Replace/returf both goal squares & surrounding pitch. Implement surface & subsurface aeration. Upgrade irrigation system Upgrade cricket pitch. Consider converting outfield to warm season grasses, preferably couch.

APPENDIX 1 SURFACE CONDITION ASSESSMENT - LUCKNOW RECREATION RESERVE OVAL 2

General	
Importance	Cricket ground only Receives very little use over winter
Turf ID	Consists mainly of mixed sward, including couch, bent, fescue, Poa annua
Weed Species % & Type	15% weed population consisting mainly of clover & paspalum
Surface Condition Rating	
Result	92.60%
Comments	Good overall condition Good turf cover, although weeds form part of the turf cover Paspalum impacting on turf surface Good mowing practices evident Minimal wear Wicket bench in good condition
Surface Hardness Assessment	
Result	100.9 CIV
Comments	Satisfactory in high normal range Hard patches in north end
Sportsfield Infrastructure	
Comments	Large oval surface (139m wide x 144m long). Contains 5 strip turf wicket bench. Verges on single slope, although numerous undulations and imperfections in surface levels. Heavy & shallow soil conditions (130mm) consisting of sand silty topsoil Inadequate irrigation system. Lacking subsurface drainage No lighting.
Additional Comments	
	Good surface condition apart from hard areas in north end. Currently coping with level of usage (summer only).
Recommendations	
	Control weeds Install irrigation system Implement surface & subsurface aeration. Consider converting outfield to warm season grasses, preferably couch.

APPENDIX 1

SURFACE CONDITION ASSESSMENT - WEST BAIRNSDALE OVAL

General	
Importance	Previously used for cricket & AFL football Currently used exclusively for soccer
Turf ID	Mixed sward consisting of kikuyu, fine fescue, rye & small amount of Poa annua
Weed Species % & Type	Moderate weed population (15-20%) consisting of clover & medic, no flatweeds, blending in well with turf
Surface Condition Rating	
Result	91.30%
Comments	Good overall condition Good turf cover, although weeds form part of the turf cover Smooth surface Cracks evident in surface Good mowing practices evident Wear evident in north goal square resulting in loss of cover, also evident in corridor
Surface Hardness Assessment	
Result	70.2 CIV
Comments	Satisfactory in preferred range No hard patches in surface
Sportsfield Infrastructure	
Comments	Large oval surface (142m wide x 163m long). Mostly flat surface, with slight fall to east side Appears to be slight batter up to fence in edge of oval, indicating it may have been velodrome in past. Heavy & shallow depth of topsoil (150mm) Inadequate irrigation system. Limited subsurface drainage confined to perimeter drain. Limited lighting surrounding oval consisting of low lights. Surrounded by wooden fence
Additional Comments	
	Good surface condition apart from wear areas. Currently coping with level of usage (training plus games).
Recommendations	
	Reconfigure and modify surface to accommodate additional soccer pitches Modify surface shape & remove boundary fence Upgrade lighting Install irrigation Implement surface & subsurface aeration. Consider converting outfield to warm season grasses, preferably couch.

APPENDIX 1 SURFACE CONDITION ASSESSMENT - WY YUNG RECREATION RESERVE OVAL 1

General	
Importance	Cricket & AFL football Is a highly regarded cricket ground
Turf ID	Consists of couch Other grasses selectively removed
Weed Species % & Type	Weeds from part of cover (10%), including wireweed
Surface Condition Rating	
Result	79.90%
Comments	Poor condition Loss of cover in some areas, associated with recent herbicide applications to control/remove other grasses from surface Couch currently providing incomplete cover Evidence of wear and damage to surface during winter Bare in south end Associated with training especially in south end, as well as matches Ground prone to being wet during winter which makes surface more susceptible to damage Tiny ruts in surface Good mowing practices evident Wicket bench in excellent condition
Surface Hardness Assessment	
Result	78.9 CIV
Comments	Satisfactory in high normal range Excessively hard patch in south goal square
Sportsfield Infrastructure	
Comments	Large oval surface (147m wide x 181m long). Contains 5 strip turf wicket bench. Good overall dome surface. Poor soil conditions (130mm) consisting of silty loam topsoil Site prone to flooding, making it difficult to manage especially during wet weather Inadequate irrigation system. Limited subsurface drainage confined to perimeter drain. Limited lighting surrounding oval, consisting of low lights.
Additional Comments	
	Turf wicket bench is perhaps best in district Exhibiting more wear and damage to the surface than all other inspected sportsfields
Recommendations	
	Control weeds Promote complete couch cover Replace/returf south goal square and any other weakly grassed or bare areas. Implement surface & subsurface aeration. Install irrigation system Install subsurface drainage

