



Final Report

Developing a National Standard for Turf as an Erosion Control Measure

Graeme Drake
GED Advisory

Project Number: TU13034

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Summary3

Summary

1 Purpose

The purpose of this project was to utilize previous Hort Innovation funded turf research at the Redlands Research Station in Queensland to establish a new Australian Standard. This was successfully completed with the publication of AS 5181:2017, *Use and Installation of turf as an erosion, nutrient and sediment control measure* on 30 June 2017.

2 Methodology

This project was undertaken in to main parts:

- Part A - Prepare and submit a Project Proposal for an Australian Standard for approval by Standards Australia; and
- Part B – Undertake the formal standards development process to establish the new Australian Standard.

Part A required the review of previous research projects and the establishment of a net benefit case for the development of the new standard.

Part B required the formation by Standards Australia of a new national standards development committee, BD-107 *Turf*, and the development of the standard through several drafts (working drafts, public comment draft and ballot draft).

3 Part A – Preparation and submission of a Project Proposal for a new Australia Standard

To establish projects for the development of new Australian Standards, Standards Australia have a formal Project Proposal process that is undertaken three or four times a year. A formal Project Proposal Form is submitted by the proponent, which in the case of this project was Mr. Richard Stephens, Business Development Manager at Turf Australia.

The Project Proposal submitted included the following details:

Title of the proposed Australian Standard: Use of turf as an erosion and sediment control measure.

Scope of the proposal Australian Standard: This Australian Standard provides requirements for the use and installation of turf as an erosion and sediment control measure, especially during and after construction and building works. This Australian Standard includes requirements for initial site investigation and turf selection; turf installation, maintenance and disposal (if required); and requirements for subsequent contract sign-offs related to turf installation by contractors. This standard does not cover the growing, production or transportation of turf, or biosecurity issues.

As part of the Project Proposal three elements needed to be covered:

- Establishing the need for the proposal Australian Standard:** This section of the Project Proposal identified the problem that uncontrolled erosion and sediment discharge can degrade aquatic environments in creeks, streams, rivers and the coastal margin, and have an adverse effect on marine systems such as the Great Barrier Reef (CSIRO)¹. This was then linked to the jointly funded government and industry research has been completed at the Redlands Research Station that demonstrated the superior qualities of turf as an erosion and sediment control measure. Based on this research it was argued that it is now appropriate to transfer this knowledge into a more

¹ See CSIRO webpage: Managing gully erosion to reduce sediment runoff to the Great Barrier Reef (<http://csiro.au/Organisation-Structure/Flagships/Water-for-a-Healthy-Country-Flagship/Ecosystems-and-Contaminants/GBR-gully-erosion.aspx>)

practical and accessible form through an Australian Standard. This way the research outcomes can be used by designers, developers, public authorities, site engineers, contractors and subcontractors.

- b) **Establishing the net benefit to Australia of the proposed Australia Standard:** This required commentary on the benefit of the proposed Australian Standard from several perspectives including: Public Health and Safety; Social and Community Impact; Environmental Impact; Competition and Economic Impact.
- c) **Stakeholder support:** An extensive consultation exercise was undertaken to gain stakeholder support. At the time of submission of the proposal the following organizations had supported the proposal:

1 AgriScience Queensland, Department of Agriculture, Fisheries and Forestry, Queensland	6 Austroads	14 Lawn Doctor
2 Australian Institute of Architects	7 Coastal Turf	15 Lawn Solutions
3 Australian Institute of Landscape Architects	8 Engineers Australia	16 Master Builders Association (Queensland)
4 Australian Institute of Landscape Designers & Managers	9 Horticulture Australia Limited	17 Redlands Erosion and Sediment Control Facility
5 Australian Local	10 Housing Industry Association	18 Soil Science Australia
	11 Institute of Public Works Engineering Australasia	19 Turfgrass Producers International
	12 Jimboomba Turf Group	20 University of Queensland
	13 John Holland	21 University of Western Australia

The project proposal was submitted on 23 September 2014. Standards Australia approved the standards development project on 7 December 2015. For the record, the full Project Proposal is included as Appendix 1.

Part B – Development of a new Australian Standard

After the project proposal was accepted Standard Australia established a new national standards committee, BD-107 *Turf*, and the formal standards development process started. The Committee was chaired by Mr. Graeme Drake, who developed the project proposal on behalf of Turf Australia and Hort Innovation. Mr. Drake has a background in standards development.

