EARTHCHECK

EarthCheck Building Planning and Design Standard (BPDS)
VERSION 5

27 February 2024

01 – Executive summary

The EarthCheck Building Planning and Design Standard (BPDS) facilitates environmentally, socially, and economically sustainable building development. This is achieved through a collaborative assessment process in which the BPDS framework is applied to measure the sustainability embedded in building developments.

The purpose of the BPDS is to:

- Measure embedded sustainability performance of the design of developments and drive improvement against industry expectations and regional leader benchmarks.
- Provide a truly globally applicable and collaborative framework for assessment and verification.
- Support project teams to approach, adapt and adopt contemporary trends, technologies, and methodologies in sustainable design.
- Encourage project teams to address sustainability across the triple-bottom-line of environment, economy, and society.
- Engage project teams through a process of ideation and testing to accomplish and effectively communicate sustainable initiatives and implementations.

The Standard sets out the requirements to undertake an integrated assessment of the expected environmental, social, and economic performance of a project and is underpinned by EarthCheck's quality management system.

Cover Image:
Banyan Tree Nanjing Garden Expo
EarthCheck Design Certified
Cheng Chung Design

02 – Testimonials

Alila's longevity and success can be attributed to a clever combination of sensitive design and sustainability. (Wallpaper*, 2022)

"They are the key cornerstones of the brand; the group's management really understand the power of good design to create enormous value for their properties."

Richard Hassell, co-principal, WOHA

Home buyer Paul Abad and his family chose to purchase within the EarthCheck Design certified Riverfront after discovering the unique blend of stylish terrace homes situated within an expansive green space.

"The inclusion of solar, water tanks and all the green space with orchards and vegetable gardens really impressed us and gave us the feeling of modern suburbia paired with a mini eco-village," said Mr Abad. *"Quality of life for our young son is important, and we think he is going to love having all this space to explore."*

"We're extremely proud of being the first resort globally to receive Gold Certification in EarthCheck's highly esteemed Sustainable Design Programme. This accolade reflects our unwavering commitment to sustainability, by making positive changes to reduce our environmental footprint and improve social impact. This award is also testament to the fantastic team behind the construction of Zuri who all shared the joint vision of creating a truly magical resort with ecology at its heart, without compromising on design and style."

Jean-Francois Laporte, the Zuri Zanzibar Project Director

During the certification of the Hotel Xcaret Mexico, Marcos Constandse Redko, Destino Xcaret´s Director, thanked EarthCheck for the support during the construction process of the hotel, in order to adhere to leading international practices in sustainable tourism.

"It has taken thoughtful planning along with geological, environmental and water studies, which helped us to achieve a holistic project that will preserve the ecosystems and, moreover, enrich them,"

EARTHCHECK

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The EarthCheck Building Planning and Design Standard (BPDS)

Sustainability is no longer about doing less harm. It's about doing more good.

Jochen Zeitz - President, CEO and Chairman of the Board, Harley Davidson, Inc.

02 – Performance assessment framework

2.1 Overview

Assessment Process: Projects are evaluated using the EarthCheck BPDS Assessment Framework. This involves a comprehensive assessment across 10 Key Performance Areas (KPAs), each with specific criteria, compliances, and evidence requirements. Projects must fulfill mandatory requirements and earn optional credits.

Project Uniqueness: Given the distinct nature of each project, EarthCheck may impose special conditions or processes for certain projects, like new builds, renovations, or those in unique circumstances. These are determined before the project starts to ensure appropriate performance assessment. The EarthCheck team will define any such special conditions during the contracting process. Regular BPDS conditions apply otherwise. For projects not fitting standard categories, contact EarthCheck at design@earthcheck.org.

2.2 Key Performance Areas

1. Sustainability Planning Approach
2. Energy
3. Water
4. Solid Waste
5. Land Use Planning and Biodiversity
6. Sustainable Materials and Resource Conservation
7. Indoor Environmental Health and Pollution Control
8. Transport
9. Social, Cultural and Economic Wellbeing
10. Innovation

Objective: The 10 KPAs aim to integrate sustainability in building development, covering planning, design, and construction. They ensure projects meet or exceed benchmarks, delivering improved environmental, economic, and social outcomes.

Methodology: Each KPA has criteria measured through qualitative and quantitative indicators.

2.3 Assessment criteria

Planning and Design: Focuses on environmental and social responsibility in early project phases.

Construction: Addresses responsible construction practices.

Operational: Emphasises long-term sustainability commitments for post-commissioning.

2.4 Compliance and evidence

Mandatory Criteria: Must be met for project submission; improvement beyond EarthCheck benchmarks is encouraged.

Performance Measurement: Uses specific activity measures reflecting the project's key aspects.

2.5 Documentation and credits

Evidence Submission: Specific documentation requirements are outlined for each criterion, considering environmental, economic, or social risks.

Collaboration: Developers are encouraged to work with all stakeholders for necessary documentation.

2.6 Support and resources

Tools Provided: EarthCheck offers documents, templates, and calculators. Project teams must develop their own evidence presentation methods for some criteria.

Guidance: Teams can access resources online or via email at project mobilisation and are encouraged to consult with EarthCheck's design team for assistance.

03 – Criteria scoring

The table below provides a summary of the KPAs and respective credits available for each key criterion.

Key Performance Areas (KPAs) and Criteria		Mandatory Criteria	Credits Available
KPA 1	Sustainability Planning Approach		35
1	Sustainability Policy	✓	0
2	Project Brief	✓	0
3	Multidisciplinary Team	✓	0
4	Legislative Compliance	✓	0
5	Sustainable Construction		4
6	Digital Asset Authoring, Record Keeping and Legacy Management	✓	7
7	Sustainable Digital Transformation		5
8	Risk Management		10
9	Consultation	✓	4
10	Knowledge Transfer	✓	5
KPA 2	Energy		62
11	Energy Consumption	✓	10
12	Energy Metering and Management	✓	3
13	Greenhouse Gas Emissions	✓	10
14	Renewable Energy	✓	28
15	Energy Efficient Equipment		6
16	Passive design strategies		5
KPA 3	Water		28
17	Water Consumption	✓	10
18	Water Efficient Equipment		4
19	Water Metering and Management	✓	3
20	Water Recycling and Reuse	✓	8
21	Wastewater Management	✓	3
KPA 4	Solid Waste		28
22	Construction Waste	✓	6
23	Operational Waste	✓	4

Key Performance Areas (KPAs) and Criteria		Mandatory Criteria	Credits Available
24	Waste Reduction Strategies	✓	4
25	Waste Management Strategies	✓	14
KPA 5	Land Use Planning and Biodiversity		25
26	Site Development		7
27	Biodiversity	✓	9
28	Landscaping		9
KPA 6	Sustainable Materials and Resource Consumption		26
29	Resource Conservation	✓	7
30	Sustainable Materials Selection and Arrangement		6
31	Life-Cycle Assessment		4
32	Indoor Air Quality		9
KPA 7	Environmental Health and Pollution Control		19
33	Refrigerant Use	✓	7
34	Lighting and Visual Comfort	✓	4
35	Acoustic Comfort		2
36	Thermal Comfort		1
37	Indoor Air Quality	✓	5
KPA 8	Transport		19
38	Public Transport		4
39	Active Transport		9
40	Private Transport	✓	6
KPA 9	Social, Cultural and Economic Well-being		18
41	Heritage and Culture		6
42	Accessibility and Inclusion		5
43	Training and Education		3
44	Local Employment		2
45	Economic Development		2
KPA 10	Innovation		20
46	Create Opportunity		2
47	Establish Process		3
48	Deliver Innovation		9
49	Engage Specialist ESD Support		6
		Total Credits Available	281

04 – Achievements

The BPDS is designed as a performance-focused tool, ensuring that certified projects not only meet but often exceed the best practice benchmarks for their specific building type and location. For EarthCheck certification, projects must fulfill all mandatory criteria and either attain a Silver, Gold, or Platinum rating, based on their performance.

Silver

Projects must achieve a minimum of 170 credits.

Gold

Projects must achieve a minimum of 210 credits.

Projects must improve more than 10% beyond regional leader performance benchmarks.

Credits must be achieved in at least 7 KPAs.

Platinum

Projects must achieve a minimum of 250 credits.

Projects must improve more than 20% beyond regional leader performance benchmarks.

Credits must be achieved in all 10 KPAs.

05 – Maintaining the relevance of EarthCheck Standards

The EarthCheck Standards are dynamic documents, evolving with advancements in science and technology related to sustainable travel and tourism certification.

To ensure these standards stay current, they undergo regular reviews with new editions published as needed. Sometimes, certain standards may be withdrawn. This update process is governed by the "EarthCheck Code of Good Practice." This code aligns with the ISO Code of Good Practice for Standardisation (ISO/IEC Guide 59:1994), guaranteeing orderly, coherent, and effective standardisation globally.

The EarthCheck Code of Good Practice plays a crucial role in assessing and enhancing our environmental and social standards, focusing on achieving objectives across the triple bottom line.

We value input for enhancing our Standards and encourage organisations to report any inaccuracies they find. Suggestions and comments can be sent to design@earthcheck.org.

06 – Key Performance Area 1: Sustainability Planning Approach

Objective: Ensure sustainable design practice is planned into the project at an early stage of design and carries through into the construction and operation stages.

An inclusive design approach which prioritises sustainability and increases the probability of triple bottom line outcomes. Early implementation of this approach reduces the difficulty imposed by making late changes to enhance sustainability. In addition, the use of targeted benchmarks for design performance ensures a reduction in greenhouse gas emissions and other key factors such as energy and water consumption.

KPA Criteria:

Criteria	Mandatory Criteria	Credits Available
1. Sustainability policy	✓	0
2. Project brief	✓	0
3. Multidisciplinary team	✓	0
4. Legislative compliance	✓	0
5. Sustainable construction		4
6. Digital asset authoring, record keeping and legacy management	✓	7
7. Sustainable digital transformation		5
8. Risk management		10
9. Consultation	✓	4
10. Knowledge transfer	✓	5

1 Sustainability policy

Objective: Ensure the developer's executive commitment to a sustainable approach to building planning and design and have it contained in a formal policy statement. The policy must clarify and declare the management, planning, and design intentions; and have a well-documented commitment to the goals and objectives of the development process.

Criteria Requirements:

Compliance Item	Credit
1.1 The developer issues a written sustainable building design and construction management policy ("Sustainability Policy") for the project.	Mandatory
1.2 The developer communicates the Sustainability Policy with key stakeholders.	Mandatory
1.3 The developer displays the Sustainability Policy in public places.	Mandatory

Evidence Required:

1.1 A Sustainability Policy has been developed and signed off by the Chief Executive Officer and/or General Manager of the development company.

The Sustainability Policy includes:

- An accurate scope statement addressing the extent of the development and its operational impacts or contributions.
- Commitment to legal compliance with relevant environmental legislation and regulations, and other requirements to which the design and construction should conform.
- Commitment to give preferences to indigenous design and management strategies, construction practices and products / services of local origin.
- Commitment to upholding workers' rights and employment of persons living in nearby communities for management, construction, and resource procurement purposes.
- Commitment to promote the Policy and vision in the design and construction phase. The policy must be communicated to all key stakeholders (e.g., design team, construction contractor, consultants, community, local government) and displayed publicly on-site during construction.

- Commit to sustainable procurement of local building products, goods, other consumables, and services; and
- The policy declares the intent to make appropriate changes and improvements in design to meet mandatory criteria.

1.2 Documentation that shows the Policy being communicated to key stakeholders (e.g., email communications with the Policy attached to the communication, meeting minutes, etc.)

1.3 Photographs of the Policy being displayed in public places where staff and contractors transit during the construction.

2 Project brief

Objective: The project brief must provide detail of the scope, scale, and objectives of the project. The brief must describe the sustainability goals, objectives, targets, and methods that will be implemented during design, construction, and post-construction.

Criteria Requirements:

Compliance Item	Credit
2.1 Sustainable design is driven through the creation and communication of a Sustainable Design Brief.	Mandatory
2.2 Architectural, engineering, and landscape design plans and related documents	Mandatory
2.3 Planned publication of EarthCheck achievement.	Mandatory

Evidence Required:

2.1 A written Sustainable Design Brief is provided which details:

- The project summary, including vision and sustainability goals of the planning and design strategy.
- The project concept, scope, scale, and development timeframes of design, building and delivery for operation.
- The intended systems and key features of the development.
- Social, cultural, and economic context of the project site and surrounding community.
- Evidence of the Sustainable Design Brief being communicated to key project team members.

Note: Please use the Sustainable Project Brief template.

