GEO Certified®

GEO Certified® Report
Haesley Nine Bridges

Prepared by Independent Verifier, YS Beak

Certified by GEO Foundation: October 2020
Valid until: October 2023

GEO Foundation
Sustainability in and through golf

"Haesley Nine Bridges has continued to naturalise and extend non-management areas and their habitats have become richer as a result. Manual irrigation checks and controls have been introduced to lower the total amount of water used and avoid loss through leaks and wastage. The club continues to contribute to the local community well with several charity tournaments and volunteer events, and an industry - university collaboration for internships. The club also has several outreach programmes, while GEO certification is highlighted in employee education for the whole CJ Group, so sustainability principles are ingrained and at the forefront of employee induction. The CJ Cup in 2021 will be a great opportunity to promote sustainability worldwide, as was The CJ Cup @ Cheju in 2019."

YS Baek

GEO accredited Independent Verifier

Introduction

GEO Foundation is pleased to confirm that Haesley Nine Bridges has successfully achieved GEO Certified® status for its outstanding work to foster nature, conserve resources and support the community.

GEO Certified® is the most respected certification for golf, based on a credibly and transparently developed modern sustainability Standard of best practice.

Haesley Nine Bridges has:

1. Met the required certification criteria for sustainable golf operations
2. Successfully completed the official third-party verification process
3. Successfully passed the final evaluation by GEO Certification Ltd. (autonomous subsidiary of GEO Foundation)

GEO agreed with the conclusions of the official verification report, that, having achieved all mandatory criteria; and with specific Continual Improvement Points set for the future, Haesley Nine Bridges should be awarded GEO Certified® status.

For the certification period stated above, Haesley Nine Bridges can therefore claim a position as a leader in advancing sustainability in golf – making important contributions in protecting nature, conserving resources and strengthening communities.

The GEO Certified® Report that follows comments on the actions undertaken against the criteria, as observed by the Independent Verifier during the assurance process.

Certification is nearly always the result of a dedicated team effort resulting in many practical and valuable social and environmental results around the golf course, maintenance facility and clubhouse. These dedication and leadership qualities are an important part of ensuring the resilience of the golf facility and the golf industry into the future and also as part of society's wider effort to pull together for people and planet.

We congratulate all involved.

Jonathan Smith
Founder and Executive Director, GEO Foundation
GEO Certification Ltd. Board Member

Kelli Jerome
Executive Director, GEO Foundation

Richard Allison
Manager, GEO Certified Facilities

Verification and Certification

Verification

The official third-party audit was carried out by an independent verifier, accredited by GEO to undertake verifications of golf facilities applying for certification.

Verification involves reviewing practices and data, using the International Voluntary Standard for Sustainable Golf Operations as the guide to ensure comprehensive and consistent evaluation of performance. A detailed verification report is submitted for evaluation by GEO Certification Ltd, a subsidiary of GEO Foundation.

Certification

GEO Certification Ltd, an autonomous subsidiary of GEO Foundation [both not-for-profit entities], undertook a full review of all content submitted through the OnCourse® online platform and the report submitted by the verifier, ensuring:

- Comprehensiveness – that activities undertaken touched on all elements of the Standard
- Consistency – that the verification approach was balanced, well weighted and with consistent depth of evaluation across each theme
- Accuracy - matching the verification report with evidence submitted by the golf facility to ensure statements and claims were accurate

GEO Foundation is an international not-for-profit founded to advocate, support and reward sustainability in and through golf. Over more than ten years, the group has worked collaboratively with dozens of golf industry associations and government and non-government organisations around the world, to help golf become a sustainability leader, striving for a net positive social and environmental impact. In addition to managing and assuring GEO Certified®, GEO Foundation also provides a suite of credible, practical programmes for golf facility management, new golf developments and golf tournaments called OnCourse®, often delivered in partnership with national golf bodies. Find out more at **www.sustainable.golf**