The nominating organizations that joined the committee were (not all of these organizations actually nominated active experts):

1 Australian Chamber of Commerce and Industry	8 Australian Local Government Association
2 Australian Industry Group	9 AUSTROADS
3 Australian Institute of Architects	10 Civil Contractors Federation
4 Australian Institute of Building	11 Department of Agriculture and Water Resources (Australian Government)
5 Australian Institute of Horticulture Inc	12 Department of the Environment and Energy (Australian Government)
6 Australian Institute of Landscape Architects	13 Engineers Australia
7 Australian Institute of Landscape Designer & Managers	

14 For Information	22 Minerals Council of Australia
15 Great Barrier Reef Marine Park	23 Property Council of Australia
16 Horticulture Australia Limited	24 Soil Science Australia
17 Housing Industry Association	25 Sports Turf Association
18 Independent Chairperson (Australia)	26 Sports Turf Research Institute
19 Institute of Public Works Engineering Australasia	27 Turf Australia
20 International Erosion Control Association	28 University of Queensland
21 Master Builders Australia	29 University of Western Australia

The first meeting of BD-107 took place on 15 June 2016. A working draft was prepared prior to the meeting by the Chair, based on the Redlands Research and the *Turf Guide* booklet product by Queensland Turf. The working draft was reviewed and discussed with several points identified for further investigation and drafting.

A new working was then developed and reviewed and commented on by Committee members prior to the second meeting that took place on 19-20 September 2016. At this meeting, the text was stabilized and the Committee confirm the draft was ready for the public comment stage.

The public comment period took place over eight weeks from December 2016 to February 2017. A total of 55 public comments were received on the Public Comment Draft standard.

These were considered at the third BD-107 Committee meeting on 9 March 2017. The Committee managed to take resolve all comments and made further changes to the standard where required.

Subsequent to the meeting and after some editorial changes, inclusion of diagrams and updates to the turf selection table, a formal Ballot Draft standard was released to Committee members for ballot on 2 June 2017. The ballot closed on 19 with unanimous agreement.

The Australian Standard was subsequently published on 30 June 2017 as AS 5181:2017, *Use and Installation of turf as an erosion, nutrient and sediment control measure*. A copy is attached for the record as Appendix 2.

Appendices

- 1 Project Proposal for a new Australian Standard
- 2 AS 5181:2017, *Use and Installation of turf as an erosion, nutrient and sediment control measure*



Proposal Form - Standards Development Projects

Standards Australia is transitioning to an online project proposal form. If you would like to participate in online user testing of this form please email nsm@standards.org.au.

Version: 3.8
Issued: 18 July 2014

This form is to be completed for proposals to initiate projects to produce Australian or Australian/New Zealand Standards or other documents published by Standards Australia. This includes significantly modified adoptions of International Standards. If the proposal includes new or revised joint Australian/New Zealand Standards, Standards Australia will contact Standards New Zealand to ensure appropriate consultation with New Zealand stakeholders. For identical adoptions of International Standards please complete the [Proposal Form – Direct Text Adoptions](#).

Proposals for participation in international Standards development should use the [Proposal Form - Participation in International Standards Development Programs](#).

This form will take some time and care to complete. It is important that all sections are completed, and that stakeholder consultation is conducted and their input is incorporated. This ensures that Standards Australia is presented with the best information on which to prioritise its efforts across a range of sectors and proposals. It also helps to ensure that there is consensus from appropriate communities of interest on the need for and the importance of the Standard, and on the expectations, timetable and direction of the project. All these elements contribute to producing a quality document in the most efficient and quickest manner.

Please submit completed forms to mail@standards.org.au by the closing date advertised at: http://www.standards.org.au/StandardsDevelopment/Developing_Standards/Pages/Proposing-a-project.aspx

GUIDANCE

What information do I need to provide?