2.2 Provide design documents including but not limited to:

- Architectural concept.
- Architectural schematic and/or construction drawings.
- Building renderings.
- Building material and equipment specifications and schedules.

2.3 Provide a copy of any publicised information including but not limited to

- Investor brief/prospectus mentioning EarthCheck achievement.
- Planned advertisement of the EarthCheck achievement.

3 Multidisciplinary team

Objective: The project team must be multidisciplinary to enable identifying and deploying integrated approaches to sustainable design solutions across specialist teams, including the construction team when appropriate. A multidisciplinary approach will enable projects to cohesively implement optimal solutions to minimise the building footprint and maximise the efficiency and capacity of building systems.

Criteria Requirements:

Compliance Item	Credit
3.1 A multidisciplinary team involved in the design phase.	Mandatory
3.2 Key project members participate in Building Planning and Design Standard induction and mobilisation and/or understand the requirements of the BPDS meetings.	Mandatory
3.3 Key project team members understand specific Building Planning and Design Standard environmental and social design construction management aspects.	Mandatory

Evidence Required:

3.1 Using the project team template provide a comprehensive project team list highlighting role, responsibilities, and contact details.

3.2 Provide evidence including but not limited to:

- Meeting minutes.
- Dissemination of Sustainability Policy, Sustainable Project Brief, Project Team List and Building Planning and Design Standard.

3.3 Provide evidence including but not limited to:

- Meeting minutes.
- Emails from project team members confirming their understanding of the BPDS.
- EarthCheck Design Accredited Professional certificate (if an EDAP is appointed).

4 Legislative compliance

Objective: Comply with relevant environmental legislation and regulations, and with other requirements to which the design and construction should confirm; including but not limited to environmental, social, cultural, quality, health, and safety.

Criteria Requirements:

Compliance Item	Credit
4.1 Environmental Impact Assessment (EIA) or Environmental Impact Statement (EIS).	Mandatory
4.2 Land use planning controls and development approval conditions.	Mandatory
4.3 Pollution control regulations and development approval conditions.	Mandatory
4.4 Public health and occupational health and safety (OHS) requirements.	Mandatory
4.5 Resource usage regulations and development approval conditions.	Mandatory
4.6 Acknowledgement of and alignment to nationally determined contributions (NDCs) as part of the Paris agreement or similar protocols.	Mandatory
4.7 Commitment to support and align with all regional, state, and national climate change mitigation strategies (e.g., Net Zero 2050).	Mandatory
4.8 Legislative document register.	Mandatory

Evidence Required:

4.1 A copy of the Environmental Impact Assessment (EIA) and Environmental Impact Statement (EIS).

4.2 Documents outlining land use planning controls as required by the development approval conditions.

4.3 Documents outlining pollution controls as required by the development approval conditions.

4.4 Documents outlining OHS requirements.

4.5 Documents outlining resource usage regulations.

4.6 Documentation outlining protocols for alignment mapping, evidence and reporting outputs related to NDCs and climate change mitigation strategies.

4.7 A formal commitment statement signed by the developer, construction company or asset operator committing to support, align and improve beyond applicable local, regional, state, and national climate change mitigation strategies (e.g., Net Zero 2050).

4.8 An up-to-date register of other relevant legislation, regulations, standards and codes to which design and construction should comply. This may include copies of the records to demonstrate legal compliance, including but not limited to permits, licenses, standards compliance, and correspondence with regulatory authorities.

5 Sustainable construction

Objective: Commitment to implement sustainable construction processes. This requires construction process data collection and the implementation of a construction environmental management plan (CEMS), which should be a contractual responsibility of the building contractor/s.

Criteria Requirements:

Compliance Item	Credit
5.1 Construction contractor must have a Sustainability and/or Environment Policy.	0.5
5.2 A Construction Environmental Management System (CEMS) must be implemented.	0.5
5.3 Commitment to minimise resource consumption, use of environmentally harmful substances, waste generation and pollution throughout the construction.	0.5
5.4 Commitment to periodic monitoring and reporting of environment, health, and safety performance of the construction process.	0.5
5.5 Ensure that the construction footprint is limited, and construction activities are controlled, to reduce impact of the site's natural environmental, adjacent natural environments and communities	1
5.6 Commitment to hire a local workforce.	1

Evidence Required:

If a project is seeking Certification prior to the commencement of the construction stage, evidence must be provided to demonstrate the Contractors will have contractually binding obligations to deliver on the above criteria. Contractual specifications must include the above criteria in the form of clauses. If the project is already in the construction phase, the project team must provide the 'live' documentation, including construction performance and EMS reports and photographic evidence.

If the property is under construction, we strongly recommend addressing these criteria.

Note: Refer to the sample CEMS framework for guidance on developing a CEMS.

5.1 Contractor sustainability/environment policy signed by CEO/GM. The policy must address all the criteria above and define the objectives to deliver sustainable construction.

5.2 Contractual agreement or equivalent showing that the contractor must implement a CEMS, which adheres and complies with EIA/EIS conditions and other relevant regulation. The CEMS must also require other onsite contractors and sub-contractors to adhere to the main contractor's CEMS. Refer to the sample CEMS for guidance.

5.3 Plan and procedures that detail measures taken to reduce resource consumption and minimise waste sent to landfill by reusing or recycling material.

5.4 Monitor performance and provide periodic performance report (i.e., weekly, bi-weekly) against established targets. Commitment to report total consumption of energy and water, and waste generation at the conclusion of the construction.

5.5 Provide site layouts that demonstrate the designated construction areas. Describe measures and activities in place to reduce the construction footprint and impact on offsite environments.

5.6 Demonstrate a commitment to prioritise local workforce, within a 20km radius of the project site. Include local staff employment targets/actual figures (i.e., % staff).

Note: Projects located in remote areas, where local workforces are not available, are able to claim this credit by demonstrating that workforce is or will be sourced from the most proximate areas to the project site.

6 Digital asset authoring, record keeping and legacy management

Objective: Many digital tools support the functions of building development across stages including ideation, conceptualisation, technical design and specification, development approval, construction management, asset management, asset maintenance and end of asset life management.

Project teams must engage with appropriate digital tools and management processes early during ideation to streamline and optimise project management and design. It is becoming common across the globe that use of digital tools is required as a part of the development approval process. Addressing these criteria will support project readiness to ideate and make use of digital tools and management processes.

As a part of this process project teams must consider the appropriateness of the tools selected, their interoperability, policies which govern intellectual property related to the use of the tools and digital assets, effective methods for keeping and disseminating records and legacy management of digital assets.

Criteria Requirements:

Compliance Item	Credit
6.1 A Digital Asset Policy has been established which governs the intellectual property, privacy and ethical framework related to the use of digital tools and digital assets for the project.	Mandatory
6.2 The policy necessitates the interoperability of digital tools and digital assets used by architects, engineers, and other technical consultants for the project.	1
6.3 The policy necessitates that interoperability be managed in an Open BIM framework	1
6.4 The policy necessitates the development of a digital twin with real time simulation capability	1
6.5 The policy necessitates that the project digital assets and digital twins become inextricably linked in ownership as if part of the physical built environment and that the rights to use digital assets and digital twins are transferred in perpetuity to all owners and asset operators throughout asset life.	2

6.6 The policy establishes a clear and effective framework for record keeping and legacy management of all digital assets and digital twins.	2

Evidence Required:

6.1 A digital asset policy which outlines:

- The design software/s to be used by contractors.
- The storage service/s and location to be used by contractors.
- Procurement documents and/or contracts outlining the terms and conditions related to the use of digital tools and assets for the project.

6.2 The policy also details the mechanisms and methodologies by which the tools and assets are interoperable, giving instruction for vendors to agree to during procurement.

6.3 The policy also necessitates that digital assets are interoperable in an Open BIM framework. EarthCheck Building Planning and Design Standard Version 5.0 29 © EarthCheck Pty Limited 2022 All rights Reserved.

6.4 The policy also necessitates the development of a digital twin and provides detailed instruction of its purpose, uses, methodologies for use, potential outputs, approved data transmission protocol/s and approved data storage protocol/s.

6.5 The policy also necessitates that the ownership of digital assets and digital twins becomes inextricably linked in ownership as if part of the physical built environment as evidenced through contractual mechanisms for sale and/or asset operation agreement.

6.6 The policy also necessitates that a clear and effective framework for record keeping, and legacy management is detailed.

7 Sustainable digital transformation

Objective: Since the invention of the internet, society has rapidly adopted and adapted to take advantage of its data gathering and information dissemination capabilities.

Through technological developments stemming from over a decade, human experience of the real world has become intricately linked with digital environments. Our future as a society seems inextricably linked with the internet. The building development industry, asset operators, and the general environment can thrive through appropriate integration and use of digital tools and can create applications and activities which benefit the real world. This criterion introduces and asks for project proponents to address some opportunities related to sustainability and digital transformation.

Digital transformation projects are often large and lengthy processes, as such it is important to consider the application of sustainable digital transformation alongside the design for new or retrofit buildings.

Criteria Requirements:

Compliance Item	Credit
7.1 The project has a policy for procuring sustainable data storage and telecommunication services for building users (including projected future needs).	1
7.2 The project has a policy for driving the engagement of technologies in their various capacities (real-time IoT operating systems, supply chain and logistics monitoring, etc.).	1
7.3 The project plans to develop digital tools to aggregate resource consumption information and communicate live and historical per capita and gross consumption statistics to users and stakeholders.	1
7.4 The project plans for the development of geofencing, digital wayfinding and digital storytelling tools that help to minimise human impact on natural and heritage environment/s.	1
7.5 The project plans to develop digital tools to help educate users and protect biodiversity including fauna, flora, and fungi and/or to protect heritage and cultural artefacts.	1

Evidence Required:

7.1 Procurement of data storage and telecommunication services for building users must be sustainably sourced. Suppliers must be contractually bound to provide detailed

reporting of gross resource consumption associated with the development's apportionment of these services.

7.2 A Policy has been developed which proposes and plans for implementation technologies for driving improvements across the triple bottom line.

7.3 A plan exists for the development of tools to aggregate and communicate resource consumption data for the development to its users.

7.4 A plan exists for the development of geofencing, digital wayfinding and/or digital storytelling tools, outlining the methods by which tools will minimise human impact on the environment and/or pay homage to culture and history.

7.5 A plan exists for the development of digital education for environmental, heritage and/or cultural awareness.

8 Risk management

Objective: Identify and qualify environmental, social and climate risks deemed material to the project's development and future operations. Material risks must have suitable risk mitigation and management measures appropriate to the project scope. The development shall not jeopardise the provision of basic services, such as water, energy, or sanitation, to neighbouring communities.

Criteria Requirements:

Compliance Item	Credit
8.1 The project takes due account of exposure to current and future risks derived from the natural environment, including but not limited to floods, droughts, cyclone/hurricane, fire, tsunami.	1
8.2 The project takes due account of the impacts of supply chain disruption for both construction and asset operation.	1
8.3 The project takes due account of interruption caused by epidemic/pandemic for both construction and asset operation.	1
8.4 The project takes due account of impacts to infrastructure performance related to or derived from cyber-attack, fault or defect effecting asset infrastructure monitoring and control systems.	1
8.5 The project takes due account of impacts to current and future cultural and socially sensitive areas or issues.	1
8.6 Measures have been set in place for each area of identified high and extreme risks as determined by the likelihood of occurrence and consequence.	1
8.7 Climate change adaptation plan has been developed and measures have been implemented to address risks.	2
8.8 The project commits to and has plans for facilitation/contribution to community level emergency and disaster management processes.	2

Evidence Required:

Note: For criteria 8.1 to 8.5 Risk assessment: must be undertaken using best practice risk management standards (i.e., ISO 31000).

8.1 A risk assessment carried out which considers actual and/or potential risks derived from the natural environment.

8.2 The risk assessment also considers actual and/or potential risks of supply chain disruption during construction and operation.

8.3 The risk assessment also considers actual and/or potential risks of business interruption caused by epidemic/pandemic and civil unrest for both construction and asset operation.

8.4 The risk assessment also considers actual and/or potential risks of impacts to infrastructure performance derived from cyber-attack, cyber fault or defect effecting asset infrastructure monitoring and control systems.

8.5 The risk assessment also considers actual and/or potential risks of impacts to current and future cultural and socially sensitive areas or issues.

8.6 A plan is supplied which details measures set in place to for each area of identified high and extreme risk in the risk assessment.

8.7 A climate change adaptation plan has been supplied which demonstrates how the identified material climate risks will be managed through appropriate design adjustments. Climate Change Adaptation Plan: Must be developed in accordance to best practice standards (i.e., AS5334-2013).

