



# **CSC HOLDINGS LIMITED**

(Company Registration Number: 199707845E)

## **Sustainability Report 2019**

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## Statement from our Board

The Board of Directors is proud to present CSC Holding Limited (“CSC”)’s Sustainability Report for the financial year ended 31 March 2019 (“FY19”), which formalises and demonstrates our commitment towards building a more sustainable future. Within the construction industry, we recognise the significant impact that our company can have on the economy, environment and society. As we stay focused on providing our capabilities in foundation and geotechnical engineering, we will deliver on that mission through taking a proactive approach to adopt sustainable practices and stay relevant through innovation.

Underscoring this importance, our Board directly oversees the company’s overall sustainability efforts, supported by an Executive Committee to identify material environmental, social and governance (“ESG”) matters in our strategic formulation and set sustainability policies and strategies.

This Sustainability Report complements our financial and corporate governance disclosures in our Annual Report as an expression of our firm belief in doing business with integrity and innovation to deliver quality services to our clients.

Moving forward, CSC Holdings will build on the foundation of this Sustainability Report and work with our stakeholders and business partners to continuously improve our business models and ESG performance to foster sustainable development.

## About this Report

This Sustainability Report sets out our efforts towards contributing to a sustainable built environment.

We have adhered to the principles set out in SGX Listing Rules for Sustainability Reporting and applied the Global Reporting Initiative (“GRI”) Reporting Principles for Defining Report Content and Quality.

We have chosen GRI Standards to be the reporting framework as it is very prescriptive and provides the needed guidance for us. Further, our peers too have adopted this. The report has been prepared in accordance with the GRI Standards: ‘Core’ option.

This report covers our significant operations in Singapore, our headquarters, and reflects our sustainability performance in FY19 relating to the following entities, with data from the previous year for comparison purposes (to the extent possible).

Entities	Principal Operations
L&M Foundation Specialist Pte Ltd (LMFS)	Foundation and Geotechnical Engineering Works
CS Construction & Geotechnical Pte Ltd (CSCG)	Foundation and Geotechnical Engineering Works
CS Bored Pile System Pte Ltd (CSBP)	Foundation and Geotechnical Engineering Works
DW Foundation Pte Ltd (DWF)	Foundation and Geotechnical Engineering Works

For future sustainability reporting, the Group will consider expanding our reporting scope to cover more of our operations in overseas markets. As our reporting matures, we will work towards seeking external assurance for our Sustainability Report.

We value feedback from all our stakeholders on this report. For any queries or comments on our sustainability practices, please contact Mr Lee Quang Loong at [lee.quangloong@cschl.com.sg](mailto:lee.quangloong@cschl.com.sg).

# Introduction

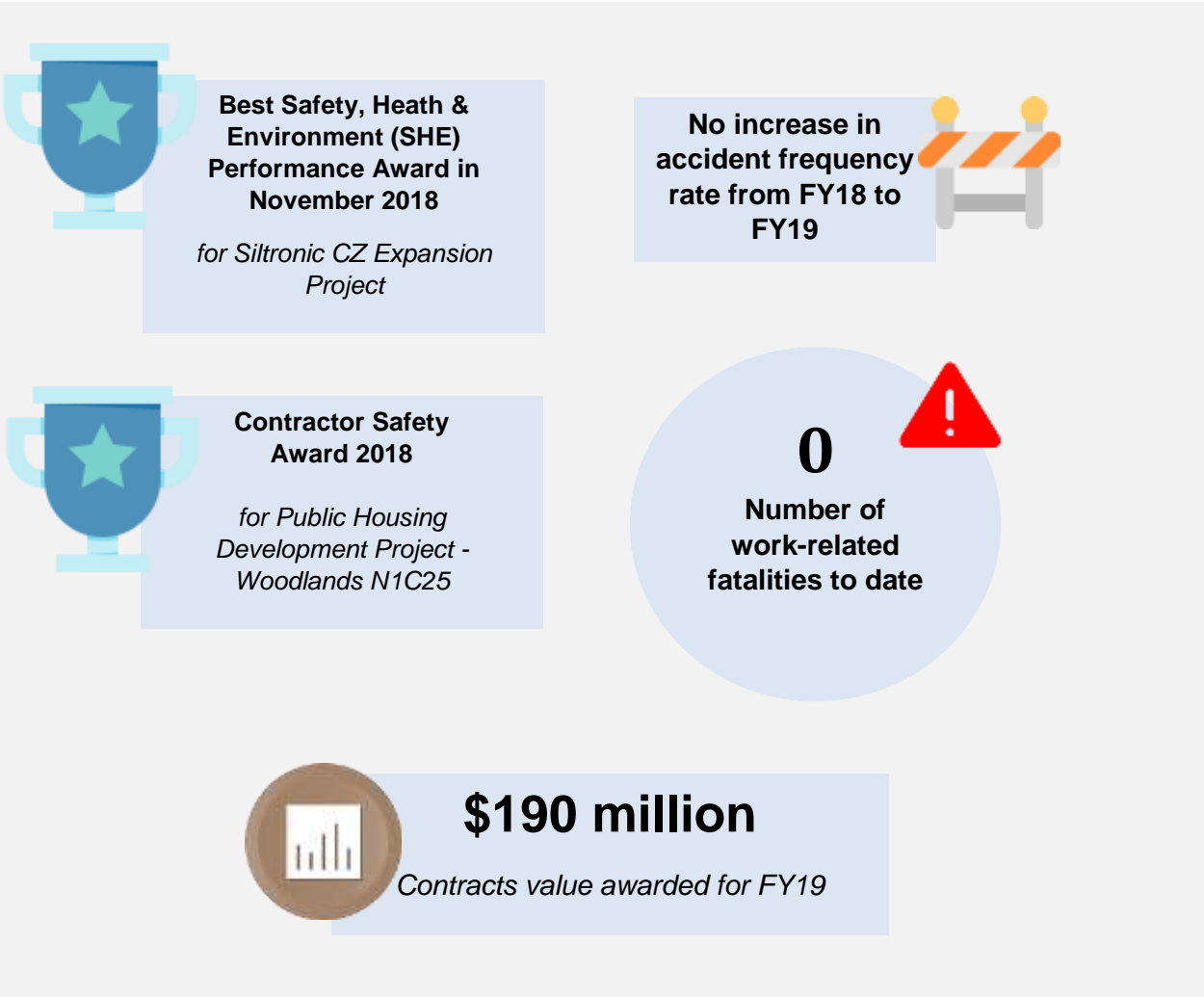
## About CSC

CSC Holdings Limited Group of companies (the “Group”) is Singapore’s leading foundation and geotechnical specialist and the region’s leading ground engineering solutions provider for public and private sector works which include residential, commercial, industrial and infrastructure projects. The Group recorded revenue of \$323.1 million in FY19. As a member of the Geotechnical Society of Singapore, CSC seeks to advance and promote geotechnical engineering in Singapore.