Section & Title	Requirement
Proponent Details	All proposals need to be submitted by an individual, preferably supported by a national organisation. Provide contact details to be used in any correspondence regarding the proposal.
1. Proposal Details	Specify the title, type, relevant sector(s) and type of work being proposed. If a program of work, further information should be provided in the appendix or attachments.
2. Summary and Demonstration of Net Benefit	Outline the need for, and Net Benefit impact of, the proposed work on the Australian community.
3. Harmonisation and Alignment	List existing related documents and alignment of proposed work to these documents.
4. Pathways for Standards Development	State the desired development pathway and who will fund the proposed work.
5. Stakeholder Support	Provide details of relevant stakeholders across interest groups, the consultation process undertaken and whether they support the proposal.
6. Risks and Dependencies	Highlight known risks and any dependencies that may impact successful completion of the proposed project/program.
7. Additional Information	Provide any additional information which may assist in consideration of the proposal.
8. Declaration	Confirm that all information within the proposal form is true and accurate.
Appendix A: Stakeholder Consultation	Identify the relevant Australian stakeholder organisations which may have an interest in this proposal and provide evidence of consultation and support.
Appendix B: Details of projects within a proposed program of work	Where required, provide details of projects in order of priority for development where multiple projects or a program of work is being proposed.
Appendix C: Project Complexity Matrix	Used for calculation of project complexity in Section 1 and Appendix B.

How do I submit a completed proposal?

- Complete a pre-submission check to ensure that:
 - ✓ All sections of the form are complete.
 - ✓ The Net Benefit case is fully articulated and, where possible, quantified.
 - ✓ Full stakeholder consultation has been conducted with evidence provided.
 - ✓ The declaration is complete.
 - ✓ All supporting documentation is attached to the proposal.
- Submit completed proposal along with all supporting documentation by email to mail@standards.org.au
- If for any reason, you are unable to submit this form by email, please contact Standards Australia (1800 035 822).

PROPOSAL FORM FOR STANDARDS DEVELOPMENT PROJECTS

Proposal Reference Number	<i>Standards Australia to Complete</i>
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Proponent Details

<i>Your name</i>	Richard Stephens
<i>Position</i>	Business & Industry Development Manager
<i>Name of employer</i>	Turf Australia
<i>Address</i>	PO Box 92
<i>Suburb</i>	Richmond
<i>State</i>	NSW
<i>Postcode</i>	2753
<i>Phone number</i>	02 4588 5735
<i>Fax number</i>	02 4588 5613
<i>Mobile number</i>	0404 817 903
<i>Email address</i>	bidm@turfaustralia.com.au
<i>Web address</i>	www.turfaustralia.com.au

Supporting/Nominating Organisation Details (if applicable)

<i>Name of proponent's national organisation supporting this proposal</i>	Turf Australia
<i>Contact officer at national organisation</i>	Anthony Muscat, President
<i>Contact details</i>	02 4588 5735

NOTE:

Standards Australia reserves the right to make public information relating to Standards development projects, including information contained within submitted proposal forms and the attached Net Benefit Case in part or in full.

In the event that Standards Australia publishes proposals on its website, this section and stakeholder contact details provided at Appendix A will not be included. However, with prior agreement, your contact details may be provided to interested parties wishing to contribute or comment on the proposal or the proposed project.

Proposal Reference Number

*Standards Australia to Complete***1. Proposal Details**

Proposal title Please provide the full and correct title of the proposed document(s).	Use of turf as an erosion and sediment control measure
Project Scope Briefly summarise what is being requested within this proposal. Please summarise the scope of the Standard(s) to be produced. Please outline any specific inclusions and exclusions. For programs of work, please include the scope of each project in sufficient detail at Appendix B.	The proposed scope of the standards is: <i>"This Australian Standard provides requirements for the use and installation of turf as an erosion and sediment control measure, especially during and after construction and building works.</i> <i>This Australian Standard includes requirements for initial site investigation and turf selection; turf installation, maintenance and disposal (if required); and requirements for subsequent contract sign-offs related to turf installation by contractors.</i> <i>This standard does not cover the growing, production or transportation of turf, or biosecurity issues.</i>
Project or program Please specify if this proposal covers a single project or multiple projects. If a program of work is proposed that covers multiple projects, please include details of each project in Appendix B.	The proposal covers a single project to produce one Australian Standard.
Project type Please indicate whether the project is a new document, amendment, revision or other. If other, please specify. If applicable, please provide the existing Australian or International Standard number and full title of the standard (e.g. AS, AS/NZS, ISO, IEC or other).	The project is for a new document.
Product type Please indicate whether the output of this project is to be a Standard, handbook, or other type of document.	The output of this project is to be an Australian Standard.
Committee Are you aware of an Australian or International technical committee working in this field? Please provide details, including any related committees that may be affected by this proposal.	No.
Scale of proposed work Please indicate the size/complexity rating of the proposed project/program, taking account of the size of the document, changes required, expected level of comment etc. For further information, please refer to Appendix C to this form.	Please select one of: <input checked="" type="radio"/> Complex <input checked="" type="radio"/> Large <input type="radio"/> Medium <input checked="" type="radio"/> Small <input type="radio"/> Simple