The project team may use the Global Circulation Models (GCM) climate change scenarios to understand future climate risks. GCMs, in conjunction with nested regional models, have the potential to provide geographically and physically consistent estimates of regional climate change which are required in impact analysis. The GCMs are endorsed by the International Panel of Climate Change (IPCC).

8.8 A plan and commitment statement are supplied detailing the potential use of the development for facilitation/contribution to community level emergency and disaster management processes.

Note: The below are examples of some risk assessment and evaluation tools.

- World Resource Institute Aqueduct Water Atlas provides detailed maps with data regarding current and projected change in water stress, seasonal variability, water supply and water demand.
- Ecolab's Water Risk Monetiser provides actionable information to help businesses understand and quantify water-related risks in financial terms to inform decision that enable growth and enhance the vitality of communities.
- Maplecroft's Climate Change Vulnerability Index enables organisations to identify areas of risk within their operations, supply chains and investments. It evaluates 42 social, economic, and environmental factors to assess national vulnerabilities across three core areas. These include exposure to climate related natural disasters and sea-level rise; human sensitivity, in terms of population patterns, development, natural resources, agricultural dependence and conflicts; thirdly, the index assesses future vulnerability by considering the adaptive capacity of a country's government and infrastructure to combat climate change.

9 Consultation

Objective: The project establishes effective consultation mechanisms and strategies to ensure the community and relevant stakeholders contribute to the design, development, and future operations of the project; ensuring the key environmental, economic, social, and cultural issues are heard, considered, and appropriately addressed.

Criteria Requirements:

Compliance Item	Credit
9.1 Demonstrate adherence to statutory consulting requirements.	Mandatory
9.2 All key stakeholders, the community and community groups are identified and have been given the opportunity to participate in the planning and design stages of the project.	1
9.3 Methods, timeframes and outcomes of the consultation process have been defined and transparently shared with all key stakeholders.	1
9.4 Describe changes, if any, to the design and/or expected building operations resulting from the consultation process.	1
9.5 Substantial changes to the original design or inclusion of additional infrastructure to support the needs of the community and improve general quality of life.	1

Evidence Required

9.1 Evidence is provided outlining relevant legislated or statutory consulting requirements applicable to the development and provides evidence of adherence to the requirements.

9.2 A stakeholder/community consultation plan is supplied which provides detailed information regarding:

- The process and methods used during the project planning and design stages.
- Outcomes of the consultation process; and
- Any expected post-design consultation.

9.3 Evidence is provided revealing that methods, timeframes and outcomes of the consultation process have been defined and transparently shared with all key stakeholders.

9.4 A report is provided evidencing changes to the design and/or expected building operations resultant of the consultation process. Evidence can include writing and diagrams.

9.5 A report is provided evidencing the changes to the design where at least 50% of recommendations from the consulting process have been met to support the needs of the community and improve general quality of life.

10 Knowledge transfer

Objective: Knowledge transfer refers to sharing of knowledge throughout an organisation and/or with their stakeholder groups. Effective knowledge transfer is critical for the success of embedded sustainability in building developments. Ensuring clear communication of strategies and instructions to asset operators and end users will help operators make optimised use of their developments.

Criteria Requirements:

Compliance Item	Credit
10.1 The project team commits to providing a copy of the EarthCheck BPDS certification report to the asset operator.	Mandatory
10.2 The project team provides a copy of all submissions made for the EarthCheck BPDS certification process to the asset operator.	1
10.3 The project team prepares a comprehensive handover document detailing strategies and instructions for ensuring use embedded sustainability in the building development.	2
10.4 The project team prepares a comprehensive communications document detailing embedded sustainability in the building document for the benefit of non-technical users (including marketing teams).	2

Evidence Required:

10.1 A commitment statement signed by the developer company committing to provide a copy of the certification report to the asset operator.

10.2 The project team provide proof of digital transmission of the submission documents for the BPDS certification process to the asset operator.

10.3 The project team provide a copy of a handover document detailing strategies and instructions to make best sustainable use of the building and provide proof of digital transmission of this document to the asset operator. The handover document should be accompanied by an Operation and Maintenance Manual and Building Logbook.

10.4 The project team provide a copy of a marketable communication detailing sustainable strategies and features embedded into the project for the benefit of non-technical users and provide proof of digital transmission of this document to the asset operator.

07 – Key Performance Area 2: Energy

Objective: To ensure a 'whole of systems' view is adopted to minimise consumption, manage energy use, and promote self-sufficiency. Principles of sustainable energy design include passive solar design, use of efficient active systems, urban form design, renewable energy use and other emerging technologies.

Energy consumption is directly correlated with Green House Gas (GHG) emissions, and GHG emissions are addressed in the Energy KPA.

KPA Criteria:

Criteria	Mandatory Criteria	Credits Available
11. Energy consumption	✓	10
12. Energy metering and management	✓	3
13. Greenhouse Gas emissions	✓	10
14. Renewable energy	✓	28
15. Energy efficiency		6
16. Passive design		5

11 Energy transfer

Objective: Minimise energy consumption

Criteria Requirements:

Compliance Item	Credit
11.1 Improve asset performance beyond EarthCheck Regional Leader energy consumption benchmarks.	Mandatory
11.2 A credit is awarded for every 10% reduction in energy consumption from non-renewable sources when compared with the EarthCheck Regional Leader energy consumption benchmark.	10

Evidence Required:

11.1 Demonstrate the project improves asset performance beyond the EarthCheck Regional Leader energy consumption benchmarks for the building type and location:

Energy calculation formula:

$$\frac{\boldsymbol{Predicted\ Energy\ Consumption\ pa}}{\boldsymbol{Relevant\ Activity\ Measure}} = \boldsymbol{MJ/Activity\ Measure}$$

Performance must be substantiated in an energy modelling report that details at a minimum:

- Energy modelling software used, including justification to the selection and suitability of software.
- Model inputs:
    - Location data
    - Meteorological data (including annual heating and humidification design conditions; annual cooling, dehumidification, and enthalpy design conditions; extreme annual conditions; and monthly climatic design conditions)
    - Building envelope
    - Internal heat gains
    - Operating schedules
    - Heating and cooling schedules (including temperatures)

        - Energy systems
    - Assumptions and justification.
    - Model outputs.

Provide expected energy consumption model outputs segregated by energy source, load type and functional areas:
Energy sources:

- Renewable (onsite generation)
- Electricity (renewable or grid)
- Fuels (i.e., diesel, LPG, or natural gas)

Loads:

- Lighting
    - Internal
    - External
    - Navigation
    - Signage
    - Emergency
- Kitchens
- Small power
- Electric vehicle charging (public)
- HVAC
    - Internal
    - External
    - Emergency
- Mechanical loads
- Pumps
- Hot water
- Other significant loads
- Electric vehicle charging (private)

Functional Areas:

- Restaurants
- Accommodations
- MICE spaces
- Offices
- Retail
- Public spaces
- Pools
- Spa
- Foyer/lobby

Guidance:
Please detail energy consumption for electric vehicle charging in your calculations for criterion.

11.1 Energy consumption for electric vehicle charging can be offset from the total performance figure if it is powered entirely by on-site or off-site renewable energy sources.

11.2 Energy modelling outputs and energy purchase agreements demonstrating expected reductions in energy consumption from non-renewable sources compared against the EarthCheck Regional Leader benchmarks.

12 Energy metering and management

Objective: Measure and manage energy consumption to minimise operational energy consumption and associated carbon dioxide emissions.

Criteria Requirements:

Compliance Item	Credit
12.1 Commitment to measuring and monitoring energy performance through effective metering and sub-metering of the building's critical areas and/or equipment.	Mandatory
12.2 Commitment to having software solutions that will enable the effective management of energy consumption during operations.	1
12.3 The asset operator commits to having software solutions that will enable in-house live performance monitoring and recording of energy performance	1
12.4 The asset operator commits to having software solutions that will enable dissemination of key live performance data to asset performance monitoring and reporting services like the My EarthCheck platform.	1

Evidence Required:

12.1 Metering and sub-metering are in place to enable measurement and monitoring of energy performance of critical pieces of equipment and/or functional areas. Critical pieces of equipment or functional areas are those that account for more than 5% of total energy load. See guidance section for examples.

Equipment Types and Functional Areas are listed below.

Equipment:

- Boilers/chillers
- Fans (major)
- Kitchens/cold storage
- Pool pumps
- Transport systems
- Lighting and small power
- Other

Functional Areas:

- Restaurants/bars
- Accommodation
- Retail
- Offices
- Public spaces
- Spa and wellness
- Foyer/lobby
- Other

12.2 Provide documentation and a narrative to evidence the plan for effective use of meters and sub-meters to reduce energy demand. Meters and submeters must linked to the Building Management System (BMS) or other specialised software.

The BMS or specialised software must be capable of representing energy consumption information across equipment type and functional areas.

The BMS should articulate live performance data and be interoperable to allow system adjustment.

12.3 A commitment statement signed by the CEO/GM of the asset operator company ensuring that the asset operator will have integrated software solutions that enable in-house live performance monitoring and recording of energy performance.

12.4 A commitment statement signed by the CEO/GM of the asset operator company ensuring that the asset operator will have software solutions that enable dissemination of key live performance data to third-party asset performance monitoring and reporting services.

13 Greenhouse Gas Emissions

Objective: Minimise or avoid greenhouse gas emissions.

Criteria Requirements:

Compliance Item	Credit
13.1 Improve asset performance beyond the EarthCheck Regional Leader greenhouse gas emissions benchmark.	Mandatory
13.2 One (1) credit is awarded for every 25% reduction in greenhouse gas emissions when compared with EarthCheck Regional Leader greenhouse gas emissions benchmark.	4
13.3 One (1) credit is awarded for every 25% reduction in greenhouse gas emissions where the project contributes to the development and active management of an off-site carbon sequestering program within 50km of the site.	2
13.4 One (1) credit is awarded for every 25% reduction in greenhouse gas emissions where the project develops and actively manages on-site carbon sequestering solutions.	4

Evidence Required:

13.1 Demonstrate the project improves asset performance beyond the EarthCheck Regional Leader greenhouse gas performance benchmarks for the building type and location:

Greenhouse Gas Emissions calculator formula:

$$\frac{\boldsymbol{Predicted\ CO2\ emissions\ (kg)pa}}{\boldsymbol{Relevant\ Activity\ Measure}} = \boldsymbol{kg/Activity\ Measure}$$

13.2 Populate the Greenhouse Gas Emissions Calculator providing:

- Energy consumption model outputs by energy source (i.e., gas, diesel, electricity).
- Onsite wastewater treatment plant specifications (if applicable).

Note: Refer to the Greenhouse Gas Emissions Calculator template

Greenhouse gas emissions reductions credits can be met through the following mechanisms:

- Reducing energy demand – evidence provided through expected energy consumption modelling outputs
- Onsite renewable energy production (provide evidence of expected onsite renewable energy generation outputs; see criteria 11.1).
- Committing to source energy from a green power supplier.
- Committing to offset carbon emissions through carbon offset purchases.

A combination of any or all the above can be used to obtain the credits.

For credits to be awarded, the formal commitments need to be demonstrated with either a carbon offset credit provider or with the green power provider. Formal commitment can be demonstrated via contractual purchase agreements or signed commitment letter from the Asset Management Company or Operational Team (GM/CEO).

13.3 Carbon sequestration activities are led by the developer, undertaken within 50km of site and evidenced by report outputs from a carbon sequestration certification such as the Verified Carbon Standard, The Gold Standard, or the Certified Emission Reductions standard.

13.4 Carbon sequestration activities are led by the developer, undertaken at the development site, and evidenced by report outputs from a carbon sequestration certification such as the Verified Carbon Standard, The Gold Standard, or the Certified Emission Reductions standard.

14 Renewable energy

Objective: Promote the adoption of renewable energy to increase building energy independence and reduce greenhouse gas emissions.

Criteria Requirements:

Compliance Item	Credit
14.1 Evaluate the project's potential to incorporate renewable energy generation based on available rooftop area and other project structures.	Mandatory
14.2 Project rooftop areas and structures are designed to maximise the potential generation from solar energy and readiness for current and future technologies to be installed.	1
14.3 Half (0.5) of a credit is awarded for every 5% of total energy demand that is met by on-site renewable energy generation.	10
14.4 Half (.5) of a credit is awarded for every 10% of total energy demand that is met by off-site renewable energy generation.	5
14.5 The project contributes to the development of a community micro-grid.	2
14.6 Half (0.5) of a credit is awarded for every 10% of peak demand energy accrued daily within on-site energy storage.	10

Evidence Required:

14.1 Feasibility study which includes selected technology, scale of system, system output assumptions and return on investment. The study must be undertaken by an energy specialist and signed-off by the project's PM.

