Sustainable Golf Development – Voluntary Sustainability Standard

New Standard - Scoping Document and Terms of Reference

GEO Certified® - Development

Version: 1.4

Approval Date: 22nd February 2016

Official Language: English

[In case of inconsistency between translated versions, reference shall default to the official language version]
Focus of Standard
The Golf Environment Organization (GEO) is putting forward a proposed document for golf developments worldwide to maximize positive sustainability impacts. This is intended to set an international voluntary sustainability standard for golf developments. The establishment of a voluntary international standard for golf development provides the golf industry with a consolidated position on golf developments addressing sustainability issues.

Background to Approach
The ‘Sustainable Golf Development’ guidelines were consulted upon and drafted by GEO and various stakeholders in 2012 aimed at setting the context for sustainability in golf developments and to provide golf developments with a reference point on such matters. The guidelines were seen as the first step to establishing a platform to raise awareness and promote industry discussion on golf development sustainability issues.

Since 2012 GEO has been collaborating with several golf developments to field-test these guidelines, collecting data and feedback to help inform the drafting of an international voluntary sustainability standard for golf development. This has now been drafted under the title ‘New Golf Development Voluntary sustainability standard’ and the second round of public consultation process will begin in February 2016.

At the completion of the public consultation process, approval from the GEO Advisory Council and Board of Directors will be sought during the second quarter of 2016. Full adoption is targeted for second quarter of 2016. See section ‘Key Dates in the Consultation Process’ of this document for further details. Once the proposed voluntary international standard has been fully adopted there is potential for the formation of national working groups to consult and development national priorities as the need is identified.
Process

The development of the New Golf Development Voluntary Sustainability Standard (VSS) will follow GEO’s Standard-Setting Procedures (ref: A5 v3).
Technical Content
A summary of the 3 areas of sustainability in golf, which will be addressed in the VSS, is as follows:

- **Nature**
  - Ensures a close relationship between golf course and its landscape context including protection of the surrounding environment. Covers protecting and enhancing biodiversity, native habitats, landscape character of proposed development site, water and soil quality protection, site restoration, erosion and sedimentation control, reduction of impacts and mitigation measures.

- **Resources**
  - Ensures comprehensive understanding of local water environment and energy opportunities for proposed site. Covers sensitive and efficient application and collection of water, maximum use of precipitation, management of wider watershed, most efficient approaches to design, minimizing waste, encouraging use of renewable energy and reduction of demand on national energy grids.

- **Community**
  - Ensures an awareness of issues effecting local community & cultural interests and an ethical & efficient supply of materials to proposed site. Covers local stakeholder consultation, social equality, environmental stewardship, engagement with local community groups, material delivery distances, local employment, procurement policy, life-cycle of materials and support of credible certification of materials.

Purpose of the Voluntary Sustainability Standard
As a new golf development is being planned, the VSS can be used as guidance to a project team to ensure they are maximizing the potential sustainability gains for their new development.

The New Golf Developments VSS tries to find a balance between credibility and accessibility. Making the VSS too easily attainable will not encourage project teams to explore sustainability deeply enough. Making the VSS too challenging will likely result in it be ignored.

The VSS can be implemented in all regions worldwide and are designed to be complimentary to national legislation and priorities. This alignment will be ensured through the work and consultation GEO undertakes with national partners and expert working groups.

Standard setting is an iterative process with the process of reviewing and developing the standard continuing on a 5 yearly cycle to ensure the standard and practices associated keep pace with understanding and research in sustainability, industry changes and improvements in the overall standard of golf developments.

Relationship between the Voluntary sustainability standard and the GEO Certified® - Evaluation Criteria
The New Golf Development VSS are designed to inform new developments up until the point of opening day. At this point the new development should refer to the GEO Certified® - Evaluation Criteria for operations and management of the facility.
Consultation

How to Contribute
Parties interested in contributing during the consultation period may visit [www.golfenvironment.org/developments/consultation](http://www.golfenvironment.org/developments/consultation) to download the consultation pack and email their comments to ndconsultation@golfenvironment.org.

Stakeholder Mapping
An appropriate range and type of international, national and local stakeholders will be proactively contacted for their input on the proposed VSS. The following list outlines the relevant interest sectors and key stakeholders.

- Golf Bodies (Global Governing, National Federations, International and National Associations)
- Golf Industry Practitioners, including Golf Course Architects, Suppliers, Superintendents, Golf Course owners, consultants and employees.
- GEO Sustainability Associates Network
- NGO’s working in the areas of biodiversity, sustainability, community representation, water impact and pollution.
- Governmental and multilateral organisations concerned with sustainable development (e.g. EU, UN agencies, environmental ministries).

