This document supersedes BERDE Green Building Rating Scheme for New Construction v1.0.0 and all related corrigenda.

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This BERDE Green Building Rating Scheme is open for use as a reference voluntary standard for the measurement of environmental performance of buildings. The use of this Green Building Rating Scheme is not a substitute for services rendered by building design, construction and operation professionals. Professional advice and service should be sought before, during, and after the undertaking of a building project to ensure its strength, functionality, design aesthetics, and its compliance to related national laws and regulations.

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BUILDING FOR ECOLOGICALLY RESPONSIVE DESIGN EXCELLENCE
FOR NEW CONSTRUCTION: COMMERCIAL BUILDINGS
VERSION 1.1.0 (2013)
Committee Draft (December 13, 2012)
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FOREWORD

The Philippine Green Building Council (PHILGBC) is a national non-stock, non-profit organization that promotes sustainability and environmentally sensitive practices in the property sector. PHILGBC is an alliance of leaders in the building industry extensively working at promoting responsible, profitable and healthy places to live, play and work.

The Building for Ecologically Responsive Design Excellence (BERDE) Program was established by the PHILGBC to develop a nationally accepted and recognized voluntary green building rating system for the Philippines. The BERDE Green Building Rating System is developed under the BERDE Program through the time, effort and resources of the PHILGBC Membership.

BERDE development is achieved with consensus from a multi-stakeholder consultation and collaboration process. Draft rating schemes undergo two cycles of commenting before finalization and approval for release.

The BERDE Green Building Rating Scheme for New Construction: Commercial Buildings version 1.1.0 (2013) was prepared under the direction of the BERDE Technical Management Board.

This version of the BERDE Green Building Rating Scheme is developed in partnership with the Department of Energy (DOE) under the Philippine Energy Efficiency Project: Efficient Building Initiative (PEEP-EBI). The project is financed by the Asian Development Bank (ADB).
MESSAGE

My warmest greetings to the Philippine Green Building Council as you launch the latest versions of the BERDE Green Building Rating Scheme.

The last decade has witnessed a period of revelation for the global community, as nations withstood shifting climate patterns and encountered first-hand the effects of global warming. The Philippines, in particular, has been shaken by strong storms in recent years and continues to be threatened by this phenomenon. In the midst of these events, we join the greater community in heeding the call for sustainability as we collectively pave the way for stability and lasting progress.

We in government recognize your efforts to address these concerns. Indeed, your pursuit of a single standard for environmental design gives us headway in taking socially-responsible steps towards development. We hope that you continue to boost our industries’ confidence in redefining success in the view of social impact and intergenerational equity. Committing to this principle, we reaffirm our country’s resilience and secure our share of bounty for the years to come.

The future we aspire for is now within our reach; let us work together to realize this tomorrow of promise, and to pass on the legacy that we inherited in all its glory and fullness. May you be endowed with further strength to remain a catalyst of growth and positive change.

MANILA
3 May 2013

BENIGNO S. AQUINO III
MESSAGE

Warm greetings to the Philippine Green Building Council (PHILGBC) at the launching of its Building for Ecologically Responsive Design Excellence (BERDE) Green Building Rating Schemes (GBRS)!

It is our ardent desire in the government’s energy sector for our country to be energy-sufficient leading to a vibrant economy infused with practices that encourage an ecologically-sound environment. The launch of the GBRS is a great contribution to this cause.

We laud the PGBC for being a strong driving force of green building practices in the Philippines. Your vigorous promotion of efficiency in the utilization of our energy resources and sustainability of our buildings and infrastructures are making headways across the country and gaining a reputation in the international scene.

Indeed, this creative and practical breakthrough in the property sector is auspicious especially in the midst of the challenges and difficulties arising from a climate-changing world and a more competitive and aggressive market across the industry.

We look forward to this new landscape in the industry as we hope to integrate the green idea along with the investments, technology, and policy to ensure direction and success. Let this initiative sustain your passion and invigorate you to serve and build a bright future for all Filipinos.