14.2 Demonstrate that measures have been taken to ensure that rooftop areas and other structures have been designed to maximise readiness for solar energy adoption by considering structural, electrical, roof layouts and shading elements. Detailed drawings and explanations must be provided.

14.3 Total calculation of renewable energy generation figures based on the expected equipment/system outputs per year. Output data must match feasibility study assumptions and statements.

14.4 Total calculation of renewable energy generation figures based on the expected equipment/system outputs per year. Output data must match feasibility study assumptions and statements.

14.5 A signed agreement is in place with applicable electricity utility companies/cooperatives; and/or agreement with proximal local energy users to supply power from the project's micro-grid.

14.6 A report is provided evidencing that an onsite energy storage system will be implemented and that it is suitable to meet peak demand requirements (accrued daily). The system must be designed in compliance with all applicable domestic standards (or minimum international standards) of battery safety.

15 Energy efficient equipment

Objective: Reduce operational energy consumption by procuring energy efficient equipment.

Criteria Requirements:

Compliance Item	Credit
15.1 Heating, ventilation, and air conditioning (HVAC).	1
15.2 Interior and exterior lighting.	1
15.3 Hot water systems and pumps.	1
15.4 Kitchens and refrigeration rooms.	1
15.5 Laundry room equipment.	1
15.6 Appliances and hardware.	1

Evidence Required:

15.1 One (1) credit is awarded if all HVAC equipment meets the guidance below.

15.2 One (1) credit is awarded if all interior and exterior lighting equipment meets the guidance below.

15.3 One (1) credit is awarded if all hot water system and pump equipment meets the guidance below.

15.4 One (1) credit is awarded if all kitchen and refrigeration room equipment meet the guidance below.

15.5 One (1) credit is awarded if all laundry room equipment meets the guidance below.

15.6 One (1) credit is awarded if all appliances, computers, and hardware equipment meet the guidance below.

Guidance: Energy efficiency checklist items require the following evidence to be deemed compliant:

- Equipment/product specifications.
- Equipment efficiency rates compliant to ASHRAE 90.1.

- Smart controls for equipment and management of functional areas.
- For appliances, the project must demonstrate use of country specific energy efficiency criteria for procurement of equipment and appliances with at least 4 Star Rating (out of 5 Star Rating System). In the absence of a national energy efficiency rating schemes, evidence must be provided to ensure equipment purchased is equivalent to the recommendations of an existing rating scheme.

Half a credit (.5) is awarded when 75% of appliance-cost procured meet the designated Star Rating.

Appliances and hardware include but are not limited to: Computers, Televisions, Washing Machines, Drying Machines, Dish Wasters, Fridges, Freezers, etc.

16 Passive design strategies

Objective: Reduce operational energy consumption by implementing passive design strategies.

Criteria Requirements:

Compliance Item	Credit
16.1 Passive design measures.	5

Evidence Required:

16.1 Drawings, layouts, plans and supporting explanations describe how passive design measures have been implemented. One (1) credit is awarded for every two (2) passive design measures implemented. Provide thermal performance modelling/simulation results, including model inputs and outputs, and a description of how and why the passive design considerations were selected.

Guidance:

16.1 Evidence in the form of plans, sectional drawings, diagrams, and material properties schedules, plus a narrative describing the use of passive design measures across the following passive design areas:

- Building massing
- Building materials
- Building orientations
- Building façade
- Fenestrations
- Natural lighting
- Natural ventilation
- Insulation
- Glazing
- Landscaping and natural shading

For passive design strategies involving landscaping and natural shading, architectural trees can be recognised so long as interventions are implemented to provide shading while architectural trees are growing to the required scale.

08 – Key Performance Area 3: Water

Objective: To ensure a 'whole of systems' view is adopted to minimise consumption, manage use, and recycle and reuse water resources. The developer shall ensure that the development's design establishes the efficient use of freshwater supply, and that the potable water consumption from all sources is modelled in the design phase to minimise potable water demand and maximise water reuse.

KPA Criteria:

Criteria	Mandatory Criteria	Credits Available
17. Water consumption	✓	10
18. Water efficient equipment		4
19. Water metering and management	✓	3
20. Water recycling and reuse	✓	8
21. Wastewater management	✓	3

17 Water consumption

Objective: Reduce consumption of fresh water

Criteria Requirements:

Compliance Item	Credit
17.1 Expected water consumption model outputs segregated by functional spaces or project areas that improve beyond the EarthCheck regional leader benchmark for potable water consumption.	Mandatory
17.2 A credit is awarded for every 10% reduction in freshwater consumption when compared with the EarthCheck regional leader benchmark for potable water consumption.	10

Evidence Required:

16.1 Use the Water Calculator to demonstrate the project meets or exceeds the EarthCheck best practice water consumption benchmark for the building type and location:

Water consumption calculation formula:

$$\frac{\boldsymbol{Predicted\ water\ consumption\ (kL)pa}}{\boldsymbol{Relevant\ Indicator\ Measure}} = \boldsymbol{kL/Indicator\ Measure}$$

Water modelling outputs detailing water consumption use and breakdown for functional areas. Drawings including schematics that summarise the water features/water cycle of the site. Plumbing and draining systems report including, but not limited to:

- Water supplies (sources, quality, and systems)
- Hot water
- Sanitary plumbing and draining system
- Rainwater system
- Fire water supply system

Water modelling outputs demonstrating expected reductions in water consumption when compared to the EarthCheck regional leader figure.

Guidance: Credits can be obtained by demonstrating how potable water reductions will be achieved through rainwater harvesting and reuse, and/or treatment and reuse of stormwater, greywater and/or wastewater.

16.2 Water modelling outputs demonstrating expected reductions in water consumption from freshwater sources compared against the EarthCheck Regional Leader benchmarks.

18 Water efficient equipment

Objective: Minimise water demand by procuring water efficient equipment.

Criteria Requirements:

Compliance Item	Credit
18.1 Heating and cooling.	1
18.2 Fixtures and appliances.	2
18.3 Irrigation systems.	1

Evidence Required:

18.1 One (1) credit is awarded if all heating and cooling system equipment meets the guidance below.

18.2 Two (2) credits are awarded if all fixtures and appliances meet the guidance below.

Fixtures and appliances include but are not limited to:

- Water closets/cisterns
- Urinals
- Basin/sink taps

Showerheads

- Baths
- Kitchen taps
- Dishwashers
- Washing machines/laundries

18.3 One (1) credit is awarded if all irrigation systems meet the guidance below.

Guidance:

Water efficiency checklist items require the following evidence to be deemed compliant:

- Demonstrate use of country specific water efficiency criteria for procurement of equipment and appliances. In the absence of a national water efficiency rating scheme, evidence must be provided to ensure equipment purchased is equivalent to the requirements of an existing international rating scheme. For credits to be awarded all fixtures and appliances must demonstrate compliance with the highest efficiency rating level of the selected water efficiency rating scheme.
- Equipment/product specification.

- Smart controls are required for equipment, management of functional areas and/or site requirements including cooling towers, chillers, boilers irrigation systems and public WCs, urinals, and taps.

  Provide controls selection, equipment or system description and expected outcomes.

19 Water metering and management

Objective: Measure, monitor and manage water use to minimise consumption.

Criteria Requirements:

Compliance Item	Credit
19.1 Commitment to measuring and monitoring water performance through effective metering and sub-metering of critical areas and/or equipment of the building.	Mandatory
19.2 Commitment to having software solutions that will enable the effective management of water consumption during operations.	1
19.3 Water leak monitoring detection.	1
19.4 The asset operator commits to having software solutions that will enable dissemination of key live performance data to asset performance monitoring and reporting services like the My EarthCheck platform.	1

Evidence Required:

19.1 Metering and sub-metering are in place to enable measurement and monitoring of water performance of critical pieces of equipment and/or functional areas. Critical pieces of equipment or functional areas are those that account for more than 10% of total water demand.

Functional areas/systems with highest water consumption follow:

- HVAC systems
- Cooling towers
- Kitchens
- Guest rooms
- Pools
- Irrigation
- Spa and wellness
- Laundries

19.2 Provide documentation and a narrative to evidence the plan for effective use of meters and sub-meters to reduce water demand. Meters and submeters must linked to the Building Management System (BMS) or other specialised software.

The BMS or specialised software must be capable of representing water consumption information across equipment type and functional areas.

The BMS should articulate live performance data and have alarms and notifications set for overconsumption of water.

19.3 Provide specifications of water leak monitoring systems in place that will enable the development of leak management plans.

19.4 A commitment statement signed by the CEO/GM of the asset operator company ensuring that the asset operator will have software solutions that enable dissemination of key live performance data to third-party asset performance monitoring and reporting services.

20 Water recycling and reuse

Objective: Reduce potable water demand by implementing water recycling and reuse strategies. Support the maintenance of local hydrological cycles and natural ground water balances.

Criteria Requirements:

Compliance Item	Credit
20.1 Projected water recycling and reuse figures are detailed in the water calculator.	Mandatory
20.2 Water sensitive urban design (WSUD) features.	2
20.3 Rainwater harvesting	1
20.4 Natural systems recharge.	2
20.5 Blackwater treatment and re-use.	2
20.6 The asset operator commits to having software solutions that will enable dissemination of key live performance data to asset performance monitoring and reporting services like the My Earthcheck platform.	1

Evidence Required:

20.1 Use the Water Calculator to demonstrate the project's water recycling and reuse performance.

20.2 Design layouts and detailed description of WSUD elements. One (1) credit is awarded for every four (4) WSUD measures implemented.

Examples of WSUD elements include:

- Stormwater collection and reuse
- Rainwater collection and reuse
- Grey water collection and reuse
- Stormwater flows designed to maintain existing drainage patterns and ensure that there is no erosion.
- Infiltration trenches and bio-retention systems.
- Absorption wells
- System in place to ensure stormwater does not become contaminated with litter, oil and grease, or silt wastewater
- Grassed or landscaped swales
- Pervious hardscapes and paving

20.3 One (1) credit is awarded for projects that harvest and re-use 100% of rainwater harvesting capacity.

20.4 One (1) credit will be given to projects which demonstrate that rainwater, stormwater, and grey water will be collected and treated – to Standards that meet local water quality requirements – before being deposited back into natural systems, including surface water bodies.

Another one (1) credit will be given to projects that deposit treated water back into aquifer systems.

Support narrative, drawings, equipment, specifications, calculations, and assumptions describing collection, treatment, and discharge systems

20.5 Design layouts and detailed description of the blackwater treatment and re-use system.

One (1) credit is awarded if blackwater is treated and reused.

One (1) credit is awarded if blackwater re-use offsets 100% of toilet flushing requirements.

20.6 A commitment statement signed by the CEO/GM of the asset operator company ensuring that the asset operator will have software solutions that enable dissemination of key live performance data to third-party asset performance monitoring and reporting services.

21 Wastewater management

Objective: Ensure wastewater is managed and reused effectively.

Criteria Requirements:

Compliance Item	Credit
21.1 Predicted volume of wastewater generated.	Mandatory
21.2 Wastewater management processes and contamination avoidance.	0.5
21.3 Treatment and reuse of water.	2
21.4 Treatment and reuse of wastewater sludge.	0.5

Evidence Required:

21.1 Provide the predicted volume of wastewater generated.

21.2 Describe the wastewater management equipment and procedures in place, which demonstrate that local wastewater regulations are being met to avoid contamination of local groundwater and surface water through controlled wastewater discharge.

Provide a description of the local wastewater treatment reticulation systems and treatment facilities.

21.3 Two (2) credits will be granted when 100% of wastewater is treated and reused. Treatment may be onsite or undertaken through the public wastewater reticulation system. In the cases where the local authority collects, treats, and reuses wastewater, a narrative must be provided to describe the Authority responsible for collection, the treatment plant and how wastewater is reused.

21.4 Quantity of expected sludge generated must be provided. The building operator commits to identifying a sustainable solution for 100% of wastewater sludge. The solutions must be described as well as the potential service providers that will collect/manage the sludge must be identified

09 – Key Performance Area 4: Solid waste

Objective: The developer shall ensure the design aims to reduce the amount of solid waste generated in construction, and in operation by implementing solid waste management processes to reduce, recycle or reuse solid waste

KPA Criteria:

Criteria	Mandatory Criteria	Credits Available
22.Construction waste	✓	6
23.Operational waste	✓	4
24.Waste reduction strategies	✓	4
25.Wate management strategies	✓	14

22 Construction waste

Objective: Minimise waste sent to landfill during construction.