The Group operates principally as foundation and geotechnical specialists and offers a full range of capabilities in this field, from the construction and installation of large diameter bored piles, jack-in piles, micro piles, soil investigation, pile testing and instrumentation services to automatic underground tunnel monitoring and engineering surveys.

With a total regional workforce of around 1,750 employees, the Group currently operates in Singapore, Malaysia, Thailand, Hong Kong, Philippines, Myanmar, India and Vietnam. Our clients include transport, utilities and institutional providers, commercial, residential and industrial property developers and other construction and civil engineering related customers.

## Performance Highlights



The infographic features five main elements: 1) A blue trophy icon with a star, representing an award. 2) A light blue box containing the text 'Best Safety, Health & Environment (SHE) Performance Award in November 2018' and 'for Siltronic CZ Expansion Project'. 3) A light blue box with the text 'No increase in accident frequency rate from FY18 to FY19' and a road barrier icon. 4) A light blue box with the text 'Contractor Safety Award 2018' and 'for Public Housing Development Project - Woodlands N1C25' and another trophy icon. 5) A large light blue circle containing the number '0', a red warning triangle icon, and the text 'Number of work-related fatalities to date'. 6) A brown circular icon with a bar chart, a light blue box with '\$190 million' and 'Contracts value awarded for FY19'.

**Best Safety, Health & Environment (SHE) Performance Award in November 2018**  
*for Siltronic CZ Expansion Project*

**No increase in accident frequency rate from FY18 to FY19**

**Contractor Safety Award 2018**  
*for Public Housing Development Project - Woodlands N1C25*

**0**  
**Number of work-related fatalities to date**

**\$190 million**  
*Contracts value awarded for FY19*

# Our People

People define our organisation here at CSC. It is our policy to uphold fair employment practices in our hiring process and maintain zero tolerance of any form of discrimination. We believe in providing equal opportunities for all our employees to help them realise their fullest potential. From FY18 to FY19, our full-time employee numbers (in Singapore) increased from 928 to 1,037 while the number of temporary supply workers we engaged decreased from 133 to 92. There were no employees on part-time employment.

Owing to our nature of services, i.e. a company providing ground engineering solutions, which our operations are labour-intensive, leading to significant participation of males in our workforce.

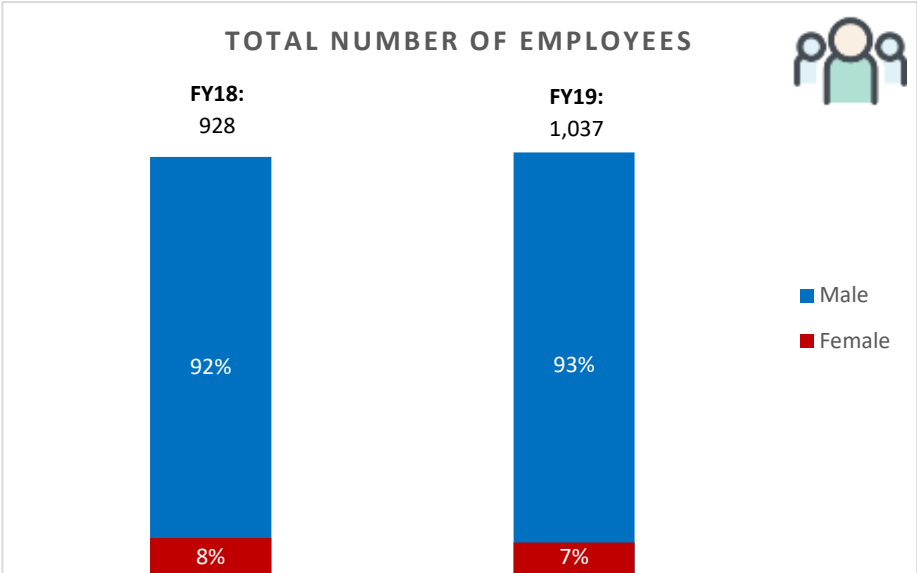


Figure 1: Employee Numbers at CSC’s headquarters and four entities as outlined in our reporting scope

The Company saw a total of 137 staff leaving from across employment grade categories. However, the Company also hired 246 more staff during the year to support its business operations. By FY19 end, there were a total of 1,037 employees, with 12 from Grade A (senior management), 53 in Grade B, 131 in Grade C, 162 in Grade D and 679 Non-Traditional Source Employees.

# Sustainability Approach at CSC

As the region’s leading ground engineering solutions provider and geotechnical specialist, we take our commitment to sustainability seriously. CSC adheres to the Precautionary Principle through sound internal controls and system of risk management.

The Group adopts international best practice, being accredited with ISO 14001:2015, ISO 9001:2015 and BS OHSAS 18001:2007 for the design and installation of bored piles. Additional accreditations include the Building and Construction Authority (BCA)’s Contractors Registration System, bizSAFE programme, and strict adherence to the Code of Corporate Governance 2012 as set out by the Monetary Authority of Singapore.

The Board of Directors has collective oversight of the Group’s sustainability strategy and works closely with Management to ensure sustainability matters are considered as part of its business strategy. At the senior management level, the Board is supported by an Executive Committee comprising the Group Chief Executive Officer, Group Chief Operating Officer and Chief Financial Officer.