Mabuhay and more power!

CARLOS JERICHO L. PETILLA
Secretary

Republic of the Philippines
DEPARTMENT OF ENERGY
Energy Center, Rizal Drive cor. 34th Street, Bonifacio Global City, Taguig
MESSAGE

On behalf of the Philippine Green Building Council (PHILGBC) and the Department of Energy (DOE), we thank you for your continued support of green building and sustainability. You hold in your hands the latest version of BERDE (Building for Ecologically Responsive Design Excellence), the official green building rating scheme of the Philippines – created by Filipinos for Filipinos. This rating scheme serves as both a tool to measure a building’s environmental performance against established standards and a guide to designing, developing, constructing, and operating a sustainable building.

In partnership under the Philippine Energy Efficiency Project: Efficient Building Initiative (PEEP-EBI), the PHILGBC and DOE have developed the latest version of the BERDE with input and feedback from different stakeholders from the public and private sectors including project proponents who have undergone actual BERDE Assessment and Certification. Each scheme is specifically designed for individual building types that are newly constructed, existing, renovated, and fully operational.

While BERDE was first introduced in 2010, there is a need to constantly review, update, and improve the rating system to adapt to new technologies, products, standards, regulations, research, and best practice. This latest version also provides revisions and clarifications in order to facilitate interpretation and implementation.

The PHILGBC would like to thank our partner, the Department of Energy, for its unwavering support in this flagship project. We would also like to thank the key individuals and groups to complete the latest BERDE version – BERDE Technical Management Board, BERDE Sub-committee on Technical Standards Development, BERDE Sub-committee on Technical Review, BERDE Program Secretariat, and to all partners for workshops, study group meetings and discussions in the development of BERDE.

It is our hope that BERDE continues to be adopted across both existing buildings and new construction as we work together to transform our local market toward a green and sustainable built environment.

Ramon Fernando D. Rufino
Chairman, Board of Trustees
Philippine Green Building Council
MESSAGE

We extend our congratulations to the Philippine Green Building Council (PHILGBC) as we witness the launching of the Building for Ecologically Responsive Design Excellence (BERDE) Green Building Rating Schemes (GBRS)!

Truly, green is the way to go.

For so long, we have been used to the traditional modes of building and infrastructure types in the country, with little or even no regard of its environmental impact. But now, there’s a breath of fresh air. This new scheme that has been developed under the Department of Energy-Philippine Energy Efficiency Project (DOE-PEEP), offers a solution, a way out of wasteful and inefficient building upkeep and resource management practices. The time has come when we can choose to design, build, and operate our buildings in an ecological and resource-efficient manner.

Since 2007, the PHILGBC has been at the forefront of the industry in making a clarion call for sustainable environment through green building practices. Its GBRS is a great tool for green buildings to be easily identifiable and it levels the field for newly constructed, renovated and retrofitted buildings, with the assurance that all market players will be able to benchmark in a single system through a third-party certification. It also increases the competitive advantage of the building industry.

We can take pride in the GBRS not only because of the benefits it brings to the table, but at the same time, it is our very own. Locally initiated but with a global outlook in mind. Our country prides itself in its rich cultural heritage; and on this note, our identity will be further enlivened as green buildings allow preservation of cultural contexts by encouraging green, indigenous, and locally available materials to be used.

While GBRS will be helpful indeed, we must ensure that there is stakeholder participation. It is critical in the advancement of this cause. We believe our efforts will not be in vain as we strive to build consensus with the stakeholders. And rest assured there will be ample government and sound policy support.

Green building and certification will go a long way as we recognize its advantages and learn the effects of climate change. Indeed, it makes our buildings more livable and its occupants more environmentally-conscious.

We further believe that we are stepping out into the right direction—towards lessening our carbon footprints. This bright, new prospect we are heading into is promising and full of potential.