APPENDIX 1 SURFACE CONDITION ASSESSMENT - WY YUNG RECREATION RESERVE OVAL 2

General	
Importance	Cricket ground only
Turf ID	Recently sprayed to selectively control grasses other than couch Kikuyu and couch present.
Weed Species % & Type	Very few weeds remaining in surface
Surface Condition Rating	
Result	91.30%
Comments	Good overall condition Good turf cover, although recently sprayed to remove grasses from surface to promote couch Kikuyu been affected by herbicide application but should recover Uneven surface especially near pitch Good mowing practices evident Minimal wear in surface Some damage to synthetic pitch covering.
Surface Hardness Assessment	
Result	54.7 CIV
Comments	Satisfactory in preferred range No hard patches
Sportsfield Infrastructure	
Comments	Large oval surface (126m wide x 144m long). Approaching dome shape with some undulations Poor soil conditions (shallow depth 130mm) consisting of silty loam topsoil Inadequate irrigation system. Limited subsurface drainage confined to perimeter drain. No lighting.
Additional Comments	
	Receiving very little use over winter
Recommendations	
	Surface may need work to repair turf cover should the grass struggle to recover from recent herbicide application Implement surface & subsurface aeration. Consider converting outfield to warm season grasses, preferably couch. Install irrigation system

APPENDIX 2 SURFACE HARDNESS ASSESSMENT – BAIRNSDALE CITY OVAL 1 (3/11/16)

Location	1st Drop (CIV)	Location	1st Drop (CIV)
T1 (East)	190	T26	70
T2	70	T27	80
T3	90	T28	80
T4	80	T29	90
T5	70	T30	60
T6	70	T31	60
T7	90	T32	70
T8	70	T33	90
T9	60	T34	70
T10	70	T35	70
T11	60	T36	80
T12	80	T37	80
T13	90	T38	80
T14	80	T39	80
T15	90	T40	70
T16	70	T41	70
T17	90	T42	70
T18	80	T43	100
T19	100	T44	90
T20	70	T45 (West)	90
T21	70	Average	81.6
T22	100	Minimum	60
T23 (Centre circle)	110	Maximum	190
T24	90	Std. Deviation	20.1
T25	80	% Variation	

*

	Unacceptably Low	Low Normal	Preferred Range	High Normal	Unacceptably High
Hardness Rating	< 31	31 - 54	55 - 75	77 - 120	> 120

APPENDIX 2 SURFACE HARDNESS ASSESSMENT – BAIRNSDALE CITY OVAL 2 (3/11/2016)

Location	1st Drop (CIV)	Location	1st Drop (CIV)
T1 (East)	70	T26	110
T2	70	T27	80
T3	70	T28	80
T4	60	T29	80
T5	70	T30	80
T6	60	T31	90
T7	60	T32	80
T8	70	T33	80
T9	70	T34	70
T10	60	T35	70
T11	70	T36	60
T12	60	T37	50
T13	60	T38	60
T14	60	T39	70
T15	60	T40	70
T16	60	T41	80
T17	80	T42	90
T18	90	T43	90
T19	70	T44	80
T20	70	T45 (West)	70
T21	60	Average	72.2
T22	70	Minimum	50
T23 (Centre circle)	70	Maximum	110
T24	70	Std. Deviation	12.0
T25	100	% Variation	

*

	Unacceptably Low	Low Normal	Preferred Range	High Normal	Unacceptably High
Hardness Rating	< 31	31 - 54	55 - 75	76 - 120	> 120