The Executive Committee is responsible for 4 primary areas:

1. Decision-making on economic, environmental and social topics
2. Setting sustainability policies and strategies
3. Investment decisions or directions for major innovations relating to sustainability
4. Reviewing progress quarterly to ensure that the best practices of sustainability are embedded across the Group

A Sustainability Committee that works across the Group’s core business and operations units reports to the Executive Committee.

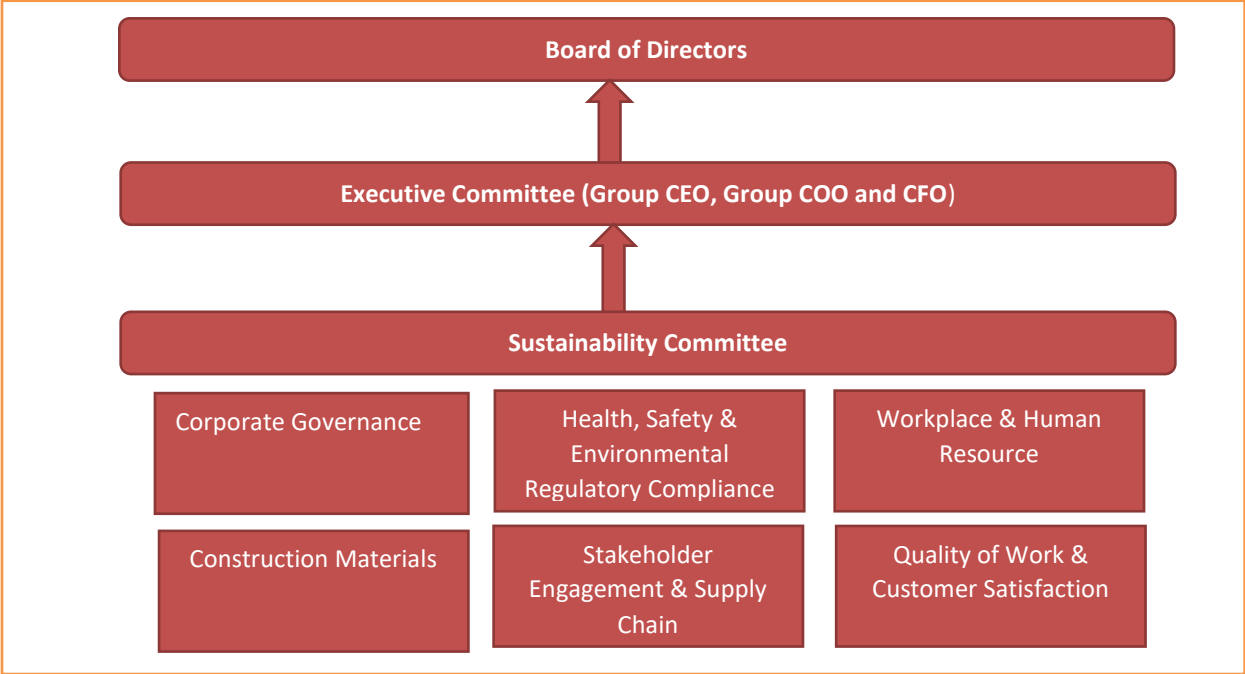


Figure 2: Sustainability Governance Structure of CSC

## Materiality Assessment

CSC has adopted the following four-step process to determine the relevant material sustainability topics that are key areas of interest to our stakeholders and involve substantive impacts from our business activities.

### Identify

We considered a combination of internal and external factors such as the concerns expressed by stakeholders and CSC's competitive strategy. A preliminary list of potential ESG factors was developed.

### Assess and Prioritise

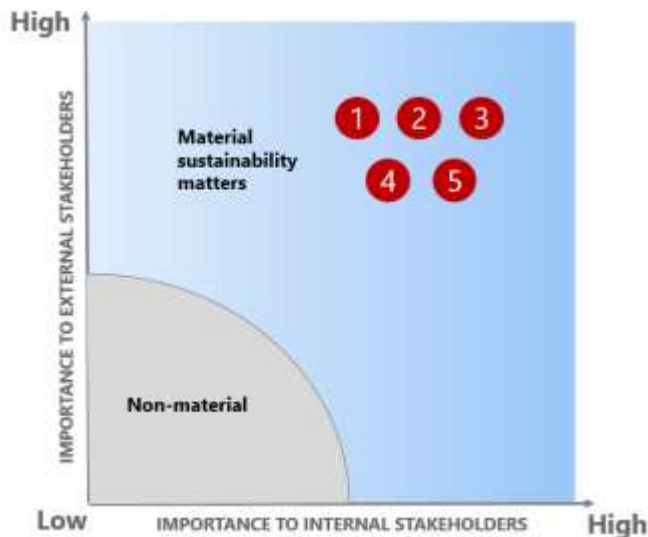
From the list, we rated and prioritised each ESG matter through anonymous voting. The highest ranked material sustainability matters were selected for disclosure to start CSC on its formal sustainability reporting journey.

### Validate

The selected material sustainability matters were presented to the Board of Directors for their validation and confirmation.

### Review



To ensure the matters continue to remain relevant and material, re-assessment would be carried out in future reporting cycles.



Sustainability Matter	
1	Regulatory Compliance
2	Sustainable Use of Materials
3	Minimising noise pollution
4	Occupational Health & Safety
5	Quality of work & Customer Satisfaction



## Stakeholder Engagement

It is important to us that we create value for CSC's stakeholders. Setting the ground right, we actively engage with our stakeholders to understand their needs and form strategic partnerships through various platforms.