Credibility

GEO Certified® is part of the ISEAL Alliance, a group of the world's foremost credible certification systems including Fairtrade, Rainforest Alliance, Forest Stewardship Council, Marine Stewardship Council and many others. GEO Foundation earned and retains full membership of the ISEAL Alliance global association following a rigorous evaluation against the ISEAL Codes of Credibility in Sustainability Standards and Certification. The ISEAL Codes cover standard-setting, assurance, and monitoring and evaluation. Find out more at **www.isealalliance.org**

The Sustainability Agenda for golf covers the following themes and action areas:

THEMES	ACTION AREAS
Nature	• Habitats & Biodiversity • Turfgrass management • Pollution prevention
Resources	• Water • Energy • Materials
Community	• Partnerships & Outreach • Golfing & Employment • Advocacy & Communications

Included below are the observations made by the Independent Verifier against each item in the Standard.

NATURE

N1 Habitats and Biodiversity

Objectives	Requirements	Mandatory Practices	Verifier Notes
N1.1 Understand the site and surroundings	**N1.1.1 Sound understanding of the nature and landscape value of the site**	Map all habitats and vegetation types on the site; Regularly update landscape / biodiversity surveys	Haesley Nine Bridges has a good understanding of habitats, landscape areas and species present **Continual Improvement Points** Finalize land use plan.

		N1.1.2 Knowledge of legal designations for protected areas, habitats and species	Understand legal responsibilities for protected landscapes and species; Record and monitor protected, endangered, or rare species found on the site	Two endangered species and one protected species were monitored during construction and after opening (2009). Bubo bubo (eagle-owl) habitat is on the retaining wall along the 16th fairway and successfully bred twice in 2019. **Continual Improvement Points** Marketing valuable biodiversity of the site to local community and club members.
		N1.1.3 Understanding and respect for cultural heritage	Protect any archaeological, historical or cultural designations on the site	During construction in 2008 the Koryo Dynasty Buddhist temple heritage site was excavated. A 3-story stone pagoda which was recovered under the guidance of heritage expert and two piles of roof tile were conserved and installed an information board. The cultural heritage office visits for verifying them once a year. **Continual Improvement Points** Discussing and developing the marketing method for the above heritage
	N1.2 Opportunities to naturalise the course	**N1.2.1 Measures taken to identify and minimise the required area of managed turfgrass**	Observe, track and / or monitor golfer play	PGA committee members visited the club and advised some course renovations including reducing playing area for playability of the CJ Cup tournament. Non-playing area has been enlarged following this advice. Managed turfgrass area has been minimized with treating mulching for shaded area and clustering scattered mulching areas throughout (2130m2) in 2020. Improved efficiency of turf management has been achieved with changing rough grass from Kentucky bluegrass into turfed tall Fescue. Playing grass quality has been improved due to this focus on priority areas and management cost reduced overall. **Continual Improvement Points** Continuing reducing managed turfgrass area and making a drawing correctly according to annual renovations.
	N1.3 Actively manage habitats for	**N1.3.1 Projects to manage habitats in the**	Regularly review and follow a habitat management plan;	Total rough and habitat areas have been increased since 2017: 94.83ha (2017), 95.17ha (2018), 95.19 (2019)

	wildlife	**best way for wildlife and golf**	Prioritise native species when planting and landscaping	Tree planting to hide artificial rock retaining wall along the #16 hole's fairway brought increasing biodiversity and growth population, i.e. Bubo bubo, Leopard cat and Hoopoe **Continual Improvement Points** Formalise habitat management planning. Monitoring endangered and protected species more regularly.
	N1.4 Conserve key species	**N1.4.1 Practical conservation measures for priority species**		**Continual Improvement Points** Implement landscape and biodiversity surveys by an environmental expert. Taking professional advice from experts for conserving measures of Bubo bubo.
	N2 Turfgrass			
	N2.1 Maintain optimum turf and soil health	**N2.1.1 Appropriate turfgrass varieties adapted to climatic and other geomorphological factors**	Select appropriate grass species for climate	Creeping bentgrass for greens, fairways, teeing ground and rough to keep members need for playing quality even though warm weather condition. Sub-Air and hydronics were installed under all teeing grounds and greens for the best golf course condition. Introducing manual irrigation method after inspection of grass moisture condition every morning to maintain optimum grass condition and avoid water leaks.
		N2.1.2 Practices to maintain good soil structure and condition		
		N2.1.3 Careful and responsible fertiliser application throughout the year to avoid over-fertilisation	Undertake soil tests and nutrient analysis	Implemented soil test and nutrient analysis for maintain proper soil condition.
	N2.2 Prioritise mechanical maintenance	**N2.2.1 Non-chemical pest, disease and weed management**	Sharpen mowing blades; Remove surface moisture; Hand weeding	The numbers of sharpen mowing blades are 16/year for greens, twice/year for tees and fairways.
	N2.3 Use chemicals responsibly	**N2.3.1 Application of chemicals only when**	Establish patterns and levels of risk for pests and diseases;	Course daily surveyed for signs and symptoms and diagnose