<p>Sector Please delete any non-relevant sectors. Select one or more from:</p>	<ul style="list-style-type: none"> • Agriculture, Forestry, Fishing and Food • Mining • Building and Construction • Water and Waste Services • Health and Community Services
<p>Relationship to legislation If the document is referenced in legislation in Australia (or New Zealand for joint documents), please provide details here. If so, is this as a primary or secondary reference?</p> <p><i>Note: If this Standard is a primary or secondary reference in the National Construction Code, please refer to the Protocol for the development of National Construction Code referenced documents available at: http://www.abcb.gov.au</i></p>	<p>There is no known direct relationship with legislation.</p> <p>The standard is intended to be a voluntary standard that may be called up in the design and contract specifications for building and construction works, and be used in contract management between project sponsors, site managers/engineers, contractors and subcontractors; and/or be called up in conditions associated with development approvals.</p>
<p>Conformity assessment Does this proposal include any conformity assessment requirements?</p> <p><i>Note: If conformity assessment requirements are being considered for inclusion, please note that an additional miscellaneous publication will be required, and should be included as a separate project item in Appendix B – conformity assessment requirements are <u>not</u> included in Australian Standards. Please see SG-006 Rules for the structure and drafting of Australian Standards for further information.</i></p>	<p>Yes/No</p> <p>If yes, please provide additional details as an attachment to this form. The request is to include:</p> <ul style="list-style-type: none"> • the reason for the inclusion; • why regulation is not addressing the matter; • the benefits to the Australian community from a safety aspect; • the benefits to the industry sector; • the cost to the community and to manufacturers; • the risk of its non-inclusion; • technical barriers to trade implications.

2. Summary and Demonstration of Net Benefit

All Australian Standards developed by Standards Australia must demonstrate a Net Benefit, i.e. the Standard must have an overall positive benefit to the Australian community. All proposals for new work must describe a clear need for a Standards solution and the anticipated Net Benefit in the form of a Net Benefit case. Further guidance is available within the [Standards Australia Guide to Net Benefit](#).

Note: Where a more detailed Net Benefit case is required, this may be attached separately.

<p>Need for the proposed work</p> <p>Please identify and provide evidence of the problem to be addressed, the goals and objectives of the proposed Standard(s), and demonstrate that it is justified and implementation is likely.</p>	<p>Turf is a natural product that when installed and maintained appropriately provides an effective erosion and sedimentation control measure, especially during and after construction and building works. Uncontrolled erosion and sediment discharge can degrade aquatic environments in creeks, streams, rivers and the coastal margin, and have an adverse effect on marine systems such as the Great Barrier Reef (CSIRO)¹.</p> <p>The latest Australian State of the Environment Report (2011) states <i>“Current rates of soil erosion by water across much of Australia now exceed soil formation rates by a factor of at least several hundred and, in some areas, several thousand. The latter areas will be severely degraded in less than a century”</i> (page 270), and continues to note <i>“The key to controlling soil erosion by water is the maintenance of a protective cover on the soil surface (e.g. living plants, litter, mulch)”</i> (page 274).</p> <p>Jointly funded government and industry research has been completed at the Redlands Research Station in Queensland that demonstrates the superior qualities of turf as an erosion and sediment control measure in certain situations. Based on this research it is now appropriate to transfer this knowledge from research and development into a more practical and accessible form in the format of an Australian Standard. This way it can be used by designers, developers, public authorities, site engineers, contractors and subcontractors. Implementation is likely as is evidenced by the support received for this proposal from a wide range of organisations as noted in Appendix A.</p>
<p>Alignment with national public policy</p> <p>Please identify and describe how your proposal</p>	<p>This proposal is in line with the National Water Quality Management Strategy (NWQMS) that was developed by</p>

¹ See CSIRO webpage: Managing gully erosion to reduce sediment runoff to the Great Barrier Reef (<http://csiro.au/Organisation-Structure/Flagships/Water-for-a-Healthy-Country-Flagship/Ecosystems-and-Contaminants/GBR-gully-erosion.aspx>)

fits with issues of current national or public policy interest.