Stakeholder	Goal	Key Concerns	Our Approach	Mode and Frequency
<b>Investors</b> 	<ul style="list-style-type: none"> <li>* To provide regular updates on financial performance, business strategies and other issues</li> </ul>	<ul style="list-style-type: none"> <li>* Clear and timely communication on operational and financial performance</li> </ul>	<ul style="list-style-type: none"> <li>* All shareholders are informed of all major developments that impact the Group or Company</li> <li>* Price-sensitive announcements, including quarterly and full-year results and press release are released to shareholders through SGXNET and can also be found on our website</li> </ul>	<ul style="list-style-type: none"> <li>* Quarterly Financial Results Announcements</li> <li>* Annual General Meeting</li> <li>* Regular updates via corporate website</li> <li>* Announcements and press releases throughout the year</li> <li>* Annual Reports</li> </ul>
<b>Employees</b> 	<ul style="list-style-type: none"> <li>* To enhance employee knowledge and skills</li> <li>* To strengthen safety culture within the organisation</li> <li>* Career development</li> </ul>	<ul style="list-style-type: none"> <li>* Continuous training to address high staff turnover rate for experienced employees</li> <li>* Staff motivation and ensuring safety standards are constantly maintained</li> <li>* Ensuring safety awareness and practices at all times</li> <li>* Fair remuneration and recognition</li> </ul>	<ul style="list-style-type: none"> <li>* Adequate training to ensure staff are equipped with required knowledge and skills to perform their duties and responsibilities competently</li> <li>* Annual review of performance</li> </ul>	<ul style="list-style-type: none"> <li>* Allocate training budget annually for employee training and development</li> <li>* Annual Safety Award for individuals and teams</li> <li>* Enrol operations staff into appropriate courses as and when required</li> <li>* Annual staff appraisal</li> </ul>



<p><b>Customers (main contractors/ sub-contractors)</b></p> 	<ul style="list-style-type: none"> <li>* To offer a full range of capabilities in foundation and geotechnical engineering field with high level of expertise</li> <li>* To deliver the highest quality of work through identification of customer needs and statutory requirements</li> </ul>	<ul style="list-style-type: none"> <li>* Delivery on schedule with satisfactory quality, good safety record</li> </ul>	<ul style="list-style-type: none"> <li>* Weekly on-site meeting with client to monitor progress of the project</li> <li>* On-site inspection by senior management and dedicated engineers/project managers</li> <li>* Sound safety management system</li> <li>* Timely communication with the customers when technical issues or unforeseeable circumstances arise which may cause a delay in completion or require additional time and resources to resolve</li> </ul>	<ul style="list-style-type: none"> <li>* Participate in industry events</li> <li>* Weekly regular meetings and communication, as necessary</li> </ul>
<p><b>Suppliers</b></p> 	<ul style="list-style-type: none"> <li>* To forge strategic partnerships</li> <li>* To promote overall safe condition of works through providing and maintaining sufficient resources for timely completion for sub-contractors</li> </ul>	<ul style="list-style-type: none"> <li>* Transparent and fair procurement and other business practices</li> <li>* Compliance with terms and conditions of business contracts</li> </ul>	<ul style="list-style-type: none"> <li>* Transparent business processes in the selection of tenders</li> <li>* Avenues to report incidents of abuse and corruption</li> <li>* Whistle-blowing policy</li> </ul>	<ul style="list-style-type: none"> <li>* Meetings with suppliers for market updates or addressing concerns, as necessary throughout the year</li> <li>* Weekly regular meetings with sub-contractors; and as necessary</li> </ul>
<p><b>Our Community</b></p> 	<ul style="list-style-type: none"> <li>* To create economic, social and environmental value that benefits the local communities</li> </ul>	<ul style="list-style-type: none"> <li>* Minimise any negative social, public health or environmental impact</li> <li>* Support deserving community efforts and underprivileged groups</li> </ul>	<ul style="list-style-type: none"> <li>* Ensure outputs of all work activities do not cause undue pollution to society to provide a sustainable built environment</li> <li>* Community involvement</li> </ul>	<ul style="list-style-type: none"> <li>* Future periodic reporting on our sustainability performance</li> <li>* Annual corporate social responsibility initiatives</li> </ul>

<p><b>Government agencies (BCA, MOM, NEA, LTA, PUB)</b></p> 	<ul style="list-style-type: none"> <li>* To comply with applicable laws and regulations</li> <li>* Zero Reportable Accident, free of infringement and ensuring works do not damage properties</li> <li>* Keep noise within prescribed limits</li> <li>* Ensure works do not damage or affect sewers and services</li> </ul>	<ul style="list-style-type: none"> <li>* Statutory compliance in terms of Quality, Environmental, Health &amp; Safety</li> </ul>	<ul style="list-style-type: none"> <li>* Quality, Environmental, Health &amp; Safety policy and objectives are clearly defined</li> <li>* Management strives to provide an accident-free workplace for all employees and interested parties</li> <li>* The Group strives to prevent environmental, health &amp; safety hazards that are undesirable to employees, and interested parties through continuous reviews and improvement of its integrated management system and complying with the applicable regulations as required</li> </ul>	<ul style="list-style-type: none"> <li>* Attending workshops and seminars organised by government agencies as required</li> <li>* Regular communication and visits to sites as required</li> </ul>
<p><b>Regulators (SGX, MAS, ACRA)</b></p> 	<ul style="list-style-type: none"> <li>* To comply with applicable laws and regulations</li> </ul>	<ul style="list-style-type: none"> <li>* Regulatory compliance</li> </ul>	<ul style="list-style-type: none"> <li>* All financial results, including price-sensitive information, are released in a timely manner</li> <li>* Maintain high standard of corporate governance</li> <li>* Seek professional assistance when required on compliance matters</li> </ul>	<ul style="list-style-type: none"> <li>* Quarterly financial reporting</li> <li>* Attend seminars and workshops organised by regulators as required</li> </ul>

## Community Involvement

CSC strongly believes in maximising the full potential of our children and youth. Since 2011, CSC has made annual contributions of \$10,000 to the Business & Community Partners (BCP) Programme at the Nanyang Technological University (NTU). Funds in the programme go towards supporting the university studies of financially disadvantaged students. For its contributions, CSC continues to be recognised as a silver partner and loyal donor by NTU.