The Consultation process shall endeavor to reduce any barriers to involvement for groups, especially marginalized and disadvantaged groups.

Key Dates in the Consultation Process
Outline of anticipated key dates from drafting to approval and adoption:

<table>
<thead>
<tr>
<th>Event</th>
<th>Responsible Party</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drafting of New Golf Development VSS</td>
<td>GEO technical staff</td>
<td>December 2014</td>
</tr>
<tr>
<td>Prepare Scoping Documents</td>
<td>GEO Technical Staff</td>
<td></td>
</tr>
<tr>
<td>Open consultation – first round</td>
<td>Distribution to public and stakeholders</td>
<td>24 June 2015</td>
</tr>
<tr>
<td>Close of first round consultation</td>
<td></td>
<td>24 August 2015</td>
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<tr>
<td>Open consultation – second round</td>
<td>Distribution to public and stakeholders</td>
<td>February 2016</td>
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<tr>
<td>Close of second round consultation</td>
<td></td>
<td>March 2016</td>
</tr>
<tr>
<td>Internal consultation</td>
<td>Expert Group</td>
<td>March 2016</td>
</tr>
<tr>
<td>Approval</td>
<td>Credibility Council and GEO Board of Directors</td>
<td>April 2016</td>
</tr>
<tr>
<td>Anticipated adoption</td>
<td>GEO</td>
<td>April 2016</td>
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</tbody>
</table>
Following adoption of the standard, a synopsis of the consultation process, comments received and how they were addressed, shall be made available to involved and interested parties. The standard itself will be promptly and freely available on the GEO website, newsletters and through GEO’s partners.

During the public consultation awareness raising and engagement of a wide group of people will be sought through presence and literature available at industry trade shows; initial events targeted are situated in America, China and Europe, as well as creating links with organizations to help ensure wide knowledge and distribution of the consultation. Direct outreach to key organizations will be carried out to support this awareness raising and engagement effort.

**Decision-Making Process**

Decision-making within the Golf Development Expert Group shall be by consensus. Consensus for decision-making is defined as the absence of sustained opposition unless otherwise stated. When consensus is not obtained within the Golf Development Expert Group, the issue will be escalated to the GEO Advisory Council, and the alternate decision-making process will be enacted in accordance with the GEO’s Standard-Setting Procedures (ref: A5 v3).

This process aims to ensure a balance in decision-making and that no one-stakeholder group can control decision-making.
Objectives of Voluntary Sustainability Standard
The objective of the New Golf Development VSS is to ensure improvement in sustainability performance among new golf developments. The standard sits as one component of a wider Sustainability System for golf.

A summary of the objectives and scope of the proposed standard for each of the 3 areas of sustainability in golf are:

- **Landscape**
  - It is envisaged that the VSS can
    - increase the amount of biodiversity on developed sites
    - increase areas of realized native habitat
    - improve the integration with existing landscape character
    - ensure greater protection of soil and water quality
    - minimize the impact of construction work on local waterways

- **Resource**
  - It is envisaged that the VSS can
    - improve the understanding about a site’s water environment
    - implement efficient applications of water on the golf course
    - improve health and management of watersheds
    - increase use of renewable energy
    - implement efficient methods of design and construction to reduce material waste and fuel consumption

- **People**
  - It is envisaged that the VSS can
    - guarantee transparent stakeholder engagement in the development process
    - protect local communities and valued cultural interest
    - foster a sense of environmental stewardship carried into the operations and management of developed sites
    - provide greater opportunities of employment for local communities
    - improve public education and engagement with golf course landscape
    - enhance local supply chains and working conditions
Justification of Need
The aim of the New Golf Development VSS is to ensure new golf developments have an agreed common set of voluntary criteria to ensure positive sustainability impacts during all stages of a new golf development.

An analysis of comparable standards and criteria was carried out and the nearest examples that can be found are listed below:

The [USGBC– LEED BD+C](https://www.usgbc.org) Criteria - A comprehensive standard on built elements but there is no mention of golf course development and limited coverage of landscape and ecosystem impacts.

The [Living Building Challenge](https://livingbuildingchallenge.org) – A comprehensive standard similar to the USGBC – LEED system. A very stringent criteria but similarly to the USGBC-LEED system it is heavily focused on built elements and there is not enough golf course development applicable credits.