Criteria Requirements:

Compliance Item	Credit
22.1 Report on expected construction waste generation.	Mandatory
22.2 One credit (1) is awarded for every 10% of construction waste recycled for use on-site.	4
22.3 One credit (1) is awarded for every 25% of construction waste recycled off-site.	2

Evidence Required:

22.1 A comprehensive report is provided detailing the expected construction waste generation revealing:

- Anticipated construction waste totals in m3 and tonne.
- Split by waste source (e.g., demolition, construction material waste, packaging waste, etc.)
- Split by waste type (e.g., plastic, timber, concrete, clean fill, mixed waste, etc.)
- Waste reduction strategies (see criteria 24)
- Waste management strategies (see criteria 25)
- Evidence in the form of reports and photographs if construction is underway or completed.

22.2 One credit (1) is awarded for every 10% of construction waste total recycled for use on site; shown by the report.

22.3 One credit (1) is awarded for evert 25% of construction waste total recycled off site; shown by the report.

23 Operational waste

Objective: Minimise waste sent to landfill during operation.

Criteria Requirements:

Compliance Item	Credit
23.1 Expected solid waste generation for operations improves beyond the EarthCheck Regional Leader benchmark for solid waste generation.	Mandatory
23.2 One credit (1) is awarded for every 25% improvement beyond the EarthCheck Regional Leader benchmark for solid waste generation.	4

Evidence Required:

23.1 Demonstrate the project improves beyond the EarthCheck Regional Leader solid waste generation benchmark for the building type and location:

Waste production calculation formula:

$$\frac{Predicted\ waste\ sent\ to\ landfill\ (kg\ or\ m^3)pa}{Relevant\ Indicator\ Measure} = kg\ or\ m^3\ /indicator\ measure$$

Support evidence and assumptions used to calculate predicted waste sent to landfill.

23.2 Waste modelling outputs demonstrating expected reductions in waste generation when compared with the EarthCheck Regional Leader benchmark for solid waste generation.

24 Waste reduction strategies

Objective: Building developments can reduce potential waste throughout the construction and asset operation cycles by setting expectations for vendors during the procurement process.

Criteria Requirements:

Compliance Item	Credit
24.1 Procurement conditions for construction materials and componentry necessitates the elimination of single-use plastic packaging.	Mandatory
24.2 Procurement conditions for operational materials and supplies necessitates the elimination of single-use plastic packaging.	Mandatory
24.3 Procurement conditions for construction materials and componentry necessitates that all suppliers provide re-usable packaging and collect this for re-use.	2
24.4 Procurement conditions for operational materials and supplies necessitates that all suppliers provide re-usable packaging and collect this for re-use.	2

Evidence Required:

24.1 Materials suppliers responsible for over 5% of the material bill must have an established plan to eliminate 100% of single-use plastic packaging waste by 2025. To meet this criterion a copy of complying procurement conditions and/or contracts and a copy of the suppliers' commitment/s must be provided.

24.2 A commitment statement signed by the developer committing to mandate complying procurement conditions and/or contracts for the operator, all tenants and their vendors or suppliers.

24.3 A copy of complying procurement conditions and/or contracts.

24.4 A commitment statement signed by the developer committing to mandate complying procurement conditions and/or contracts for the operator, all tenants and their vendors or suppliers.

25 Waste management strategies

Objective: Once waste is on-site it is important to have comprehensive strategies in place to further reduce, reuse and recycle waste before it is discarded. Waste management strategies may direct building user action, asset operator action and/or waste management contractor action both on-site and off-site.

Criteria Requirements:

Compliance Item	Credit
25.1 Tenancy conditions for operation necessitate that the operator and all tenants supply and/or use on-site waste separation facilities.	Mandatory
25.2 Procurement conditions for construction necessitate that construction companies supply and use on-site waste separation facilities.	2
25.3 The developer and/or asset operator commit to the procurement of waste management contractor/s that report on waste management outcomes.	2
25.4 A comprehensive waste management strategy is developed and embedded within the design. Half a credit (0.5) is awarded for each waste reduction/management measure implemented in the waste management strategy.	5
25.5 The project contributes to the development of community scale waste management services and/or facilities for the purpose of re-use and recycling of waste.	5

Evidence Required:

25.2 A commitment statement signed by the developer committing to mandate complying procurement conditions and/or contracts for the operator, all tenants and their vendors or suppliers.

25.3 A copy of complying procurement conditions and/or contracts.

25.4 A commitment statement signed by the developer and/or asset operator committing to mandate complying procurement conditions and/or contracts for waste management contractor/s. The commitment must necessitate credible 3rd party verification of waste management reports.

25.5 A comprehensive waste management strategy detailing the design/innovation/solution for:

- Private/guest rooms
- Staff areas and offices
- Kitchens and bars
- Medical areas and hospitals (if applicable)
- Waste management thoroughfares.
- Tenancies
- Common areas
- Spa and wellness centre areas (if applicable)
- Groundskeeping and maintenance
- Waste management sorting area

Waste reduction/measurements measures must be present for all functional areas of the building for credit to be achieved, and may include:

- Marked bins for waste segregation
- Composting bin provided for organic material
- E-waste instructions and/or facilities provided
- Filtered drinking water facilities available
- Measurement of all waste is reported on
- Organic waste diverted for on-site compost
- Glass waste diverted for on-site reuse
- Plastic waste diverted for on-site recycling
- Supply packaging used is compostable
- Waste performance is communicated

25.6 Evidence is provided to show that community scale waste management services and/or facilities for the purpose of re-use and recycling of waste are created, hosted, or funded by the development. The services and/or facilities have been established so that the development, asset operators and tenants as well as the surrounding community can use and benefit from its existence.

- One (1) credit is awarded if the development hosts the facility.
- One (1) credit is awarded if the development funds the creation of the services and/or facility.

- One (1) credit is awarded if the development creates the services as an independent entity.
- One (1) credit is awarded if the development creates the services as a community owned entity.
- One (1) credit is awarded if the development creates the facility as a community owned location.

10 – Key Performance Area 5: Land use planning and biodiversity

Objective: Minimise development's impact. Protect and enhance the ecological and cultural values present in the site through strategic site selection, building footprint management, and protection and enhancement of biodiversity and cultural assets.

KPA Criteria:

Criteria	Mandatory Criteria	Credits Available
26. Site development		7
27. Biodiversity	✓	9
28. Landscaping		9

26 Site development

Objective: Limit ecological impact of the project through prioritised site development in contaminated, previously developed, or low ecological value areas.

Criteria Requirements:

Compliance Item	Credit
26.1 The area of least ecological value within the site is selected for the project.	1
26.2 The project re-uses/refurbishes/recycles existing infrastructure should they be present within site boundaries.	1
26.3 The project remediates a contaminated site for development.	1
26.4 The project protects and remediates soil and underground life.	1
26.5 The project develops facilities for on-site food production.	3

Evidence Required:

26.1 An EIS/Ecological Assessment/Site Survey, completed by a suitably qualified ecologist, that describes the location(s) of contaminated, previously developed, and undisturbed land. The documents must also demonstrate the location(s) of ecologically valuable habitats, including listed flora and fauna species. Valuable species and ecological habitats are to be determined by:

- The international IUCN list of threatened species for species with a classification of vulnerable or higher: and/or
- National/local environmental protection and biodiversity regulations.

A minimum of 75% of the project must be developed on contaminated, previously developed and/or areas of least ecological value for the credit to be awarded.

26.2 Site drawings/building plans/photos that demonstrate that previously developed areas will be fully used where possible, and that existing site infrastructure will be re-used/refurbished/recycled. A report must be provided to describe usage or solutions for existing infrastructure.

26.3 Site plans/photos that show contaminated land and proposed remediation areas, plans and mechanisms. Evidence may include:

- Contamination report.
- Detailed remediation plans in accordance with the relevant planning regulations.
- Reports confirming proof of remediation having occurred.

26.4 Detailed plans evidence how the project team plans for, controls, and minimises effect to soil and underground life during construction and contributes to the remediation of soil and underground life, especially where soil has washed away, or compaction has occurred after construction is completed.

26.5 Site plans, building plans, technical details, and reports detailing:

- On-site food growing systems
- Food growing plan, cropping schedule and anticipated yields
- Management and maintenance plan
- Food distribution plan
- Waste management and composting plan
- Assumed asset operator needs.

One (1) credit is awarded if the project plans to grow 100% of culinary herbs required by the asset operator.

One (1) credit is awarded if the project plans to grow 100% of lactusa, astaracae and brassica plants required by the asset operator.

One (1) credit is awarded if the project plans to grow 100% of fruit and vegetable plants required by the asset operator.

27 Biodiversity

Objective: The project must be planned to cause no net biodiversity loss and should engage in regenerative practices to increase biodiversity values. Project teams should understand the important relationships between the kingdoms of fauna, flora and fungi and design, accordingly, enhancing conditions for the interweaving web of life.

Criteria Requirements:

Compliance Item	Credit
27.1 The project must ensure there is no net biodiversity loss resulting from the development.	Mandatory
27.2 The project demonstrates net biodiversity gains through site remediation, habitat creation and/or biodiversity offsetting.	4
27.3 The project develops and implements an ongoing biodiversity monitoring plan.	2
27.4 The project makes use of specialist technologies to improve conditions for endemic fauna, flora, and fungi.	1
27.5 The project makes use of specialist technologies to facilitate ongoing biodiversity monitoring, to automate reporting and to publicly communicate outcomes.	1
27.6 The project develops and implements a community land care program for biodiversity improvement.	1

Evidence Required:

27.1 An EIS/Ecological Assessment/Site Survey, completed by a suitably qualified ecologist, which demonstrates the location(s) of ecologically valuable habitats, including listed flora and fauna species.

Valuable species and ecological habitats are to be determined by:

- The international IUCN list of threatened species for species with a classification of vulnerable or higher: and/or
- National/local environmental protection and biodiversity regulations

Site drawings/building plans/photos must demonstrate how these areas and species will be protected, resulting in no net biodiversity loss.

Should the project be unable to avoid loss of biodiversity values (habitat & species), the project must offset those losses through biodiversity offsetting resulting in an equal compensation of biodiversity values. A fauna and flora relocation program must be undertaken in an effort.

Biodiversity offsets must be done through a land bank or a land trust. The land must be protected in perpetuity and evidence of a signed agreement with the land bank/trust must be provided.

27.2 This credit is awarded by demonstrating:

- That the site has been through a remediation process will result in the creation of new habitat for endemic flora and fauna.
- Artificial habitat/ecosystem enhancement is created to play a supporting role in enhancing ecosystem services and/or species diversity.
- That additional procurement of land with high ecological value (biodiversity offsets) has taken place in a manner that results in net gains of biodiversity values. The land must be protected in perpetuity through long term conservation covenants.

Biodiversity offsets must be done through a land bank or a land trust. The land must be protected in perpetuity and evidence of a signed agreement with the land bank/trust must be provided. One (1) credit is awarded for every 25% increase in biodiversity value, measured as additional habitat area in reference to original site area of ecologically valuable habitat.

27.3 A biodiversity monitoring plan has been established and implemented for ongoing use during construction and operation. The plan is to be suitably like the IUCN "Biodiversity guidelines for planning and monitoring corporate biodiversity performance" draft 2020.

27.4 A report is provided detailing the projects planned or actual use of technologies such as geofencing, bioacoustics attraction and/or pest repellent technologies to be implemented for the purpose of preserving and enhancing biodiversity.

27.5 A report is provided detailing the projects use of technologies such as bioacoustics monitoring and/or machine learning driven visual monitoring to be implemented for the purpose of monitoring biodiversity.

27.6 A report and project work plan are provided detailing the methods by which a community land care program will be funded, hosted and mechanisms by which it will be managed in perpetuity.

28 Landscaping

Objective: Ensure the site landscape plan enhances ecological and cultural site values and reduces the building footprint.

Criteria Requirements:

Compliance Item	Credit
28.1 Enhance the site's ecological value through the selection of local species.	Mandatory
28.2 Retain foliage-dense and deep-rooted trees.	1
28.3 Enhance the site's cultural and heritage assets	1
28.4 Enhance site accessibility for differently abled persons	1
28.5 One credit (1) is awarded for every 25% of rooftop area filled with biomass.	4
28.6 Reduce the heat island effect through appropriate microclimate control	1

Evidence Required:

28.1 A landscape plan that demonstrates at least 80% of soft landscape design will use indigenous species that contribute to enhance biodiversity values, avoid soil erosion, reduce stormwater runoff, and minimise operational maintenance requirements.