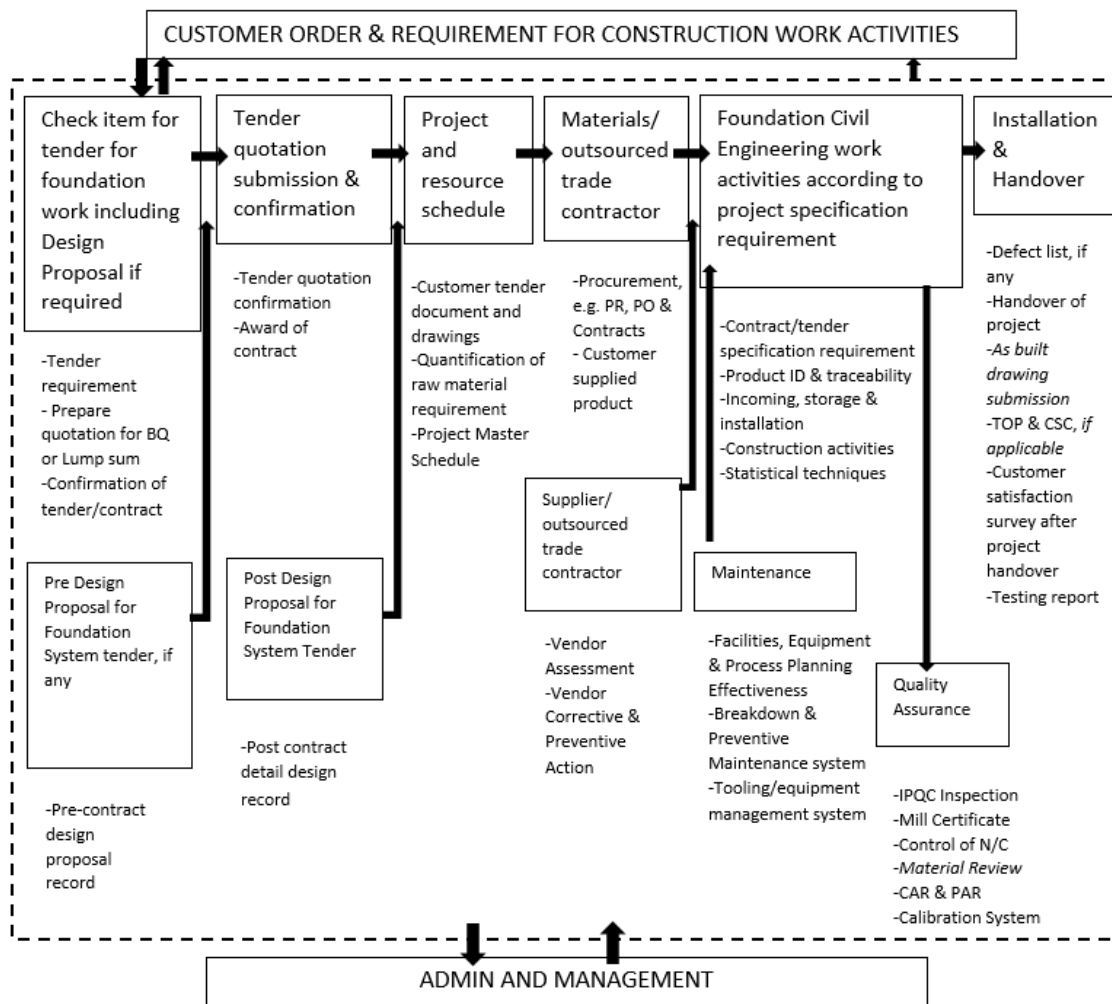
In FY19, CSC went one step further and donated \$5,000 in support of the UOB Heartbeat Run/Walk to raise funds for programmes for children from Autism Association (Singapore) Eden School, Association for Persons with Special Needs (APSN) – Chaoyang School, Cerebral Palsy Alliance Singapore School (CPASS) and Dyslexia Association of Singapore (DAS).

Together with our subsidiary LMFS, we also donated \$5,000 to Club Rainbow (Singapore), a non-profit organization provides compassionate services to chronically ill children and their families and \$500 to Community Chest.

## Our Supply Chain

We strive to embed sustainability principles at all points within our supply chain, to grow long-term environmental, social and economic value for all stakeholders. The Group's main suppliers are infrastructure service providers.

To achieve our mission, we have implemented purchasing processes, procedures and guidelines to operate an effective and efficient purchasing system and ensure the quality of our suppliers. The figure below details our business process flow and interaction chart to ensure all purchasing activities are carried out with the highest professional, ethical and legal standards.



### Organisation Context and Leadership

- Context of Organisation
- Leadership
- Customer Focus
- Communicating Quality Policy
- Roles Responsibility & Authority

### Planning

- Action address Risk & Opportunity
- Objectives and its planning

### Support

- Skills Training & Certification
- Training Needs
- Infrastructure, IT system
- Work environment
- Documented information

### Performance Evaluation & Improvement

- Action address Risk & Opportunity
- Objectives and its planning

Figure 3. Our Value Chain

# Governance

## Corporate Governance

The Board of Directors (“Board”) of CSC Holdings Limited (the “Company”) is also responsible for the Corporate Governance of the Company and its subsidiaries to protect stakeholders’ interests and enhance the stakeholder value in the long term. It consists of an executive, the Group CEO, and 3 non-executive independent directors as well as 1 non-executive non-independent director. To discharge the duties of the Board, all Board members maintain independent judgment, diversified knowledge, experience and expertise to address issues of strategy, performance, resources and the standards of conduct of the Company. As fiduciaries in the interests of the Company, all Directors are expected to discharge their duties and responsibilities objectively.

Certain functions of the Board are delegated to the Audit Committee, Nominating Committee, Remuneration Committee and Risk Management Committee, which would make recommendations to the Board. Each committee has clearly defined terms of reference and operating procedures.

The Board holds formal meetings quarterly or convenes ad-hoc meetings when circumstances require. Where a physical board meeting is not possible, the Board can communicate through electronic means or via circulation of written resolutions for approval.

For a full report on our corporate governance practices, please refer to our Corporate Governance Report 2019.