Australian and New Zealand Governments in cooperation with State and Territory Governments. This strategy is currently overseen by the Standing Council on Environment and Water (SCEW). The NWQMS addresses the importance of erosion and sediment control in a number of subordinate guidelines and documents. This proposal is also in line with the Australian Government's 'Caring for our Country' policies which relate to maintaining water quality and soil conservation to ensure the ongoing productivity of Australia's rural, aquatic and marine industries.

Net Benefit

Please explain any potential positive and negative impacts, and where possible quantify the costs and benefits, of the proposed Standard(s) on different communities of interest in the following areas:

- *Public Health and Safety*

The proposed standard will have a positive impact on public health and safety. Greater use of turf to prevent or mitigate erosion and sediment run-off will contribute to more satisfactory localised management of adverse effects from building and construction works, such as sediment spill overs and runoff and unsightly landscape disturbance. Research has also established a positive link between 'green' urban spaces and mental health², and the use of turf in AS/NZ 4422 playgrounds as a safety measure³ which this standard will ultimately contribute to.

- *Social and Community Impact*

This proposed standard provides a positive social and community impact by providing purchasers/consumers with a base on which to select and use turf as an erosion and sediment control measure and to commission turf installation, especially when the purchaser/user does not have the expert knowledge on the subject. This is an important mechanism to correct 'asymmetries of information' that can result in purchases being disadvantaged by unethical suppliers. Also, application of this standard in community funded public works (e.g. drainage systems, parks, reserves, road and cycle corridors) is expected to result in higher levels of success in turf establishment, and the avoidance of the costs and waste associated with any necessary rework.

² Ian Alcock, Mathew P White, Benedict W. Wheeler, Lora E. Fleming, Michael H. Depledge; *Longitudinal Effects on Mental Health of Moving to Greener and Less Green Urban Areas*, Environmental Science & Technology, 2013; and Parks And Greenery Tied To Improved Mental Health In City-Dwellers.

³ *Playgrounds Set to Increase Green Space* by Todd Layt - <http://www.ozbreed.com.au/articles/playgrounds-set-to-increase-green-space.html>.

- *Environmental Impact*

This proposed standard will result in a positive impact for the environment. The research has shown turf to be a preferred method of erosion and sediment control in the right conditions. The standard will help avoid using turf when site and environmental conditions are not suitable and alternative technologies are best used instead. Research⁴ has identified the following environmental benefits of using turf, including erosion and sediment control:

- atmosphere quality – air pollution control and air quality improvement, oxygen generation, dust prevention and stabilisation and carbon sequestration and sinks;
- water quality – water filtration and purification, water run-off reduction and rainwater harvesting and entrapment and groundwater recharge;
- land quality – reduction in nutrient movement and loss, erosion control, soil improvement and restoration; biodegradation of synthetic organic compounds and alleviating heat island effects; and
- other benefits, including noise and glare reduction, fire prevention and biodiversity and ecosystem services.

- *Competition*

This proposed standard will facilitate a level playing field for competition between alternative erosion and sediment control technologies, and also between turf suppliers and installers. The standard will provide a neutral basis for the systematic consideration of site characteristics and environmental conditions, and where appropriate the subsequent selection and installation of turf. This will then allow turf to be sourced and used on the basis of normal market determinants (e.g. price, quality and timeliness) without compromising the original decision to use turf as the best viable option. Suppliers and installers of turf will also be able to differentiate themselves on the basis that they follow the standard while providing their services.

- *Economic Impact*

Once published this standard may lead to an increase in the use of turf as an erosion and sediment control

⁴ Ross Higginson and Peter McMaugh, *Literature Review on the Environmental, Social, and Health Benefits of Turfgrass*; BioScience Australia Pty Ltd, *Review of the Environmental Benefits of Turf*.

measure. There are approximately 400 turf production businesses throughout the country, employing some 80,000 people and valued nationally at over \$3 billion. The turf industry is a relatively labour intense industry, and any increase in the use of turf is likely to result in more jobs, especially in regional and rural areas, and a greater economic wealth for the country.