28.2 A landscape plan must demonstrate that the development ensures protection of groups of long-standing endemic flora which are foliage dense or deep-rooted. To attain this point building developments in:

- Inner-city areas must retain 20% of deep-rooted flora.
- Metropolitan areas must retain 40% of deep-rooted flora.
- Outer city or rural townships must retain 60% of deep-rooted flora.
- Remote and protected areas must retain 80% of deep-rooted flora.

28.3 A landscape plan that demonstrates soft and hard landscape design will contribute to protect, enhance, and promote cultural and heritage assets.

A narrative must be provided to describe how the landscape design will enhance and promote cultural and heritage assets to future facility users through active and passive interaction, leading to greater understanding, education and appreciation of local culture and heritage.

28.4 A site wide accessibility plan is provided that demonstrates that the site is accessible for differently abled persons.

A narrative must be provided to describe how the sites design will enhance accessibility. The narrative should specify accessibility passageways and supporting tools, devices, and vehicles available to persons.

28.5 One (1) credit is awarded for every 25% of the rooftop area areas filled with planting for biomass and with a substrate depth of 300mm or deeper.

28.6 Landscape plan view that demonstrates soft and hard landscape design will reduce the heat island effect by ensuring that, at least 80% of the site area consists of the following:

- Trees and vegetation
- Green roofs
- Water bodies
- Roofs
- Hardscapes
- Pavements

Specifications/material schedules for roofs, pavements and hardscapes must be provided. Hardscapes must have high reflectance values or use alternative measures to reduce heat emissivity.

The plan view must be drawn to a legible scale and include mature tree canopy crown sizes and area shaded by vegetation. Areas for each soft and hard landscape must be provided (i.e., 45% site covered by tree shading).

Note: roofs and hardscapes covered by solar panels can be counted towards total site area

11 – Key Performance Area 6: Sustainable materials and resource consumption

Objective: Reduce consumption of natural resources and the impact on ecosystem biodiversity through procurement of sustainable materials. Purchasing supplies of materials from sources using environmentally sound ingredients and processes can be a major contribution to resource and biodiversity conservation.

Reduce material consumption through consideration and procurement of reclaimed, recycled, and green materials.

KPA Criteria:

Criteria	Mandatory Criteria	Credits Available
29. Resource conservation	✓	7
30. Sustainable material selection and arrangement		6
31. Life-cycle assessment		4
32. Design for disassembly		9

29 Resource conservation

Objective: Maximise resource conservation through sustainable materials specification and procurement.

Criteria Requirements:

Compliance Item	Credit
29.1 Material and component specification.	Mandatory
29.2 Construction material surplus is reduced.	2
29.3 Construction material consumption is reduced using parametric design tools.	1
29.4 Local material procurement.	2
29.5 Reused and recycled components.	2

Evidence Required:

29.1 The project team provides a copy of the quantity surveyors report (or similar) detailing material and component selection (including quantities, weights, and volumes) and identifies:

- Materials that should be sourced locally
- Materials that should not be sourced locally
- Materials that cannot be sourced locally.
- Materials that are considered re-usable
- Materials that are considered recyclable
- Materials that are considered single use

Note: Procurement of locally sourced materials may not always be the most sustainable option and must be weighed against potential environmental damages caused versus embodied energy related to transport.

29.2 The project team implements and provides a report detailing a construction material surplus reduction strategy. Half (0.5) of a credit is awarded for each of the strategies listed below.

- Solutions are deployed to ensure ordering accuracy aligns with onsite stock levels.
- Agreements exist to redistribute surplus materials to other developments
- Procurement conditions necessitate supplier collection for re-use of surplus materials
- Construction company agrees to off-site storage of surplus for later use.

29.3 The project teams architects and engineers use parametric design tools to support and execute intentional (as-designed) material use reduction strategies for formwork, structure and fit-out.

29.4 A list of purchased building and/or fit-out material with details of the manufacturer location. Material manufacturing must be located within 500km radius of project site. Half (0.5) of a credit is given for every 25% of material-cost manufactured locally. Percentage is calculated based on material cost as a proportion to total project material cost (excluding cost of labour).

29.5 A list of purchased building and/or fit out material with details noting the material is reused or recycled. Half (0.5) of a credit is given for every 25% of material-cost which have been reused or recycled. Percentage is calculated based on material cost as a proportion to total project material cost (excluding cost of labour).

30 Sustainable material selection and arrangement

Objective: Procure sustainable building materials with reduced environmental impact.

Criteria Requirements:

Compliance Item	Credit
30.1 Green rating/eco-label schemes.	4
30.2 Low maintenance facades.	2

Evidence Required:

30.1 Provide a list of product manufacturers and product specifications.

One (1) credit is granted for every two (2) material categories in which the proportion (cost) of the material with green rating or eco-label is at least 90% of the total cost of that material. Listed materials are categorised in the guidance section.

30.2 Provide architectural plans, diagrams and materials schedules that evidence the maintainability of facades.

One (1) credit is granted if the building is designed so that at least 50% of external façade materials are easily accessible by foot for maintenance.

One (1) credit is granted if evidence is provided detailing that at least 50% of external façade materials are designed so that maintenance (such as painting, oiling, corrosion removal) should not be required for at least 10 years.

Guidance:

Material categories:

- Wood/timber, composites, panels
- Concrete/concrete boards
- Stone and gravel
- Gypsum
- Floorings
- Glass
- Plastics and rubbers
- Brick (including clay tiles and other ceramics)
- Fit outs
- Paints

If no formal rating is available for a specific material, evidence must be provided to demonstrate that the supplier of that material/product has one of the below:

- A product life-cycle assessment conforming to ISO 14044.
- A third-party accreditation.

31 Life-Cycle assessment

Objective: Adopt lifecycle analysis to reduce the environmental impact of the materials and products used in a development

Criteria Requirements:

Compliance Item	Credit
31.1 Implement a whole of lifecycle process that includes the comparison of lifecycle analysis results to a reference case.	3
31.2 The development and/or identified aspects of the development undergo a 3rd party, peer reviewed assessment.	1

Evidence Required

31.1 The project must demonstrate the use of a life cycle tool to undertake a whole-of-building life cycle analysis in accordance with International Standard ISO 14040:2006. The LCA must use a reference case to demonstrate cumulative impact reduction. One (1) credit is awarded for every 25% reduction in cumulative impact.

31.2 An LCA practitioner must review and verify the life cycle analysis and outcomes.

32 Design for disassembly and reuse

Objective: Building materials are often lost to waste during renovations, retrofits, and demolition. Through intentional design with the intent for disassembly and re-use waste can be avoided.

Criteria Requirements:

Compliance Item	Credit
32.1 Material modularity and pre-constructability.	2
32.2 Building modules are designed for disassembly and reuse.	4
32.3 Building modules are marked and itemised in a live digital inventory.	1
32.4 Building modules and key components have embedded RFID tracking.	1
32.5 The building developer and/or asset operator commits to having software solutions that will enable dissemination of key live tracking data to materials inventory monitoring and reporting services.	1

Evidence Required

32.1 A list of purchased building and/or fit-out material with details noting modularity and pre-constructability. One (1) credit is given for every 25% of the material-cost corresponds to material noting modularity and pre-constructability.

32.2 Plans, specifications, and instructions provided reveal the methods by which modules are assembled and disassembled for re-use.

One (1) credit is awarded if 100% of curtain wall assemblies are designed for disassembly and reuse.

One (1) credit is awarded if 50% of the interior fit out is designed for disassembly and reuse.

One (1) credit is awarded if 50% of wall assemblies are designed for disassembly and reuse.

One (1) credit is awarded if 25% of slab assemblies are designed for disassembly and reuse.

32.3 One (1) credit is awarded if all materials, components and building modules are marked and itemised in a live digital inventory.

32.4 One (1) credit is awarded if all key building modules and components have embedded RFID tracking.

32.5 One (1) credit is awarded if the developer/asset operator create/purchase/subscribe to software systems and manage materials inventory monitoring.

12 – Key Performance Area 7: Environmental health and pollution control

Objective: Ensure environmental health of occupants is optimised by reducing effects of pollutants and by installing measures to maximise user comfort.

KPA Criteria:

Criteria	Mandatory Criteria	Credits Available
33. Refrigerant use	✓	7
34. Lighting and visual comfort	✓	4
35. Acoustic comfort		2
36. Thermal comfort		1
37. Air quality	✓	5

33 Refrigerant use

Objective: Reduce or eliminate the environmental impacts of refrigerant use.

Criteria Requirements:

Compliance Item	Credit
33.1 Implement a whole of lifecycle process that includes the comparison of lifecycle analysis results to a reference case.	3
33.2 The development and/or identified aspects of the development undergo a 3rd party, peer reviewed assessment.	1

Evidence Required:

33.1 Details of the automated leak detection system, pump down system and airtight storage containment in case of a spill must be described.

33.2 Detail HVAC and refrigeration equipment selection, suitable refrigerants, selected (available) refrigerants and any measures required to make systems good for alternative refrigerants in the event of a phase out.

HVAC and refrigeration equipment selected for the project must be suitable for refrigerants that will not be phased out within 25 years of opening date.

Refrigerants selected for the project must not be scheduled to be phased out within 10 years of opening date

33.3 Refrigerants must have an ODP of zero (0).

33.4 Refrigerants should have a low Global Warming Potential (GWP).

- Refrigerants with a GWP under 1200 achieve one (1) credit.
- Refrigerants with a GWP under 600 achieve two (2) credits.
- Refrigerants with a GWP under 300 achieve five (5) credits.

33.5 Detail solutions implemented in place of HVAC, refrigerators, and refrigerants.

Note: For this criterion standalone fridges and freezers under 600L in any capacity can be used, however an end-of-life refrigerant recovery plan must be established and demonstrated.

34 Lighting and visual comfort

Objective: The project ensures visual comfort for guests (including for the visually impaired) and uses appropriate controls to reduce light pollution that may affect guests, the community, and the environment.

Criteria Requirements:

Compliance Item	Credit
34.1 Internal and external lighting, materiality and decoration promotes visual comfort and amenity including for visually impaired persons.	Mandatory
34.2 Façade lighting is controlled, and illumination is restricted.	Mandatory
34.3 Façade material and window glazing selection reduces internal and external glare.	1
34.4 A lighting control strategy is developed and implemented to minimise night-time light pollution.	1
34.5 Adaptive lighting controls are implemented to manage light timing, intensity, and colour.	1
34.6 External light fittings meet the Fixture Seal of Approval (FSA) by IDA or similar standard for luminaires	1

Evidence Required:

For criteria 34.1 - 34.6 the project team must complete and submit the Lighting and Visual Comfort Worksheet

34.1 Detail local industry standards and methods applied to promote visual comfort and amenity.

34.2 Design diagrams evidence that façade lighting is controlled, and illumination is restricted so that:

- Light does not project beyond 20 metres above ground at the grand entrance of the building.
- Light does not project beyond 5 metres above ground at all other areas of the building.

Note: lighting masks should be used to precent façade lighting from entering windows and doorways.

34.3 The project team provides a written brief, design diagrams and specifications evidencing use of intentional passive design strategies materials for glare reduction.

34.4 Detail the lighting strategy developed and/or implemented.

34.5 Applicable if 100% of external lighting selection has achieved the International Dark Sky Association (IDA) Fixture Seal of Approval (FSA) or a similar standard.

35 Acoustic comfort

Objective: Reduce noise pollution from building facilities that may affect guests, the community and environment.

Criteria Requirements:

Compliance Item	Credit
35.1 Noise from HVAC, mechanical equipment and functional areas within the facility are built to minimise noise pollution to external environments and guests.	2

Evidence Required:

35.1 Demonstrate that noise pollution will be minimised or avoided from systems, equipment and functional areas including:

- HVAC
- Kitchens
- Elevators
- Pool and pumps
- Entertainment facilities

An acoustic report/plan which identifies the relevant spaces for low and high levels of noise, and the noise and reverberation targets for each area.

Or demonstrate the implementation of National or International Noise Attenuation or Acoustics Standards.

36 Thermal comfort

Objective: That thermal comfort is improved through a thermal comfort strategy.

Criteria Requirements:

Compliance Item	Credit
36.1 A thermal comfort strategy is developed.	1

Evidence Required:

36.1 Building service designers provide an evidenced thermal comfort strategy for the air distribution system based on:

- Local climatic conditions and cultural comfort norms of building users.
- Type of use of the development.
- Clothing selection for building users and its inherent insulation.

37 Indoor air quality

Objective: Indoor air quality is improved through industry standard or better systems and processes.