## Our Values

Our way of doing business is defined by integrity, consistent with the highest ethical standards and compliant with all applicable laws and regulatory requirements. The Company strongly believes that the action and conduct of all employees of the Group, as well as other person acting on behalf of the Company and/or its subsidiaries, are essential to maintaining these standards.

CSC has in place a Whistle-Blowing Policy and an employee Code of Conduct and Discipline. The Whistle-Blowing Policy is developed based on the recommendations of the Singapore Code of Corporate Governance, which is reviewed and recommended by the Audit Committee and subsequently approved by the Board. It provides an avenue for employees of the Group, and any other persons to raise concerns in good faith with the reassurance of being protected from reprisals or victimisation and ensures that arrangements are in place for independent investigations of such matters and for appropriate follow-up actions.

The Code of Conduct and Discipline and Whistle-Blowing Policy is made available to all employees and communicated regularly to stress their importance and maintain awareness of the Board’s commitment. All new employees are also briefed on them as part of their orientation program.

The management of CSC welcomes feedback from the public and its employees as a valuable tool to enhance its services and operations. Grievance mechanisms are also available at the organisation level through phone calls, emails and suggestion boxes.

The Company has established the **Quality, Environmental, Health & Safety (QEHS) Policy** in an integrated management system, which has been updated as of November 2018.

To ensure it is in tune with the company's strategic direction that is consistent with the purpose and context of CSC, top management at CSC will review the policy periodically to ensure objectives are being achieved. The CEO and COO are directly responsible for the implementation of the QEHS.

This policy references the Workplace Safety and Health (WSH) Act, Environmental Protection Management Act (EPMA), ISO 9001, ISO 14001, OHSAS 18001 as well as relevant code of practices.

CSC actively communicates this to our stakeholders to ensure it is understood, and consults their views through notice boards, talks or other promotional activities, general awareness training for existing staff and orientation training for new staff.



<b>Our Quality, Environmental, Health &amp; Safety Statement</b>		
<i>We shall always strive to achieve the following:</i>		
<b>Quality</b>	<b>Environment</b>	<b>Health &amp; Safety</b>
<ul style="list-style-type: none"> <li>• Hand over projects within the contract period</li> <li>• Score average or above in customers' work assessment on us</li> <li>• Compensating piles annually not exceeding:               <ul style="list-style-type: none"> <li>○ 0.8% for precast piles</li> <li>○ 0.45% for bored piles</li> </ul> </li> <li>• Diaphragm wall rectification costs not exceeding 5% and 8%, with and without customer supplied material respectively, of contract value</li> </ul>	<ul style="list-style-type: none"> <li>• Minimise material wastages not exceeding pre-determined value for each project               <ul style="list-style-type: none"> <li>○ Pile sections for precast piles</li> <li>○ Cement for micropiles</li> <li>○ Concrete for bored piles and diaphragm wall</li> </ul> </li> <li>• Ensuring noise generated from worksites is below the allowable level from regulations by National Environment Agency (NEA)</li> </ul>	<ul style="list-style-type: none"> <li>• Zero fatal accident</li> <li>• Accident frequency rate of less than 2.8 for our subsidiaries: CSBP, CSCG, DWF &amp; LMFS</li> <li>• Promotion of safety awareness through training</li> </ul>

CSC assesses our approach to addressing our quality, environmental, health and safety issues through various means. The table below details how we conduct the assessment and the identified improvement opportunities:

Method of assessment	Results
<p><b>Internal Audits</b></p> <ul style="list-style-type: none"> <li>Environmental Health &amp; Safety (EHS) inspections by EHS managers, WSH officers and WSH coordinators</li> <li>ISO 14001 audit by trained auditors at selected projects</li> </ul>	<p>Unsafe practices and conditions observed during the piling work process identified during inspection and audit were rectified with appropriate control measures and trainings.</p>
<p><b>External Audits</b></p> <ul style="list-style-type: none"> <li>External integrated management system (ISO 9001, ISO 14001, OHSAS 18001) surveillance and renewal audits by a registered auditing firm</li> </ul>	<p>System lapses are identified and corrected with appropriate preventive actions, i.e. risk assessments, introduction of new method.</p> <p>Good practices from industry stakeholders were shared among the work group to enhance the safety &amp; health standard.</p>
<p><b>Measurement Systems</b></p> <ul style="list-style-type: none"> <li>Number of Corrective and Preventive Action (CAPA) and observations issued by the auditors</li> <li>Suggestions and area of improvements given by the auditors</li> <li>Company's incident trend and statistics safety trainings</li> </ul>	<p>Employees are carefully selected and sent for EHS trainings as required by law / clients.</p> <p>Feedback obtained from employees through issuance of "Training Evaluation Form".</p>
<p><b>External performance ratings</b></p> <ul style="list-style-type: none"> <li>Subcontractor's performance evaluation from main-contractors and/or clients</li> <li>Safety recognition award or commendation letter from main contractors and/or clients</li> </ul>	<p>External performance ratings given from main-contractors and clients through "Customer feedback form" helps CSC identify its strengths, weaknesses and areas for improvement.</p>
<p><b>Benchmarking</b></p> <ul style="list-style-type: none"> <li>WSH Act &amp; Subsidiary regulations</li> <li>Approved code of practices</li> <li>Environmental Protection &amp; Management Act</li> <li>Competitors</li> </ul>	<p>CSC has committed and set benchmark to comply with WSH Act and other relevant Acts of Singapore (as minimum standard). Adopting industry good practices has been acknowledged by our leading clients, e.g. Singapore's Land Transport Authority (LTA) and Housing &amp; Development Board (HDB).</p>
<p><b>Stakeholder feedback</b></p> <p>Feedback from stakeholders is requested during meetings and trainings, e.g. tool box meeting, in-house training, EHS committee meetings, etc.</p> <p>Company has feedback management plan to receive and address grievances from stakeholders on quality, EHS and productivity matters.</p>	<p>Stakeholder (i.e. clients, public, and employees) feedback is registered and addressed diligently. This improves stakeholder confidence in CSC.</p>





## REGULATORY COMPLIANCE

CSC is sensitive to the deterioration of the natural environment, ensuring that its work activities and products do not cause any further damage, or wherever possible, minimise impact on the environment. In line with our commitment, CSC has been adopting ISO 14001 in compliance with globally set standards as well as the EPMA in Singapore. These are closely monitored through established systems and regular audits from both internal and external auditors.