APPENDIX 2 SURFACE HARDNESS ASSESSMENT – WORLD HOCKEY FIELDS (3/11/2016)

Location	1st Drop (CIV)	Location	1st Drop (CIV)
T1 (East)	100	T26	70
T2	80	T27	80
T3	140	T28	70
T4	100	T29	70
T5	80	T30	70
T6	80	T31	80
T7	110	T32	90
T8	80	T33	90
T9	70	T34	80
T10	90	T35	80
T11	60	T36	70
T12	80	T37	70
T13	70	T38	70
T14	100	T39	70
T15	80	T40	60
T16	80	T41	80
T17	80	T42	70
T18	70	T43	110
T19	80	T44	80
T20	70	T45 (West)	90
T21	70	Average	80.2
T22	70	Minimum	60
T23 (Centre circle)	70	Maximum	140
T24	80	Std. Deviation	14.7
T25	70	% Variation	

*

	Unacceptably Low	Low Normal	Preferred Range	High Normal	Unacceptably High
Hardness Rating	< 31	31 - 54	55 - 75	76 – 120	> 120

APPENDIX 2 SURFACE HARDNESS ASSESSMENT – HOWITT PARK ATHLETICS FIELD (3/11/2016)

Location	1st Drop (CIV)	Location	1st Drop (CIV)
T1 (East)	120	T26	60
T2	200	T27	80
T3	160	T28	80
T4	90	T29	70
T5	70	T30	100
T6	60	T31	70
T7	110	T32	70
T8	150	T33	80
T9	120	T34	70
T10	90	T35	70
T11	100	T36	80
T12	90	T37	70
T13	100	T38	70
T14	80	T39	100
T15	70	T40	110
T16	70	T41	120
T17	70	T42	80
T18	80	T43	100
T19	80	T44	70
T20	120	T45 (West)	110
T21	110	Average	90.9
T22	70	Minimum	60
T23 (Centre circle)	90	Maximum	200
T24	70	Std. Deviation	28.4
T25	60	% Variation	

*

	Unacceptably Low	Low Normal	Preferred Range	High Normal	Unacceptably High
Hardness Rating	< 31	31 - 54	55 - 75	76 – 120	> 120

APPENDIX 2 SURFACE HARDNESS ASSESSMENT – HOWITT PARK SOCCER FIELD (3/11/2016)

Location	1st Drop (CIV)	Location	1st Drop (CIV)
T1 (East)	140	T26	90
T2	100	T27	90
T3	140	T28	80
T4	140	T29	80
T5	90	T30	70
T6	100	T31	60
T7	80	T32	70
T8	90	T33	70
T9	80	T34	80
T10	90	T35	80
T11	80	T36	70
T12	110	T37	80
T13	90	T38	80
T14	90	T39	80
T15	80	T40	60
T16	70	T41	70
T17	90	T42	60
T18	90	T43	60
T19	70	T44	70
T20	90	T45 (West)	70
T21	80	Average	84.9
T22	60	Minimum	60
T23 (Centre circle)	80	Maximum	140
T24	90	Std. Deviation	20.2
T25	130	% Variation	

*

	Unacceptably Low	Low Normal	Preferred Range	High Normal	Unacceptably High
Hardness Rating	< 31	31 - 54	55 - 75	76 - 120	> 120

APPENDIX 2 SURFACE HARDNESS ASSESSMENT – LUCKNOW RECREATION RESERVE OVAL 1 (3/11/2016)

Location	1st Drop (CIV)	Location	1st Drop (CIV)
T1 (East)	170	T26	100
T2	130	T27	60
T3	130	T28	100
T4	70	T29	60
T5	70	T30	60
T6	90	T31	60
T7	80	T32	50
T8	90	T33	140
T9	70	T34	120
T10	50	T35	60
T11	60	T36	60
T12	70	T37	60
T13	110	T38	100
T14	90	T39	110
T15	130	T40	70
T16	70	T41	70
T17	100	T42	70
T18	100	T43	90
T19	70	T44	70
T20	60	T45 (West)	120
T21	70	Average	86.9
T22	60	Minimum	50
T23 (Centre circle)	140	Maximum	170
T24	100	Std. Deviation	28.5
T25	100	% Variation	