	necessary to prevent or cure defined / identified turf health issues	Scout the course daily for early signs of pests and disease; Accurate pest and disease identification; Map and track pest and disease hotspots; Establish pest and disease thresholds	accurately to determine the cause of weeds, pests and diseases. Implemented establishing thresholds for different areas of the golf course. **Continual Improvement Points** Improve mapping of pest and disease hot spots.
	N2.3.2 Application of chemicals with full safety precautions	Use only legally registered and approved products; Ensure staff are fully qualified and licenced to use pesticides; Regularly calibrate and test applicators; Use appropriate protective equipment; Dilute and dispose of leftover product on untreated areas of turf	Application of chemicals is done carefully with keeping buffer zones between lake edge and play area and avoiding all ecologically sensitive areas. Confirmed using legally registered and approved chemicals with reviewing chemical log. Confirmed licenced staff using chemicals with reviewing chemical log.
N3 Pollution Prevention			
N3.1 Prevent pollution across the entire site	**N3.1.1 Practical measures to ensure pollution risks are minimised from golf course operations**	Document procedures for emergency spill responses; Maintain mowing buffer zones around water and all ecologically sensitive areas; Maintain spraying and spreading buffer zones around water and all ecologically sensitive areas; Create a map / aerial visual reproduction, drawing etc of the course showing buffer zones and no-spray, no-spread areas.	Buffer zones around lake are increased. Lake water quality is managed and treated carefully and monitored regularly. It has been effective for maintaining lake water quality, Biological Oxygen Demand is reduced from 9.3 (2017) to 1.5 (2019) and Suspended Solids from 14.8 (2017) to 9 (2019). **Continual Improvement Points** Maintain spraying and spreading buffer zones around water and all ecologically sensitive areas after careful review of playing surfaces. Creating a new map of the course showing buffer zones, no-spray and no-spread areas.
	N3.1.2 Practical	Ensure all hazardous materials are safely	Confirmed

		measures to ensure pollution risks are minimised from clubhouse operations	and securely stored; Ensure compliance with all required standards and systems for hazardous waste and wastewater discharge	
		N3.1.3 Practical measures to ensure pollution risks are minimised from maintenance facility operations	Ensure wash areas are on impermeable, leak-free surfaces; Mixing and loading of pesticides and fertilisers over an impermeable surface; Triple rinse pesticide containers and applicators	Wash areas are on impermeable, leak-free surface. Several licensed companies are used for disposal of hazardous waste and collect them regularly.
	N3.2 Safely manage hazardous substances	**N3.2.1 Legal compliance in the storage, handling, application and safe disposal of all hazardous substances**	Maintain a register of hazardous materials available to authorised staff; Safe storage in secure and ventilated concrete or metal building; Sufficient storage capacity; Impermeable flooring; Spill containment kits present; Emergency wash area; Fire extinguisher in the immediate area; Secondary containment for fuel, either externally constructed, or integrally manufactured; Regular inspection of storage tanks	Maintenance facility and safe storage areas are recently renovated with 2-story building with roof. Lists of hazardous substances maintained and managed by authorised staff. Signs attached next to the storage building gate and confirmed who is the authority / emergency contacts. All storages are clean and installed very well. All wash areas are on impermeable and leak-free surface. Fuel storage tanks are installed in safety area and on impermeable, leak-free surface.
	N3.3 Responsibly manage waste / storm water	**N3.3.1 Appropriate wastewater usage and discharge licences**	Wastewater discharge licence; Appropriate treatment of machinery wash water (impermeable surface, oil / grease / clipping separation)	Confirmed swage water treatment network. All recycled water and storm water are using for irrigation.