To manage our compliance with environmental regulations, we have provided silt water treatment plants and implemented a test bed of separation system for slurry water management. All machines undergo maintenance regularly to minimise smoke emissions and reduce the consumption of energy from diesel, water and power. Noise monitoring meters together with noise barriers for heavy or noisy equipment help mitigate potential noise disamenity.

Our performance on compliance is internally and externally scrutinised and verified. Our EHS managers, WSH officers and WSH coordinators perform internal inspections while a registered auditing firm carries out surveillance on ISO 14001 and renewal audits.

In FY18, noise levels were found to be in violation of regulations at 3 project sites at Tampines N6C8-C10, Tanjong Katong Girls School and i-mall. Consequently, a fine of \$226,000 was imposed by the authorities. That same year, mosquito breeding was observed at a project site and CSC received a fine of \$2,000 under the Control of Vector and Pesticides Act.

Appropriate measures have been taken to rectify the problem. We take a serious view of such offences and have taken concerted steps to prevent their re-occurrence.

Despite our best efforts, CSC was found to be in breach of the EPMA for noise control at a project site in FY19. A fine of \$5,000 was imposed for exceeding permissible noise level from piling activity at Howard Road project.

We will continue to strive to maintain noise standards and prevent mosquito breeding at our work sites through stepping up site inspections and environmental audits.

### Targets

- \* **Zero fine from NEA for non-compliance to the EPMA (in perpetuity)**
- \* **Minimize material wastage not exceeding the pre-determined value for each project (in perpetuity)**

## Case Study: Stirling Residences and Marsiling Grove @ Woodlands N1C25

The project sites are located very close to residential buildings. By installing all heavy machines, i.e. crane and boring rigs, in these projects with high quality double layer noise enclosure for both engine compartment and rotary head, this measure proved effective in reducing the noise level at source.

# Environment



## SUSTAINABLE USE OF MATERIALS

As far as possible, CSC endeavours to prevent material wastage and reduce the environmental impact of our operations (precast piles and concrete). We recognise that geotechnical engineering is heavily resource-intensive and can significantly influence the sustainability of the built environment as it lies at the upstream end of the construction process. CSC complies with the code of practice for materials and grade based on contract requirements for steel, reinforcement steel bars, structural steel materials and ready mixed concrete. Every contract from CSC will set a percentage of tolerable wastage.

**Targets**

- Tolerable wastage for Precast Piles at average of 7.4% (for FY19)**

Performance for FY19:  
*RC Pile wastage is within the tolerable threshold set*
- Tolerable wastage for Concrete at average of 18.0% (for FY19)**

Performance for FY19:  
*Concrete wastage is within the tolerable threshold set*

The table below details our average percentage of wastage for precast piles and concrete over FY18 and FY19.

	FY18	FY19
<b>Precast Piles</b>		
Average wastage	6.4%	4.8%
<b>Concrete</b>		
Average wastage	16.5%	17.1%

CSC has in place an organisational structure for reporting on the consumption of materials. Senior management and our operations team are able to provide feedback through daily, weekly and monthly reporting to management. Project managers, project engineers, site coordinators and site supervisors, together with the purchaser report to the Director or Head of Subsidiary Company. The Director is accountable to the Executive Committee comprising the Group CEO, Group COO and CFO which will in turn update the Board. This ensures that material use is tracked for every project so that we remain viable in the long-term.





## MINIMISING NOISE POLLUTION

The nature of work in CSC involves the use of heavy machinery, such as cranes and piling rigs which emit noise during operation. The high density of the urban environment in Singapore means that CSC has to be even more sensitive to the disturbance our operations can cause to nearby residents. Besides the social impact on residents, exposure to high noise levels (85 dBA or more) for prolonged periods would also negatively affect the well-being of our workers. Strict legislation also controls the permissible noise exposure level enforced by penalties. If repeated violation notices are received, this would greatly affect CSC's business and reputation within the industry.

### Targets

- \* **Zero incident of fines for noise violations (in perpetuity)**



*Performance for FY19:*

*1 incident resulting in fine (Howard Road Project)*

To manage this, the aforementioned QEHS policy guides our approach to minimising noise pollution. Investing in noise-mitigating equipment is an essential part of our efforts. For example, noise meters are installed for projects where factories are registered as an occupier, while noise barrier enclosures are erected for piling rigs and generators. In line with regulations, piling work activities are restricted beyond 10:00 p.m. if the project site is located within 150m from any residential, school and hospital environment. Real-time noise monitoring system further alerts CSC to potential violations that can be rectified immediately.

We conduct regular training in ISO 14001 for internal and external auditors as well as noise management briefings for our workers. Noise-related hazards are incorporated in the risk assessments and communicated to workers. At project sites where noise and vibration issues are particularly sensitive, temporary pile casings are installed using a secondary rotator head attached in the boring rig instead of the conventional method of installing casings with a vibro-hammer. This method reduces the noise emission level significantly. However, this concept is only selectively implemented where noise levels are expected to have significant impacts as it consumes more time and resources.

We cease all piling rig operations after 7:00 p.m. to contain the noise level from heavy piling rigs. For diaphragm wall works, bored piling, precast piling and bored micropile work, equipment and stationary machines are located away from residents and engines are undergo regular maintenance to minimise noises. We will continue to pay close attention to keep noise levels to a minimum and strive for zero incident of fines.

Additionally, to promote reuse or recycling, all noise barrier materials are reused for multiple projects.

## Case Study: Noise reduction at Redlion site at ALPS Ave in FY18

Noise was reduced at Redlion site at ALPS Ave using an alternative method of silent piling, known as Jack-in-Pile. The immediate neighbour at the project site raised concerns with the original method of hammer driven piles which could generate noise and vibration.