3. Harmonisation and Alignment

Related documentation

Please research and list any known industry, domestic, regional, other national or international standards, guides, codes and research related to the proposal.

The proposed standard is a complementary resource to the widely-used [Best Practice Erosion and Sediment Control \(BPESC\)](#) document published by the [International Erosion Control Association \(IECA\) Australasia Chapter](#). The BPESC is used extensively by state and local government authorities throughout Australia (both in their roles as asset developers and owners and as consent authorities). The document identifies turf as a suitable measure for erosion and sediment control.

Avoidance of duplication

How will the proposed document relate to any of the existing material listed above? Please address any apparent or actual duplication between the existing material and the proposed document(s).

The proposed standard will not duplicate the content of BPESC which covers erosion and sediment control generally. The proposed standard will instead provide a more detailed set of requirements on how turf may be used once that option has been selected after due consideration of the BPESC.

Alignment with International Standards

If there is an existing International Standard that covers the scope of this proposal, but is not being adopted, please clarify this position.

A search of International Standards has not identified any similar standard.

4. Pathway for Standards Development

Preferred development pathway

Please select one. If Other, please provide details of discussions with Standards Australia.

- Standards Australia Resourced
- ~~Committee Driven~~
- ~~Externally Funded~~
- Other

Committee capability and capacity

If there is an existing Standards Australia committee working in this field, please specify their capability and capacity to take on additional projects relating to this proposal, particularly relating to programs of work described at Appendix B.

It is understood there is no current Standards Australia committee working in this field.

Standards Australia process to be funded by Please select one.	<input type="radio"/> Proponent <input checked="" type="radio"/> Standards Australia <input type="radio"/> Other	If other, provide the name(s) of the parties who will provide funding for this proposed work.
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Note: For information on the various standards development pathways refer to:
<http://www.standards.org.au/DevelopingStandards/Developmentpathways.aspx>

5. Stakeholder Support

Consultation process Provide details on the consultation process undertaken in development of this proposal, including identified stakeholder groups and the outcomes. Please complete Appendix A and provide evidence of stakeholder support.	Please see Appendix A. Letters were sent to these organisations and in most cases subsequent consultation discussions were undertaken. Most organisations have expressed in principal support for this project, or have stated that the scope of this Standard is outside their interests. Please see Appendix A for further details.
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6. Risks and Dependencies

Risks Are there any key risks that you know of that may impact this project? <i>Note: Project risk does not include Standards Australia failing to approve this proposal.</i>	No.
Dependencies Are there any fundamental dependencies on this e.g. changes to legislation, publication or revision of a related Standard or the need to publish concurrently with an Australian or International Standard?	No.
Indicative timelines Taking into account the risks and dependencies identified above, and an average publication cycle of 12 months, please provide estimates of the duration of key project stages.	Estimated time to complete draft for public comment from project initiation: 12 months Estimated time to publication from project initiation: 18 months

7. Additional Information

Comments Please provide comments (if any) which support this proposal or assist its consideration.	-
Supporting documentation Please list (and attach) any information that supports this proposal or assists its consideration. If a working draft of the proposed document is available, please attach to this proposal.	<ul style="list-style-type: none"> • QLD DAFF - Turf Australia document 136 • Environmental benefits of turf • Redlands Research Station article
Funding declaration Are you aware of any direct or indirect funding for	To assist the Committee and Standard Australia's Project Manager during this project, Horticulture Australia Ltd will

this proposed work, other than employer support to attend and participate in meetings?

arrange for a competent Drafting Lead to be available. This Drafting Lead will be experienced with all of Standards Australia's Standardisation Guides, and with the writing of Australian Standards.

8. Declaration

Please check your proposal is complete, read and complete the declaration, then forward this proposal and any attached documents to Standards Australia at mail@standards.org.au. The named proponent is deemed to have approved the information contained within this proposal and this declaration. This is required prior to formal consideration of this proposal.

The information provided in this application is complete, true and accurate to the best of my knowledge. I believe the proposed Standard will result in Net Benefit* to Australia. I understand the requirements associated with the Standards development pathway selected. I have consulted with, and have the support of, national organisations with a relevant interest in this project.