RESOURCES

R1 Water

Objectives	Requirements	Mandatory Practices	Verifier Notes
R1.1 Minimise water demand	**R1.1.1 Measures to reduce the need to consume water**	Target irrigation to essential playing surfaces only	**Continual Improvement Points** Continuing reducing managed turfgrass area and making a drawing correctly.
R1.2 Maximise water efficiency	**R1.2.1 Practical measures to use water more efficiently on the golf course**	Conduct regular irrigation performance checks; Provide staff training on efficient irrigation practices; Ensure effective application of water to target areas; Ensure irrigation schedules are informed by weather patterns and soil moisture analysis	Manual irrigation method introduced after inspection of grass moisture condition every morning to maintain optimum grass condition and avoid water leaks. The club consistently attempts best practices to minimize irrigation, but the usage trend increased to 2019 due to course renovation works, climate, and CJ Cup tournament preparation. The amount of water use will become lower in time as the course renovation work becomes established. **Continual Improvement Points** Study and discuss for using water more efficiently, including agronomic decision making in turf management
	R1.2.2 Practical measures to use water more efficiently in buildings	Audit water use regularly; Review bills frequently and look for irregularities; Encourage water-saving practices amongst staff and visitors; Categorise and track water consumption	Water volumes carefully separated and monitored. **Continual Improvement Points** Predict next year water use reasonably and review it regularly.
R1.3 Source water responsibly	**R1.3.1 Measures towards alternative, lower quality sources of water**	Ensure appropriate water abstraction permit and reporting, as required	Two sources of water, ground water and Namhan River. Ground water is used for tap water for club house but Namhan River water source is used for irrigation.
R2 Energy			
R2.1 Reduce energy demand	**R2.1.1 Measures to reduce the amount of energy**	Minimise areas of managed turf to reduce mowing, irrigation, and turf	**Continual Improvement Points**

	consumed in course maintenance	inputs	Continuing reducing managed turfgrass area and making a drawing correctly according to annual works.
R2.2 Maximise energy efficiency	**R2.2.1 Measures to use energy and fuels more efficiently in buildings**	Audit energy use regularly; Regularly review bills; Categorise and track energy consumption	The club predicts that years' energy and fuel use in the beginning of the year and compares them with real consumption. Use is tracked very carefully and controlled. Total cost of electricity consumption is reduced from 2017 (587.431.000won) to 2019 (553,187.000won). 'Hamlet' project started in 2018 and finished in 2020. It includes several buildings, Laurel Hall (media center), Timber house (private lodge), Bridge Center (education, workshop center and the CJ Cup infrastructure), and Panorama Center (education, entertainment and the CJ cup infra). They are managed separately from golf facilities, but can provide good knowledge and experience for overall management.
R2.3 Source energy responsibly	**R2.3.1 Measures to source alternative, renewable forms of energy**	Determine potential sources of renewable energy in the area and on-site, through renewable energy providers	**Continual Improvement Points** Review more several renewable forms of energy Look for more locations to install on-site renewable energy, solar-PV panels.
R3 Materials			
R3.1 Reduce materials demand	**R3.1.1 Products and materials selection based on necessity, including opportunities for recycled, reused and locally sourced alternatives**	Undertake a review of materials consumed	Materials and products are identified and stored in different bins.
R3.2 Purchase responsibly	**R3.2.1 Practical use of an ethical / environmental purchasing policy**	Adopt a sustainable, or ethical / environmental purchasing policy to maximise the use of locally sourced goods and goods made from recycled, recyclable and certified	Local sourced goods are used for F&B, for example Yeoju rice. Local suppliers are hired to contribute to local economy even though they are more expensive.