The technique was approved by the Building and Construction Authority in Singapore and piling work was a subsequent success.

## Case Study: Noise reduction at Keppel Station in FY19 (future station on Circle Line in Singapore)

During the construction of an underground MRT station, 11m high noise barriers were expected to reduce the noise level for stakeholders which are close to the working site.

All heavy equipment are fixed with noise barriers and generators sited farthest away from premises and further shielded with noise barriers. The noise level is monitored periodically and advance notice is given to stakeholders when ad-hoc work is scheduled.

## Social



# OCCUPATIONAL HEALTH AND SAFETY

Worker safety is of paramount importance to us at CSC.

CSC Holdings Limited sees itself playing a leading role to improve construction safety across the industry. The mission of CSC is to protect its most valued asset – our people – from any kind of harm arising from work activities. In addition to adherence to the QEHS policy, CSC has also adopted a Fall Prevention Policy since 30 August 2017 which is overseen by senior management and head of departments.




**“We believe that workers are the assets of our company. Their understanding in safety is vitally important to us.”**

Our commitment to health & safety also extends to all our customers. We have been providing competent professionals and expertise to execute our operations safely to protect our employees and customers. Qualified safety professionals and the operations team are deployed for each project to analyse and mitigate the associated hazards and risks by carefully studying the site-specific operations, surrounding environment and OHS expectations of our customers.

All operation staff undergo mandatory safety training in accordance with their designation and job requirements. In addition, in-house trainings are also conducted on a regular basis to enhance the safety awareness of our employees. Some examples of such trainings include construction safety course for project managers, risk management courses for project managers, engineers and safety personnel, WSH officer course, manage work at height course, operator’s course, and supervisory courses.

Our safety track record shows that for FY18 and FY19, there have been 0 work-related fatalities and a total of 4 reported cases of work injuries from our male employees. Out of these 4, 2 cases of finger injuries occurred in FY18 while 1 case of finger injury was caused by moving parts of the piling rig and 1 case of leg injury was caused by steel plate which was lined along the machine access in FY19. Since then, we have provided re-training to our mechanics and mandated that all engines shall always be switched off during repair and maintenance works. At all times, workers should be at least 6m away from a moving machine. We value the safety of all our workers and will continue to uphold the strictest safety standards.

### Targets

- **Zero fatal incidents in all CSC projects (for FY19)**  
 *Performance for FY19: Achieved*
- **Maintain Accident Frequency Rate at less than 2.8 (for FY19)**  
 *Performance for FY19: Achieved*
- **Zero financial penalties from Ministry of Manpower (MOM) for EHS violations. If received, fines should be contained within \$5,000. (for FY19)**  
 *Performance for FY19: Achieved*

	FY18	FY19
<b>Work-related fatalities</b>	<b>0</b>	<b>0</b>
<b>Occupational Disease Rate<sup>1</sup></b>	<b>0</b>	<b>0</b>
<b>Accident Frequency Rate<sup>2</sup> (Male)</b>	<b>0.79</b>	<b>0.70</b>
<b>Accident Severity Rate<sup>3</sup> (Male)</b>	<b>70</b>	<b>32</b>
<b>Absentee Rate<sup>4</sup> (Total)</b>	<b>0.47</b>	<b>0.87</b>
▶ Absentee Rate (Male)	<b>0.40</b>	<b>0.77</b>
▶ Absentee Rate (Female)	<b>1.21</b>	<b>2.19</b>

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<sup>1</sup> Occupational disease rate is calculated by the number of new cases of occupational disease out of the total hours worked, multiplied by 1,000,000.

<sup>2</sup> Accident frequency rate is calculated by the number of new cases of occupational injury reported out of the total hours worked, multiplied by 1,000,000. There were no reported cases of injuries from our female workforce.

<sup>3</sup> Accident severity rate is calculated by the number of days lost as a result of occupational injury out of the total hours worked, multiplied by 1,000,000.

<sup>4</sup> Absentee rate is calculated by number of days absent from work out of the total days scheduled to be worked.



## QUALITY OF WORK AND CUSTOMER SATISFACTION

CSC remains strongly committed to our customers. We have been providing competent professionals and expertise to execute our operations safely and we believe that a systematic Operational Health & Safety (OHS) system will help uphold the company brand reputation with our employee and customers.

Qualified safety professionals and operations team are deployed for every project to analyse and mitigate the associated hazards and risks by carefully studying the site-specific operations, surrounding environment and OHS expectations of our customers. From a financial standpoint, delivering the highest quality services to our customers provides assurance and contributes to our financial sustainability.

Employees and customers are able to voice out concerns and grievances relating to our quality of work through our general corporate relation channels. The management at CSC welcomes feedback as invaluable to further improving our services and operations.

Staff on site are provided with tablets to conduct safety works, such as electronic inspections or application of electronic permits. We have also introduced the Global Navigation Satellite System (GNSS) for the set-up of pile positions in selective projects. This technology detects the pile position automatically, thus reducing the manpower previously required by surveyors to set up the piles physically.

Collectively, the QEHS policy sets out our targets towards maintaining the highest quality standards and guides our practices towards satisfying our customers' needs.

**As a testament to our efforts, CSC and our subsidiaries have been recognised with the following awards:**



CSBP: Contractor Safety Award 2018 for Public Housing Development Project – Woodlands N1C25

CSCG: Best Safety, Health & Environment (SHE) Performance Award in November 2018 for Siltronic CZ Expansion Project

CSBP & CSCG: The Best Sub-contractor Award in March 2018 for 47 Jalan Buroh Project

CSCG: SCAL Productivity & Innovation Awards 2017, Silver Award: “Reinforced concrete (RC) Pile Handler Machine”

CSCG: SCAL Workplace Safety & Health Innovation Awards 2015, Bronze Award: “Eliminating Man-Machine Hazards”

LMFS: Best sub-contractor’s safety recognition award in 2014 for C923 project

CSBP: Best safety conscious sub-contractor award for Downtown Line 2 – C918 Project

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