Name of Proponent	Richard Stephens
Name of Nominating Organisation representative (if supported by a suitable national organisation)	Turf Australia
Date	23/09/2014

* As defined in Standard Australia's Guide to Net Benefit.

Appendix A: Stakeholder Consultation

Please identify the relevant Australian stakeholder organisations which have been consulted or which may have an interest in this proposal. All categories of stakeholders should be considered for consultation and participation, but all are not required. Evidence of consultation and stakeholder responses **must** be provided (organisation/company emails or letterhead only). If the proposal includes new or revised joint Australia/New Zealand Standards, Standards Australia will contact Standards New Zealand to ensure appropriate consultation with New Zealand stakeholders.

Key stakeholder groups	Organisation Name	Contact name	Position	Email	Do they agree with this proposal (Y/N)?
Research and academic organisations	University of Queensland	Dr Jitka Kochanek	Research Fellow, School of Agricultural and Food Sciences	j.kochanek@uq.edu.au	Y ^A
Research and academic organisations	University of Western Australia	Louise Barton	Associate Professor, School of Plant Biology	louise.barton@uwa.edu.au	Y ^T
Research and academic organisations	Horticulture Australia Limited	John Lloyd	Chief Executive Officer	john.lloyd@horticulture.com.au	Y ^B
Consumer interests	Choice	Alan Kirkland	Chief Executive Officer	alan@choice.com.au	- ¹
Government organisations	AgriScience Queensland, Department of Agriculture, Fisheries and Forestry, Queensland	John Chapman	Managing Director	john.chapman@daff.qld.gov.au	Y ^C
Regulatory and controlling bodies	Australian Local Government Association	Adrian Beresford-Wylie	Chief Executive	adrian.beresford-wylie@alga.asn.au	Y ^D
Technical associations	Australian Institute of Building	Robert Hunt	Chief Executive Officer	robert.hunt@aib.org.au	Awaiting response

Key stakeholder groups	Organisation Name	Contact name	Position	Email	Do they agree with this proposal (Y/N)?
Technical associations	Australian Institute of Landscape Designers & Managers	Maureen McKee	National Administrator	maureen.mckee@aildm.com.au	Y ^E
Technical associations	Housing Industry Association	Kristin Brookfield	Senior Executive Director, Building, Development & Environment	k.brookfield@hia.com.au	No objection ^F
Technical associations	Soil Science Australia	Gillian Kopittke	President	gld@soilscienceaustralia.org	Awaiting response
Technical associations	International Erosion Control Association	Rob Loch		rloch@landloch.com.au	Awaiting response
Technical associations	Institute of Public Works Engineering Australasia	Chris Champion	Consultant Chief Executive	chris.champion@ipwea.org	Y ^G
Professional associations	Engineers Australia	John Anderson	General Manager, Engineering Practice and CPD	FKethel@engineersaustralia.org.au	Y ^H
Professional associations	Australian Institute of Architects	Ross Clark	Chief Operating Officer	ross.clark@architecture.com.au	Y ^I
Professional associations	Master Builders Association (Queensland)	Rachael Vickers	Workplace Health & Safety/Environment Advisor	rachael.vickers@masterbuilders.asn.au	Y ^J
Professional associations	Planning Institute of Australia	Lauren Saunders	Reception	reception@planning.org.au	- ¹
Professional associations	Australian Institute of Landscape Architects	Shahana McKenzie	Chief Executive Officer	shahana.mckenzie@aila.org.au	Y ^K