		materials	
R3.3 Reuse and recycle	**R3.3.1 Waste stream separation for maximum recycling and re-use opportunity**	Demonstrate waste separation, reuse and recycling; Track how much waste goes to landfill, or is reused / recycled	The club has produced biodegradable plastic bags to contribute to conserving environment and recycling since 2019. The club delivers natural soap (which reuses waste coffee ground) to local community. It is among the first ethical donations in the Korean golf industry. **Continual Improvement Points** Should try to reduce the amount of food waste even though they are recycled.
R3.4 Demonstrate legal compliance	**R3.4.1 Compliance with all local and regional waste management regulations**	Use authorised waste and recycling contractor for general, hazardous, industrial and green waste	Confirmed

COMMUNITY

C1 Outreach

Objectives	Requirements	Mandatory Practices	Verifier Notes
C1.1 Diversify access and provide multi-functionality	**C1.1.1 Social and recreational activities at the facility**		The club hosts a wine market once or twice a year for its members and staff which is very popular. Furthermore, a wine dinner event will be planned which is hosted by a professional sommelier through employee welfare events. Haesley Nine Bridges will host the CJ Cup again in 2021.
C1.2 Provide for volunteering and charity	**C1.2.1 Opportunities available for volunteering and support of charities and good causes**		The club has hosted two kinds of volunteer events for local community and tried to continue, but forced to cancel in 2020 due to Covid-19.

	C1.3 Establish active community partnerships	**C1.3.1 Positive and constructive engagement with neighbours, the local community and other groups**	Create a 'sustainability working group'	The club hosts several charity tournaments to raise funds for local community. The club operates an industry - university collaboration program with two local universities and hired internship students from them.
	C2 Golfers & Employees			
	C2.1 Improve health and wellbeing	**C2.1.1 Benefits to human physical and mental health from golf and facility activities**		The club will make an arboretum near the 'Hamlet' complex for golfers and visitors. **Continual Improvement Points** Prioritise native plants and trees into the planned arboretum and provide educational signs
	C2.2 Be open and inclusive	**C2.2.1 Inclusivity and diversity in membership and visitor policies**	Demonstrate inclusive policies for members and visitors	Discussed and confirmed
	C2.3 Employ fairly and safely, and provide career opportunities	**C2.3.1 Ethical and legal employment, working conditions and professional development**	Follow all relevant national legislation and best practice for employment, health & safety etc	The club invests significantly in employee education and operates various education programs during golf off-season.
	C3 Communications			
	C3.1 Engage golfers and members	**C3.1.1 Communications activities that raise awareness and understanding amongst members and visitors**	Provide information on the facility's sustainability commitments, actions, or achievements	The club markets up-to-date information through the website, club magazine and iPad on every golf cart to members and visitors. **Continual Improvement Points** Have meetings of the sustainable committee regularly to share each team's works and new efforts to pursue sustainability. There are many opportunities to widely promote sustainability
	C3.2 Celebrate and promote sustainability	**C3.2.1 Activities that raise awareness and engage people in the wider community**	Provide evidence of external communications and community engagement	**Continual Improvement Points** Promote sustainability and certification achievements more widely and maximise PR at the CJ Cup again in 2021.

Golf and Sustainability

Among all sports, golf has a particularly close relationship with the environment and communities, golf facilities can bring many benefits to people and nature - from the protection of greenspace and conservation of biodiversity; healthy recreation for all ages; local supply chains; and jobs, tourism and other forms of economic value.

Adopting a more sustainable approach is also good for golf. It's about presenting a high-quality golf course and providing a memorable experience in natural surroundings. It's about being as efficient as possible. And it's about supporting the community in a range of ways that bring increased recognition, respect and contact.

At a broader level, it's important that golf credibly demonstrates its commitment, and its social and environmental value – strengthening the sport's image and reputation for the long term.

Golf facilities that participate in OnCourse®, an international sustainability initiative assured by the non-profit GEO Foundation, are taking a comprehensive approach and striving to be leaders in the community.

Find out more at www.sustainable.golf