**Appendix 1: Measurement Items**

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| Items | Constructs |
| Economic Performance (ECP) |  |
| ECP1 | Revenue growth resulting from sustainable practices in the construction project. |
| ECP2 | Reduction in costs due to efficient resource management and waste reduction. |
| ECP3 | Increased profitability is linked to adopting eco-friendly technologies. |
| ECP4 | Long-term financial stability due to enhanced resource efficiency and sustainability efforts. |
| Environmental Performance (EVP) |  |
| EVP1 | Reduction in carbon emissions through energy-efficient processes and renewable energy use. |
| EVP2 | Improved waste management practices resulting in reduced environmental impact. |
| EVP3 | Adoption of eco-design principles that minimize environmental harm throughout the project lifecycle. |
| EVP4 | Implementation of sustainable resource use to conserve water, energy, and materials. |
| Risk Assessment (RAS) |  |
| RAS1 | Assessing the likelihood and potential impact of financial risks in construction projects. |
| RAS2 | Evaluating the potential costs associated with project delays, resource shortages, and market fluctuations. |
| RAS3 | Identifying external risks such as inflation, changes in regulations, and supply chain disruptions. |
| RAS4 | Evaluating the effectiveness of risk management strategies to address financial uncertainties. |
| Risk Identification (RI) |  |
| RI3 | Identifying environmental risks, such as pollution and resource depletion, that may affect the project's sustainability. |
| RI4 | Recognizing socio-political risks, such as labor strikes, public opposition, or community concerns. |
| RI5 | Detecting regulatory and compliance risks that may delay or hinder project completion. |
| RI6 | Identifying technological risks related to equipment failure, technology obsolescence, or cybersecurity. |
| Risk Mitigation (RMG) |  |
| RMG2 | Developing strategies to reduce the financial impact of identified risks through risk-sharing or contingency planning. |
| RMG3 | Implementing actions to mitigate environmental risks, such as pollution control and sustainable waste management. |
| RMG4 | Ensuring safety measures to minimize socio-political risks, including labor disputes and community conflicts. |
| RMG5 | Applying technological solutions to minimize risks associated with construction processes and operations. |
| Stakeholder Collaboration (SCB) |  |
| SCB2 | Engaging stakeholders early in the project to ensure alignment with sustainability objectives and risk management strategies. |
| SCB3 | Collaborating with contractors, suppliers, and community members to share information and resolve risks. |
| SCB4 | Encouraging innovation through collaborative efforts to meet sustainability goals while minimizing risks. |
| Stakeholder Communication (SCM) |  |
| SCM2 | Providing regular updates to stakeholders regarding project progress, risks, and sustainability impacts. |
| SCM3 | Ensuring transparent communication channels to address concerns and align stakeholder interests with project goals. |
| SCM4 | Facilitating continuous dialogue with stakeholders, ensuring they are informed about environmental and social performance. |
| Stakeholder Involvement (SI) |  |
| SI2 | Involving key stakeholders in decision-making processes related to sustainability, risk management, and project strategies. |
| SI3 | Actively engaging with stakeholders to ensure their concerns and feedback are considered in risk management plans. |
| SI4 | Organizing workshops or forums for stakeholders to contribute to the project’s long-term sustainability. |
| Social Performance (SPF) |  |
| SPF1 | Creation of green jobs and skills development for local communities through the implementation of sustainable practices. |
| SPF2 | Enhancing community welfare through social equity initiatives, such as affordable housing and community involvement. |
| SPF3 | Promoting workplace health and safety by adhering to sustainable labor practices and ensuring fair wages and working conditions. |