	Unacceptably Low	Low Normal	Preferred Range	High Normal	Unacceptably High
Hardness Rating	< 31	31 - 54	55 - 75	78 - 120	> 120

APPENDIX 2 SURFACE HARDNESS ASSESSMENT – LUCKNOW RECREATION RESERVE OVAL 2 (3/11/2016)

Location	1st Drop (CIV)	Location	1st Drop (CIV)
T1 (East)	140	T26	70
T2	110	T27	80
T3	120	T28	110
T4	130	T29	50
T5	110	T30	60
T6	130	T31	60
T7	130	T32	110
T8	130	T33	120
T9	120	T34	110
T10	130	T35	100
T11	70	T36	70
T12	110	T37	110
T13	120	T38	80
T14	50	T39	80
T15	110	T40	90
T16	120	T41	100
T17	100	T42	100
T18	110	T43	60
T19	110	T44	90
T20	70	T45 (West)	120
T21	120	Average	100.9
T22	120	Minimum	50
T23 (Centre circle)	-	Maximum	140
T24	110	Std. Deviation	24.2
T25	100	% Variation	

	Unacceptably Low	Low Normal	Preferred Range	High Normal	Unacceptably High
Hardness Rating	< 31	31 - 54	55 - 75	77 - 120	> 120

APPENDIX 2 SURFACE HARDNESS ASSESSMENT – WEST BAIRNSDALE OVAL (3/11/2016)

Location	1st Drop (CIV)	Location	1st Drop (CIV)
T1 (East)	90	T26	60
T2	80	T27	70
T3	70	T28	70
T4	80	T29	50
T5	70	T30	60
T6	100	T31	70
T7	70	T32	60
T8	50	T33	80
T9	50	T34	90
T10	50	T35	70
T11	40	T36	60
T12	70	T37	60
T13	70	T38	100
T14	70	T39	80
T15	60	T40	70
T16	60	T41	80
T17	70	T42	80
T18	70	T43	70
T19	50	T44	80
T20	90	T45 (West)	120
T21	70	Average	70.2
T22	50	Minimum	40
T23 (Centre circle)	80	Maximum	120
T24	60	Std. Deviation	15.4
T25	60	% Variation	

*

	Unacceptably Low	Low Normal	Preferred Range	High Normal	Unacceptably High
Hardness Rating	< 31	31 - 54	55 - 75	77 - 120	> 120

APPENDIX 2 SURFACE HARDNESS ASSESSMENT – WY YUNG RECREATION RESERVE OVAL 1 (3/11/2016)

Location	1st Drop (CIV)	Location	1st Drop (CIV)
T1 (East)	100	T26	70
T2	70	T27	80
T3	90	T28	90
T4	70	T29	80
T5	60	T30	60
T6	70	T31	50
T7	80	T32	80
T8	60	T33	100
T9	60	T34	70
T10	60	T35	70
T11	60	T36	70
T12	70	T37	70
T13	80	T38	90
T14	70	T39	80
T15	70	T40	70
T16	70	T41	60
T17	70	T42	80
T18	80	T43	100
T19	80	T44	90
T20	60	T45 (West)	280
T21	70	Average	78.9
T22	80	Minimum	50
T23 (Centre circle)	-	Maximum	280
T24	80	Std. Deviation	33.1
T25	70	% Variation	

*

	Unacceptably Low	Low Normal	Preferred Range	High Normal	Unacceptably High
Hardness Rating	< 31	31 - 54	55 - 75	77 - 120	> 120

APPENDIX 2 SURFACE HARDNESS ASSESSMENT – WY YUNG RECREATION RESERVE OVAL 2 (3/11/2016)