Key stakeholder groups	Organisation Name	Contact name	Position	Email	Do they agree with this proposal (Y/N)?
Manufacturers' associations	Australian Chamber of Commerce and Industry	Marcela Bernal	Standards Coordinator	marcela.bernal@acci.asn.au	Awaiting response
Manufacturers' associations	Australian Industry Group	James Thomson	Senior Adviser - Standards and Regulation	james.thomson@aigroup.asn.au	Awaiting response
Suppliers' associations	Civil Contractors Federation	David Castledine	Chief Executive Officer	dcastledine@civilcontractors.com	Awaiting response
Suppliers' associations	Turfgrass Producers International	Melanie Stanton	Executive Director	mstanton@turfgrasssod.org	Y ^S
User and purchasing bodies	Australian Procurement and Construction Council	Teresa Scott	Executive Director	info@apcc.gic.au	Awaiting response
User and purchasing bodies	Austroads	Murray Kidnie	Chief Executive	mkidnie@austroads.com.au	Y ^L
User and purchasing bodies	Minerals Council of Australia	Jade Caboche	Executive Assistant to the Chief Executive & Deputy Chief Executive	Jade.Caboche@minerals.org.au	- ¹
User and purchasing bodies	Property Council of Australia	Charles Thomas	National Policy Manager for Sustainability and Regulation	CThomas@propertyoz.com.au	Awaiting response
Testing bodies	Redlands Erosion and Sediment Control Facility	Shane Holborn	Managing Director	admin@bioscienceaustralia.com	Y ^M
Auditing bodies	N/A				N/A
Certification bodies	N/A				N/A

Key stakeholder groups	Organisation Name	Contact name	Position	Email	Do they agree with this proposal (Y/N)?
Employer representative bodies	N/A				N/A
Unions and employee associations	N/A				N/A
Independent	Coastal Turf	Sarah-Jane Mason		coastalturf@optusnet.com.au	Y ^N
Independent	Jimboomba Turf Group	Lynn Davidson	Managing Director	lynn@jimboombaturf.com.au	Y ^O
Independent	John Holland	Ashleigh Botha		Ashleigh.Botha@jhq.com.au	Y ^P
Independent	Lawn Doctor	Bec Sellick		lawndirector@lawndirector.com.au	Y ^Q
Independent	Lawn Solutions	Simon Adermann		simon@lawnsolutionsaustralia.com.au	Y ^R
New Zealand	N/A				N/A

A-Q = Please see copies of responses in attached zip file.

¹ = Responses indicating outside of the organisations interests.

Appendix B: Details of projects within a proposed program of work

Where a program has been specified in Section 2, please provide details of projects in order of priority for development. If preferred, details can be provided in a separate file and attached to this proposal.

<i>Priority</i>	<i>Title</i>	<i>Committee</i>	<i>Pathway</i>	<i>Designation</i>	<i>Complexity Rating</i>	<i>Project type</i>	<i>Product type</i>	<i>Brief project scope and dependencies</i>
<i>e.g.</i>	<i>Information Technology – Personal Computers – Hard Drives</i>	<i>AB-123</i>	<i>Committee Driven</i>	<i>AS/ISO 1234</i>	<i>Small</i>	<i>Revision</i>	<i>Standard</i>	<i>Adoption of ISO 1234 as an Australian Standard. This Standard relies on the publication of AS1233.</i>
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								

Appendix C: Project Complexity Matrix

- Use this matrix to complete an initial assessment of project complexity.
- For each question, review the criteria and enter the appropriate Rating (1 to 5) for the project in the far right column.

#	Factor	Rating Number					Rating
		1	2	3	4	5	
1	What is the anticipated duration of the project?	< 3 months	3 - 6 months	6 - 24 months	2 - 3 years	> 3 years	3
2	What overall level of risk (technical risk, political risk and consensus risk) is associated with the project in the context of the committee?	Very Low	Low	Moderate	High	Very High	3
3	What level of overall technical complexity does the project have?	Very Low	Low	Moderate	High	Very High	4
4	What is the size of (the change to) the standard or the consensus document?	1-2 pages	2 - 20 pages	20-100 pages	100 - 300 pages	>300 pages	2
5	What is the expected level of public comment/adverse reaction to the project?	Very Low	Low	Moderate	High	Very High	2
TOTAL							14
COMPLEXITY RATING							Medium

Complexity Rating

If the total is **5**, apply the **Simple Complexity rating**.

If the total is **6 to 10**, apply the **Small Complexity rating**.

If the total is **11 to 15**, apply the **Medium Complexity rating**.

If the total is **16 to 20**, apply the **Large Complexity rating**.

If the total is **21 to 25**, apply the **Complex Complexity rating**.

Project Complexity Examples

Simple - Adoption, endorsement of an ISO standard with high consensus.

Small - Technical report with low complexity, low risk and low profile.

Medium - New standard or revision with moderate complexity and risk.

Large - New standard or revision with high complexity and risk.

Complex - New standard or revision with very high complexity, profile, risk and major references in legislation e.g. Wiring Rules Standard