The [Sustainable SITES Initiative](https://sites/passionforgreen.com) – A landscape focused interpretation of the USGBC-LEED Systems. This comprehensive standard covers many landscape projects but does not specifically address, with sufficient awareness and suitability of criteria the interconnected issues and opportunities relating to golf developments, including major earthworks/soil disturbance, ecological services, playing requirements.

The [Audubon International Signature programme](https://www.audubon.org) – A golf guidance programme, partly educational and directly advisory that focuses mainly on landscape and nature conservation, centered on the development of a nature resource management plan. Minimal level of published consulted criteria, or information on auditing and project reporting.

There is a gap in the industry to improve golf development’s measurable sustainability performance, which has been identified through the road-testing of the guidelines and analysis of other currently available standards and criteria.
Assessment of Risks
A short overview of the risks of implementing the VSS and ways to mitigate these risks are as follows:

<table>
<thead>
<tr>
<th>Risk of implementation</th>
<th>Ways to Mitigate Risk</th>
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<tbody>
<tr>
<td>Falsification of Data</td>
<td>Continue with 3rd party verification and limiting the same 3rd party to only 3 verifications in a row for a given developer/club/architect.</td>
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<tr>
<td>Vague Standards and Misinterpretation</td>
<td>3rd party verifier assigned to individual developments to mentor.</td>
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<tr>
<td>Verifier becoming overly familiar with client</td>
<td>Verifier role to remain impartial. Key correspondence between verifier and a development is cc’d to GEO Cert. ltd. for impartiality assurance.</td>
</tr>
<tr>
<td>VSS becoming a barrier to trade</td>
<td>VSS written to be flexible enough to apply to range of scenarios.</td>
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<tr>
<td>Interpreted as being cost prohibitive</td>
<td>Clear reporting of the cost implication of sustainable solution impacts.</td>
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</tbody>
</table>

Expert Group Members:
The "Golf Development Expert Group" has been assembled by GEO to provide a multi-stakeholder decision-making body for the setting of the New Golf Development VSS. The aim is to create a balance of stakeholder groups that represent a range of technical, regional and issue-related expertise, to guide the VSS development process and content.

The terms of reference guidelines for the Expert Group can be found in GEO Governance Bodies (ref. A3.v 3).

The Expert Working Group Members are:

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Organization</th>
<th>Bio</th>
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</thead>
<tbody>
<tr>
<td>Jason Straka</td>
<td>Golf Course Architect</td>
<td>American Society of Golf Course Architects</td>
<td>An industry leader in environmental golf-course design, Jason Straka blends his formal education, rigorous professional training and considerable design experience to produce a tradition of excellence. Having been trained in the many facets of golf-course design, and with extensive design experience, he has shaped his specialty: integrating</td>
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<tr>
<td>Name</td>
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<td>Organization</td>
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<td>Justin Apel</td>
<td>Executive Director</td>
<td>Golf Course Builders Association of America</td>
<td>Justin Apel, a graduate from the University of Nebraska Lincoln, began his career working as a Legislative Aide to Senator Merton Dierks, chairman of the Nebraska State Agriculture Committee in the Nebraska capitol. After working in the statehouse, he was a registered lobbyist for the Nebraska Association of Resources Districts. He joined the Golf Course Builders Association of America in 2006 and in 2011 he was named executive director. Justin has helped lead the association in expanding their membership categories, while also participating on international initiatives that support the game. The association continues to grow both domestically and internationally now partnering in the China and Asia Golf shows. The association membership represents the builders who construct and renovate golf courses around the world, irrigation contractors, and the suppliers and consultants whose products are used in the construction process. Additionally, Justin is responsible for the association’s charitable arm, the GCBAA Foundation.</td>
</tr>
<tr>
<td>Tom Mackenzie</td>
<td>Golf Course Architect</td>
<td>European Institute of Golf Course Architects</td>
<td>Tom Mackenzie is one of the principals of the distinguished British golf course architecture firm of Mackenzie &amp; Ebert (M&amp;E). M&amp;E lend their design and consulting expertise to six out of the ten Open Championship venues as well as to almost fifty of the top hundred courses in Great Britain and Ireland.</td>
</tr>
<tr>
<td>Richard Holland</td>
<td>Director of Market Transformation</td>
<td>WWF</td>
<td>Richard Holland is Director of WWF’s Market Transformation Initiative, which aims to reduce the impact of global commodity production on priority places for biodiversity worldwide. Since joining WWF in 1998 he has also held the positions of Chief Conservation Officer at WWF Netherlands and Director of the WWF’s Global Freshwater Programme. Before WWF, Richard worked for Delft Hydraulics in the Netherlands, for UNDP in central Europe and for the European Commission’s Environment Directorate. He is a Chartered Environmentalist and Member of the Institute of</td>
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<tr>
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<td>Ross Perrett</td>
<td>Golf Course Architect</td>
<td>Society of Australian Golf Course Architects</td>
<td>After studying Architecture, Landscape Architecture and Turf Management, Ross established his own practice in architecture and landscape architecture in Melbourne, Australia. Having completed his Masters thesis on Golf Course Architecture and being a keen golfer, it was inevitable that he would steer his practice towards major land developments including golf resorts, housing estates and landscape master planning. In 1988, Ross became associated with Thomson Wolveridge &amp; Associates, providing golf design and documentation, project planning, landscape and architectural services to a variety of local and international projects. In 1991, Thomson Wolveridge &amp; Perrett was formed, subsequently becoming Thomson Perrett. Ross’ skills and enthusiasm have given the firm a further depth of understanding of the many and varied aspects of resort development including master planning, golf course design, architecture and landscape architecture. Ross is passionate about the role that land planners can play in arresting the current degradation of the planet. Of particular interest to him is the environmental responsibility that rests with the golf course designer and he has given numerous conference presentations on the subject. Ross is Past President of Society of Australian Golf Course Architects, promoting the importance of environmental awareness, and he is always seeking innovative solutions to an ever-increasing range of technical and environmentally sensitive issues.</td>
</tr>
<tr>
<td>Doctor Ziyun Dai</td>
<td>Professor</td>
<td>Beijing Forestry University</td>
<td>After receiving a PhD in Turf Science from Beijing Forestry University, Dr. Ziyun Dai is now carrying out postdoctoral research in Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences. His research focuses upon the ecological assessment and environmental planning of golf courses. As a member of Course Committee of China Golf Association, he is responsible for</td>
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| Robert Donkers | Former Coordinator for Urban Policy                                      | Directorate General Environment for the European Commission (Since June 2013) | From September 2007 until 1 January 2013 he was Minister Counselor for Environment at the Delegation of the European Union to India. He was posted in New Delhi and also covered Bhutan and Nepal.  
From October 2003 until September 2007, he was First Counselor for Environmental Affairs at the Delegation of the European Commission in Washington, DC, USA, and covered the US, Canada, Mexico and the UN in New York.  
From 1999 until October 2003, he was Head and Deputy Head respectively of the Chemicals Department in the Directorate General Environment of the European Commission in Brussels, inter alia responsible for the development of the new EU chemicals policy and legislation (aka REACH). He also was Chief EU negotiator for the 2001 Stockholm Convention on Persistent Organic Pollutants (POPs). He is co-author of the EU 5th Environment Action Programme (1993-2000) and was responsible for its review in 1995 and measures to implement the Programme, including the introduction of the Management Plan approach in DG XI.  
From 1982-1984, he worked as seconded expert for DG XI on Environment Impact Assessment.  
He holds a Master’s degree in Environmental Economics and a Master’s degree in Public and International Law from the Erasmus University Rotterdam, The Netherlands.  
He speaks Dutch, English, German, French and Spanish. |
| Doctor Sara Bevis | Senior Lecturer, Fenner School of Environment and Society | ANU College of Medicine, Biology and Environment | Dr Sara Beavis is a Senior Lecturer at the Fenner School of Environment and Society at the Australian National University where she teaches core courses for the water science major at undergraduate and graduate levels, and undertakes research on water and sediment interactions and water resources management. She has published numerous papers on water and sediment geochemistry, and the |
impacts of natural and anthropogenic processes on water quality and water security. Current research includes examining the impacts of climate variability on water security in the Pacific; wastewater management in coastal regions, the implications of climate variability and change on water and sediment quality in inland riverine environments, and the transport and fluxes of heavy metals associated with artisanal mining (in eastern Indonesia). Sara has undertaken assessments of golf courses relating to (i) water quality and transport pathways where recycled water (treated sewage effluent) has been used for irrigation; (ii) natural hydrological and geomorphic processes, and the on-site/down-catchment impacts of sediment transport, localised flooding and over-saturation of soils; and, (iii) built structures (dams/water storages; pipelines; water diversions; in-channel gabions) and their impacts on water and sediment flow paths. She also enjoys a game of golf when time permits.