Criteria Requirements:

Compliance Item	Credit
37.1 The project makes use of industry standard or better processes to control moisture and contaminants related to mechanical systems.	Mandatory
37.2 The project makes use of industry standard or better processes to limit contaminants from indoor sources.	Mandatory
37.3 The project makes use of industry standard or better processes to capture and exhaust contaminants from building equipment and activities.	Mandatory
37.4 The project makes use of industry standard or better processes to reduce concentrated pollutants through ventilation, filtration, and air cleaning.	Mandatory
37.5 The project makes use of industry standard or better processes to reduce indoor air quality risks during periods of building shutdown and emergency unoccupancy periods.	1
37.6 The project discourages, reduces and/or eliminates indoor and outdoor environmental tobacco smoke.	2
37.7 The project makes use of radon detection and reduction systems	1
37.8 The project makes use of indoor air quality monitoring technologies.	1

Evidence Required

37.1 Systems and processes comply or improve beyond ASHRAE 62.1-2016 requirements or local requirements, whichever is more stringent.

37.2 Systems and processes comply or improve beyond ASHRAE 62.1-2016 requirements or local requirements, whichever is more stringent.

37.3 Systems and processes comply or improve beyond ASHRAE 62.1-2016 requirements or local requirements, whichever is more stringent.

37.4 Systems and processes comply or improve beyond ASHRAE 62.1-2016 requirements or local requirements, whichever is more stringent.

37.5 A plan, systems and processes are established to reduce indoor air quality risks during periods when the building is not occupied or used. Plans must detail a strategy by which equipment use and energy consumption will be reduced.

37.6 Building plans and diagrams should evidence that a plan is in place to discourage, reduce and/or eliminate environmental tobacco smoke during construction and asset operation.

- Half (0.5) of a credit is awarded for a ban on indoor smoking and smoking near building entrances.
- Another half (0.5) of a credit is awarded for a ban on smoking near playgrounds, sporting areas, pools, and along pedestrian pathways.
- Another half (0.5) of a credit is awarded if smoking is restricted to designated outdoor smoking areas.
- Another half (0.5) of a credit is awarded if smoking is banned across the entirety of the site.

37.7 Plans, diagrams, and reports reveal that systems and processes are established to detect and reduce radon infiltration, especially in sub-terranean and connected areas.

37.8 Plans, diagrams, and reports reveal that systems and processes are established to monitor indoor air quality, to report to asset operators and to support adaptive control of HVAC systems.

13 – Key Performance Area 8: Transport

Objective: Guests, residents, and workers make their journeys by many different means. It is important to encourage journeys that are safe and enjoyable and have a reduced impact on the environment. End of trip amenity should be curated to encourage appropriate transport selection for all journey makers.

Projects teams are encouraged to promote development of infrastructure in a manner that takes advantage of existing public transport facilities, minimises impact on the local environment and reduces local road traffic congestion.

KPA Criteria:

Criteria	Mandatory Criteria	Credits Available
38. Public transport		4
39. Active transport		9
40. Private transport	✓	6

38 Public transport

Objective: Ensure that public transport is available near the project site and that it is suitable to meet anticipated future demand. Advocate for procurement of sustainable public transport.

Criteria Requirements:

Compliance Item	Credit
38.1 Public transport is available near the project site.	1
38.2 Public transport facilities are suitable for the current and future public transport demand.	1
38.3 The project advocates for and/or contributes to the procurement of sustainable public transport.	2

Evidence Required:

38.1 Public transport is available near the project site. The credit is granted if:

- There are existing public transport facilities within:
  - 500 metres walking distance from the furthest building entrance for metropolitan developments.
  - 1200 metres walking distance from the furthest building entrance for other developments.
- Or the project contributes to the development of public transport facilities within 500 metres walking distance from the site entrance (to be built in time for operation) and provides a shuttle service for workers to nearby public transport within 10 kilometres of site during construction.

38.2 A public transport study or report showing that the currently available transport modes and facilities are suitable for current and future transport demand. The report must include how the below address current and future transport demand:

- Transport type(s).
- Frequency of service.

38.3 A report or series of reports detailing:

- Community and government level advocacy activities undertaken by the developer and/or asset operator to promote the procurement or upgrade to

sustainable public transport methods including electric buses, train services, tram services and ferry services.

- Financial or in-kind contributions made to support the procurement or upgrade to sustainable public transport methods.

39 Active transport

Objective: Promote the adoption of active and sustainable transport modes, reduce vehicle emissions, and encourage healthy lifestyles through provision of active transport passageways and facilities.

Criteria Requirements:

Compliance Item	Credit
39.1 User experience is enhanced through development of safe and engaging cycleways and pedestrian paths on site.	1
39.2 Cycleways and pedestrian paths have strong experiential and transit related connectivity with neighbouring properties, towns and cities and the surrounding environment.	1
39.3 Secure storage facilities are provided for worker and guest vehicles.	2
39.4 Active transport vehicle service and charging stations are provided.	2
39.5 End of trip facilities are provided for workers and guests.	2
39.6 Adequate space is provided for short term parking of active transport vehicles near exterior food and beverage venues at the ground level of buildings.	1

Evidence Required:

39.1 Plans and diagrams showing the location of cycleways and pedestrian paths and how user experience is enhanced in a safe and engaging way.

39.2 Plans and diagrams showing connectivity with neighbouring properties, towns and cities and the surrounding environment.

39.3 Plans, diagrams, and details of the availability of adequate storage for bicycles, scooters and similar vehicles are provided.

- One (1) credit is awarded for adequate secure storage for worker vehicles.
- One (1) credit is awarded for adequate secure storage for guest vehicles.

Note: Worker and guest vehicles must be stored in separate secure facilities with the ability to secure individual vehicles with a lock and entrances must be under 24-hour CCTV recording.

39.4 Plans, diagrams, and details of the availability of service and charging stations are provided.

- Half (0.5) of a credit is awarded if a bicycle servicing station is available to the public, nearby the entrance to the building.
- Half (0.5) of a credit is awarded if a bicycle servicing station is available nearby to secure storage.
- Half (0.5) of a credit is awarded if charging stations are available inside of workers secure storage.
- Half (0.5) of a credit is awarded if charging stations are available inside of guests' secure storage.

39.5 Plans, diagrams, and details showing the availability of adequate end of trip facilities for workers and guests.

- One (1) credit is awarded for complying end of trip facilities provided for workers.
- One (1) credit is awarded for complying end of trip facilities provided for guests.

End of trip facilities must include:

- Appropriate facilities inclusive of accessibility friendly space.
- An adequate number of showers, toilets, and basins to meet peak user demand.
- Secure locker storage for workers facilities (lockers may be free or for hire).
- Clothes ironing station/s.
- Towel supply station.
- Hair drying and personal amenities station/s.

39.6 Plans and diagrams revealing active transport vehicle parking space is provided for vehicles to be stored (short-term) nearby to exterior ground level food and beverage service providers.

40 Private transport

Objective: Promote the adoption of low emission private vehicles and implement strategies to encourage a reduction of the building footprint associated with private transport.

Criteria Requirements:

Compliance Item	Credit
40.1 Promote use of low emissions vehicles by providing electrical vehicle recharging stations within parking facilities.	Mandatory
40.2 Promote use of low emissions vehicles by preparing to provide electrical vehicle recharging stations within parking facilities.	2
40.3 Electrical vehicle charging stations are powered entirely by on-site renewable energy sources.	1
40.4 Minimise vehicle parking footprint and associated vehicle emissions.	1
40.5 Half (0.5) of a credit is awarded for every 5% total car parking dedicated to car-pool, rideshare or shared vehicle parking.	2

Evidence Required:

40.1 Parking plans show the location and quantity of electrical vehicle charging stations and listed assumptions to justify:

- At least 10% of car parking provided has electrical vehicle charging installed.

Note: This criterion is waived if there is no on-site car parking.

40.2 Parking plans show the location and quantity of suitable electrical vehicle charging stations and listed assumptions to justify:

- At least 30% of car parking provided is suitable for electric vehicle charging installation.

40.3 Analysis of the on-site sustainable energy sources and their ability to supply 100% of energy for electrical vehicle charging stations.

40.4 Parking plans and additional evidence that demonstrates:

- Environmental footprint and social impacts of carparks are minimised by limiting available car parks within the building site.
- Off-street car parking is limited.
- Car park locations do not affect the health and safety of pedestrians and cyclists.

40.5 Parking plans show the location and quantity of car-pool, rideshare, or shared vehicle parking allocations.

14 – Key Performance Area 9: Social, cultural, and economic well-being

Objective: Identify the local community's social, cultural, and economic elements and values. Recognise their importance and incorporate measures in the planning, design and future operations of the project that ensure the development contributes to maintain a positive, productive, and cohesive sustainable local community.

Actively support initiatives for social and community development including, among others, education, health, and sanitation.

KPA Criteria:

Criteria	Mandatory Criteria	Credits Available
41. Heritage and culture		6
42. Accessibility and inclusion		5
43. Training and education		3
44. Local employment		2
45. Economic development		2

41 Heritage and culture

Objective: Protect, enhance, and promote heritage and cultural values.

Criteria Requirements:

Compliance Item	Credit
41.1 Undertake a socio-cultural assessment which determines the significance, integrity, the tangible and intangible qualities of cultural and indigenous resources.	1
41.2 Respect prevailing landscape and local architectural character and adopt harmonious design features.	1
41.3 Protect and enhance historical, anthropological, religious, sociological, and ethnological, scientific, and aesthetic resources within the site boundary.	2
41.4 Protect and enhance historical, anthropological, religious, sociological, and ethnological, scientific, and aesthetic resources external to the project site boundary.	2

Evidence Required:

41.1 A social-cultural impact assessment report undertaken by a suitably qualified professional indicating the local resources/sites that require consideration for protection and conservation.

Provide development approval requirements and conditions for management and conservation of historical resources and how these will be met by the project.

41.2 A description and photos/images of the landscape and local architectural character and architectural drawings which demonstrate how the project incorporates local elements into architecture and design.

41.3 One (1) credit is awarded for measures that will be undertaken to protect historical, anthropological, religious, sociological, and ethnological, scientific, and aesthetic resources/sites within the site boundary during construction and future operations.

One (1) credit is awarded for measures that will be undertaken to enhance the state or condition of the resources/sites within the site boundary during the construction and future operations.

41.4 One (1) credit is awarded for measures that will be undertaken to protect historical, anthropological, religious, sociological, and ethnological, scientific, and aesthetic

resources/sites external to the site boundary during construction and future operations.

One (1) credit is awarded for measures that will be undertaken to enhance the state or condition of the resources/sites external to the site boundary during the construction and future operations.

42 Accessibility and inclusion

Objective: Promote safe, friendly, and inclusive access for users, visitors, and the local community.

Criteria Requirements:

Compliance Item	Credit
42.1 Make provisions to ensure people with limited ability can access and use facilities in a similar manner as people with non-limited ability.	1
42.2 Make provisions to ensure visitors and users can use and navigate throughout the facilities safely.	1
42.3 Make provisions to create natural, cultural, sports and/or recreational spaces accessibly by users, visitors, and the community.	1
42.4 The project develops additional infrastructure, beyond the core building facilities, which will create natural, cultural, sports and/or recreational spaces available to the public.	2

Evidence Required:

42.1 A strategy that outlines which measures will be taken to ensure that all people are able to safely access and navigate throughout the proposed facilities in a manner that does not require alternative routes/pathways. Evidence includes:

- Access areas for persons of limited ability
- Internal movement layouts/diagrams
- Gradient change
- Accessible parking, etc.

The following are a set of Standards that can support and guide the project team towards ensuring that all people are able to use the facilities in a similar manner:

- Accessibility and usability of the building environment (ISO 21542)
- Tactile walking surface indicators (ISO 23599)
- Application of braille on signage, equipment, and appliances (ISO 17049)
- Communication aids for blind persons (ISO/TR 11548)
- Web content (ISO/IEC 40500)

42.2 Measures taken to ensure facilities are safe with consideration to signage, lighting, security controls, and access to roads/cycleways/walkways. Evidence includes:

- Signage strategies
- Location and connection of pedestrian, vehicle, and cycle roads/pathways
- Public areas which require particular lighting/security controls, etc.