Location	1st Drop (CIV)	Location	1st Drop (CIV)
T1 (East)	50	T26	60
T2	50	T27	60
T3	70	T28	70
T4	60	T29	60
T5	50	T30	60
T6	50	T31	60
T7	60	T32	40
T8	50	T33	50
T9	40	T34	60
T10	50	T35	60
T11	50	T36	70
T12	60	T37	60
T13	60	T38	60
T14	50	T39	50
T15	60	T40	40
T16	50	T41	50
T17	60	T42	50
T18	60	T43	50
T19	60	T44	60
T20	40	T45 (West)	60
T21	40	Average	54.7
T22	40	Minimum	40
T23 (Centre circle)	50	Maximum	70
T24	60	Std. Deviation	8.1
T25	60	% Variation	

*

	Unacceptably Low	Low Normal	Preferred Range	High Normal	Unacceptably High
Hardness Rating	< 31	31 - 54	55 - 75	77 - 120	> 120

APPENDIX 3 PHOTOGRAPHS (3/11/2016) – BAIRNSDALE CITY OVAL 1



Picture 1
Oval surface



Picture 2
Typical turf cover



Picture 3
Loss of cover in north end



Picture 4
Disease scars



Picture 5
Sodded strip



Picture 6
Turf wicket

APPENDIX 3 PHOTOGRAPHS (3/11/2016) – BAIRNSDALE CITY OVAL 2



Picture 1
Oval surface



Picture 2
Proximity of Shed and practice wickets



Picture 3
Cricket pitch



Picture 4
Impact of trees on west side



Picture 5
East side



Picture 6
Weeds in surface

APPENDIX 3 PHOTOGRAPHS (3/11/2016) – WORLD HOCKEY FIELDS



Picture 1
Playing surface



Picture 2
Playing surface



Picture 3
Weeds in surface



Picture 4
Swale between playing surfaces



Picture 5
Extent of grass clippings

APPENDIX 3 PHOTOGRAPHS (4/11/2016) – HOWITT PARK ATHLETICS FIELD



Picture 1
Playing surface



Picture 2
Impact of lane marking on track



Picture 3
Typical turf cover



Picture 4
Weaker cover in middle of field



Picture 5
Weeds in surface



Picture 6
Track and field

APPENDIX 3 PHOTOGRAPHS (4/11/2016) – HOWITT PARK SOCCER FIELD



Picture 1
Playing surface



Picture 2
Proliferation of weeds in surface



Picture 3
Extent of damage in edge of surface



Picture 4
Extent of wear in goal mouth



Picture 5
Previous location of cricket pitch



Picture 6
Small holes in surface

APPENDIX 3 PHOTOGRAPHS (4/11/2016) – LUCKNOW RECREATION RESERVE OVAL 1



Picture 1
Oval surface



Picture 2
Drainage pit in north end



Picture 3
Typical turf cover



Picture 4
Cricket pitch



Picture 5
North goal square



Picture 6
Turf cover

APPENDIX 3 PHOTOGRAPHS (4/11/2016) – LUCKNOW RECREATION RESERVE OVAL 2



Picture 1
Oval surface



Picture 2
Playing surface



Picture 3
Cover on quick coupling valve



Picture 4
Turf wicket



Picture 5
Outfield

APPENDIX 3 PHOTOGRAPHS (3/11/2016) – WEST BAIRNSDALE OVAL



Picture 1
Oval surface



Picture 2
Boundary fence



Picture 3
Typical turf cover



Picture 4
Swale in edge of playing surface



Picture 5
Drainage pit

APPENDIX 3 PHOTOGRAPHS (3/11/2016) – WY YUNG RECREATION RESERVE OVAL 1



Picture 1
Oval surface



Picture 2
Oval surface



Picture 3
Oval surface



Picture 4
Turf cover



Picture 5
Turf cover



Picture 6
Turf wicket

APPENDIX 3 PHOTOGRAPHS (3/11/2016) – WY YUNG RECREATION RESERVE OVAL 2



Picture 1
Oval surface



Picture 2
Oval surface



Picture 3
Extent of turf cover



Picture 4
Weed control



Picture 5
Cricket pitch



Picture 6
Damage to pitch surface