42.3 Measures taken to demonstrate that the project will create natural, cultural, sports and/or recreational spaces that are accessible by users, visitor and the community in a manner that promotes social connectivity, and passive and active interaction between users, visitors, and the community. Evidence includes, but is not limited to:

- Open spaces
- Green areas and parks
- Mixed use areas

42.4 Measures taken to demonstrate that the project will develop additional infrastructure, beyond the core building facilities, which will create natural, cultural, sports and/or recreational spaces available to the public. Evidence includes:

- School
- Community centre
- Library
- Health facilities
- Parks and green areas
- Other

43 Training and education

Objective: Promote social mobility and skill development through training and education opportunities.

Criteria Requirements:

Compliance Item	Credit
43.1 Commitment to staff training and education.	1
43.2 Commitment to staff and their family's education to support upward mobility and career development beyond specific facilities/service management requirements.	1
43.3 Commitment to non-staff community education and training that support upward mobility, career development and economic development	1

Evidence Required:

43.1 A staff training and education plan which provides detailed evidence of:

- A training and education plan or program (i.e., specific skills, languages, etc.)
- Training and education targets (i.e., % of staff)

The plan must be accompanied by a formal commitment letter signed by the building developer, construction company and/or asset management company (GM/CEO) which declares the intents stated in the plan are true and will be delivered.

43.2 A staff and staff-relatives upward mobility and career development plan which provides detailed evidence of:

- Vocational, secondary, or tertiary staff education plan.
- Children of staff scholarships for primary, secondary, or tertiary education.
- Training and education targets (i.e., % of staff)

The plan must be accompanied by a formal commitment letter signed by the building developer, construction company and/or asset management company (GM/CEO) which declares the intents stated in the plan are true and will be delivered.

43.3 A non-staff education and training plan which provides detailed evidence of programs and/or projects to be implemented in the community which support upward mobility and career development. Non-staff includes individuals, businesses, or operators within the local community.

The plan must be accompanied by a formal commitment letter signed by the building developer, construction company and/or asset management company (GM/CEO) which declares the intents stated in the plan are true and will be delivered.

44 Local employment

Objective: Promote local employment.

Criteria Requirements:

Compliance Item	Credit
44.1 Commit to employ staff from the local community and surrounding areas.	1
44.2 Commit to ethical and non-exploitative arrangements with staff.	1

Evidence Required:

44.1 A formal commitment letter signed by the building developer, construction company and/or asset management company (GM/CEO) which declares a commitment to prioritise the employment of local staff, within a 20km radius.

The letter must include local staff employments targets (i.e., % staff).

44.2 A formal commitment letter signed by the building developer, construction company and/or asset management company (GM/CEO) which declares a commitment to ethical and non-exploitative arrangements with staff.

The letter must include a list of principles and measures that will be implemented to ensure staff employment conditions are non-exploitative and local employment regulations will be respected.

45 Economic development

Objective: Contribute to local economic development through proactive inclusion of local suppliers and businesses.

Criteria Requirements:

Compliance Item	Credit
45.1 Demonstrate increased level of investment in the local economy through sourcing of local products and services.	1
45.2 Drive economic development through provision of micro-credit to employees, the community, and local entrepreneurs.	1

Evidence Required:

45.1 A strategy or plan, with clear objectives and targets, which demonstrates how products and services from local business providers will be sourced, procured, and promoted, including a list of identified:

- Tour operators
- Food and agricultural produce suppliers
- Transport suppliers
- Art, music, and performance services and products
- Artisanal products

The strategy or plan must also prioritise environmentally and socially sustainable local business providers.

The strategy or plan must be accompanied by a formal commitment letter signed by the asset management company (GM/CEO) which declares the intents stated in the evidence are true and will be delivered.

45.2 A micro-credit program, with clear objectives and targets, which demonstrates how local economic development will be driven through the provision of micro-credit to employees, the community and/or local entrepreneurs. Evidence required:

The strategy or plan must be accompanied by a formal commitment letter signed by the asset management company (GM/CEO) which declares the intents stated in the evidence are true and will be delivered.

15 – Key Performance Area 10: Innovation

Objective: Innovation plays a pivotal role in the reduction of resource consumption and improvement of processes that affect and benefit our environment, our economy, and the human experience of the world. To ensure continual innovation, building developers, construction companies and asset operators can encourage the engagement of empowered talent pools. This can include the creation of opportunities for students and graduates, participation in development and testing, and even contributing to the commercialisation and use of new innovations.

KPA Criteria:

Criteria	Mandatory Criteria	Credits Available
46. Create opportunity		2
47. Establish process		3
48. Deliver innovation		9
49. Engage specialist ESD support		6

46 Create opportunity

Objective: Project teams encourage innovation by creating opportunities for students and graduates, developing an innovative talent pool who can create further benefit to their community, economy, and environment.

Criteria Requirements:

Compliance Item	Credit
46.1 The project creates a position or multiple positions for university students and/or graduates to gain skills through paid internships or graduate positions.	2

Evidence Required

46.1 The project development, construction, or asset management company/s employs current students or recent graduates (graduated within two years) in key roles with direct engagement in the project.

Relevant fields of study to may include but are not limited to:

- Architecture, design, urban planning and/or engineering
- Ecology, environmental science and/or environmental planning.
- Law, anthropology, education and/or the humanities
- Information technology and/or advance manufacturing.

To achieve this criteria companies must:

- Advertise the position broadly and non-discriminately.
- Select a candidate through a clearly documented, competitive and merit-based selection process.
- Select a candidate who resides within 50km (rural) or 100km (metropolitan) of the project development site.
- Select a candidate who has no existing relationship with the project, associated companies or executive (decision making) personnel.

47 Establish process

Objective: Project teams contribute to the establishment of innovative technologies and processes by providing financial, in-kind, organisational, or participatory support for academic and/or commercial endeavours.

Criteria Requirements:

Compliance Item	Credit
47.1 The project contributes financially to an existing academic and/or commercial study.	1
47.2 The project participates in an academic and/or commercial study.	1
47.3 The project commits to the establishment of citizen science program/s.	1

Evidence Required:

47.1 The project development, construction and/or asset management company/s contribute financially to support academic or commercial research.

Areas of study to be funded should be related to the environmental, economic, or social sustainability of the project and its surrounding contexts.

To achieve this credit, funding must be at least in part 10% of the predicted cost of the study determined from the study's outset.

47.2 The project development, construction and/or asset management company/s participate in academic or commercial research, providing in-kind, organisational, or participatory support.

Areas of study to be supported should be related to the environmental, economic, or social sustainability of the project.

47.3 Citizen science programs incorporate scientific research conducted in collaboration with the public, including amateur scientists. Datasets collected contribute towards scientific research and reporting outcomes are intended for distribution to the public, or beneficiaries.

It can help to improve scale, frequency, and duration of scientific research. Programs can include but are not limited to environmental research, biological research, technological innovation research or scientific research. To achieve this criterion, project teams must provide a clear report detailing the purposes, periods, methods, and mechanisms for conducting the citizen science program. The building development, construction or asset management company. must commit to funding, and perpetuating the program for the intended period, and agree to publishing the results.

48 Deliver innovation

Objective: The project teams contribute to the delivery of innovative technologies and processes.

Criteria Requirements:

Compliance Item	Credit
48.1 The project contributes to the commercialisation of innovative technologies or processes.	1
48.2 The project demonstrates the use of innovative technologies or processes.	8

Evidence Required:

48.1 The development, construction or asset management company contribute financial, in-kind, or organisational support to help commercialise innovative technologies or processes.

A report is provided detailing the methods by which the project team provides support for commercialisation, how the technology or process is innovative and how it will be incorporated into the project.

48.2 Credits are awarded to recognise superior performance, initiatives and processes that may not be captured in the Building Planning and Design Standard (BPDS) criteria. For credits to be awarded project teams must provide a narrative on the solution which describes and justifies its innovative nature, qualitative and/or quantitative impact description and data, and supporting evidence to show improved sustainability outcomes.

Eight (8) credits are available, and one (1) credit can be awarded for each unique innovation across the following areas:

- Sustainable construction,
- Energy,
- Water and wastewater,
- Solid waste and material recycling,
- Sustainable materials,
- Indoor environmental health,
- Transport; and
- Social, cultural, and economic well-being.

The criteria for innovation are not prescriptive; innovation credits are assessed based on technology, methods, and appropriateness to local context. Approval is subject to EarthCheck ratification.

49 Engage specialist ESD support

Objective: Project teams contribute to the delivery of innovative technologies and processes.

Criteria Requirements:

Compliance Item	Credit
49.1 The project engages the services of a formally recognised EarthCheck Design Accredited Professional (EDAP).	4
49.2 A project team member completes specialist training to become an EarthCheck Design Accredited Professional (EDAP).	2

Evidence Required:

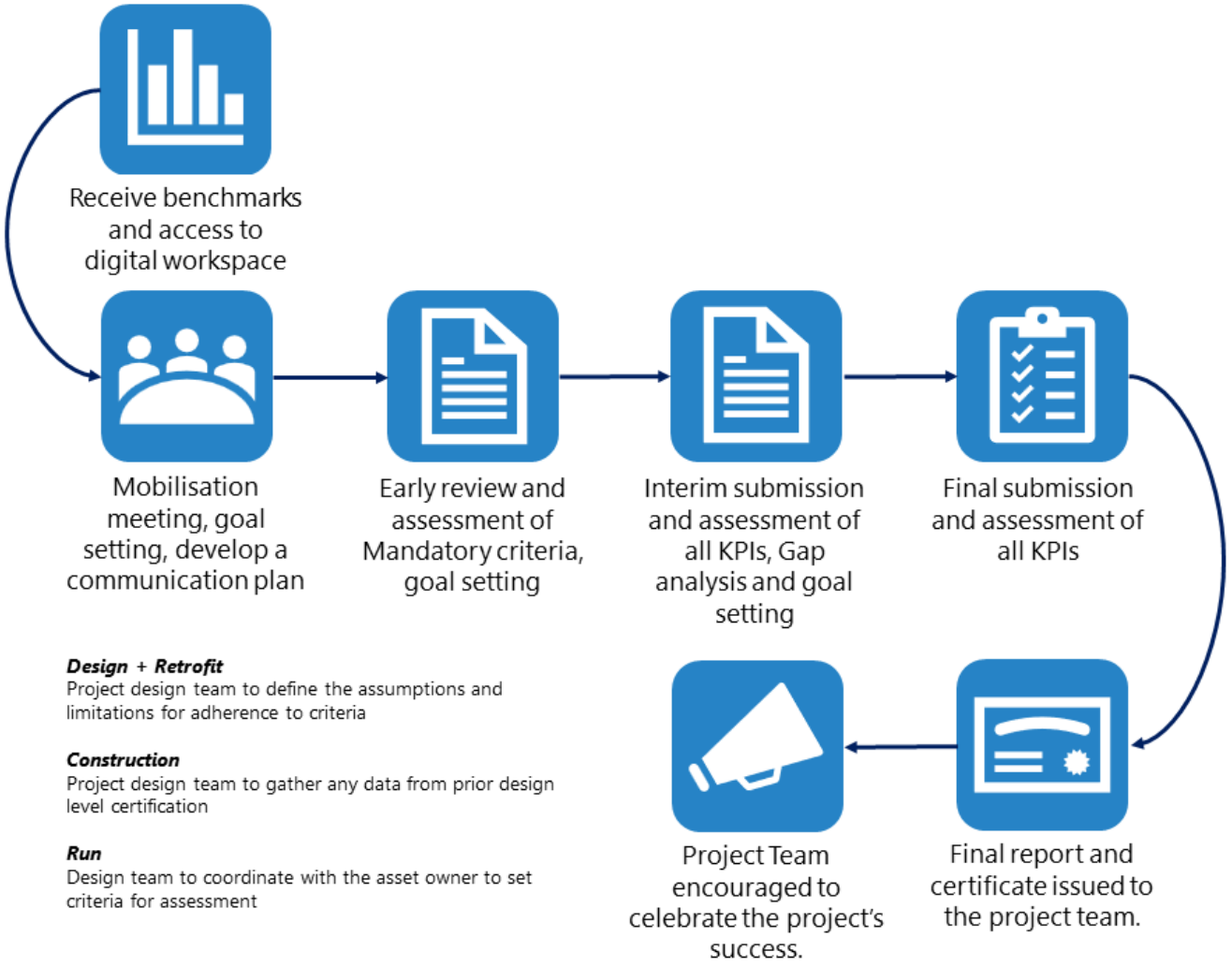
49.1 The development, construction or asset management company contribute financial, in-kind, or organisational support to help commercialise innovative technologies or processes.

A report is provided detailing the methods by which the project team provides support for commercialisation, how the technology or process is innovative and how it will be incorporated into the project.

49.2 The project proponent nominates and arranges for member/s of their project team to undertake EDAP training

16 – Annexure

6.1 Process map



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