It is an exciting time for all of us to be witnessing this era of improving and greening our architecture and design in buildings and infrastructures. We have our heads held high on the fact that the country is keeping up—and even stepping up—with its distinction in this field.

May the BERDE GBRS Launch inspire innovators, entice investors, and encourage people overall to venture into this horizon for building and construction; and may it stimulate growth and empower leaders in refining the Philippine building landscape.

May this launch propel this endeavor to even greater heights of renown and success. Thank you as we look forward to a greener future in the property and construction sector.

Loreta G. Ayson, CESO I
Director, Philippine Energy Efficiency Project
Undersecretary, Department of Energy
MESSAGE

This year marks the beginning of a brighter and greener transformation.

In 2010, the Philippine Green Building Council (PHILGBC) introduced Building for Ecologically Responsive Design Excellence (BERDE), a green building rating system designed according to the Philippine environmental setting which will guide, assist, and enable the public in identifying buildings with exemplary environmental performance.

Through the years that ensued, we have seen the gradual uptake of green buildings in the Philippines, and have witnessed the growing support of the building and property sector in the green building agenda. Now, in partnership with the government, BERDE is moving forward and further in the industry as the national voluntary green building rating system.

BERDE is officially recognized by the Philippine government through the Philippine Energy Efficiency Project – Efficient Building Initiative (PEEP-EBI) component of the Department of Energy (DOE). Under this project, the PHILGBC has performed various tasks in building awareness in the industry, providing opportunities for professionals, recognizing government buildings that have saved energy through lighting, and promoting and developing the BERDE Green Building Rating System.

It is no denying that BERDE has grown into a system of its own --- a system that has branched out into the newly built, to the changed and retrofitted, and the presently standing and operating. BERDE is now more adaptive than ever, with green building schemes developed for different building classifications in response to their individual differences. The development of the BERDE Green Building Rating Schemes included cycles of commenting and study, each consensus-driven, industry-led, and government-supported to ensure its appropriateness for the country.

More companies and more individuals have taken the initiative in getting involved and utilizing BERDE for their pursuit of sustainability, and it is in this position that the PHILGBC thanks you, members and partners of the Council, for being part of a bigger, brighter, and greener movement.

We look forward to constantly working with you in developing BERDE into a more robust, responsive, recognizable, and efficient tool for the continuous transformation of the market.

Christopher Cruz de la Cruz
Chief Executive Officer
Philippine Green Building Council
ACKNOWLEDGEMENT

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United Architects of the Philippines – QC Silangan Chapter

Urban Land Institute Philippines

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The NET Group
Acknowledgement

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Annex A (Normative) Definition of Terms
Annex B (Normative) Acronyms
## SUMMARY OF POINTS

### 1 Management
- MN-PT-1: BERDE Consultant: 2 points
- MN-PT-2: Stakeholder Consultation: 6 points
- MN-PT-3: Design Charrette: 1 point
- MN-PT-4: Security: 1 point
- MN-PT-5: Sustainability Commitment: 1 to 4 points

### 2 Land Use and Ecology
- LE-PT-1: Land Reuse: 2 to 6 points
- LE-PT-2: Protection and Improvement of Ecological Features: 2 to 6 points
- LE-PT-3: Pro-Local Biodiversity Open Space: 2 to 3 points
- LE-PT-4: Heat Island Effect: Non-Roof: 1 to 2 points
- LE-PT-5: Heat Island Effect: Building Roof: 1 point
- LE-PT-6: Flood Risk Minimization: 2 points

### 3 Water
- WT-PT-1: Water Sub-Metering: 1 point
- WT-PT-2: Potable Water Consumption Reduction: 1 to 4 points
- WT-PT-3: Efficient Landscape Irrigation: 1 to 2 points

### 4 Energy
- EN-PT-1: Energy Sub-Metering: 1 point
- EN-PT-2: Energy Efficient Lighting: 1 point
- EN-PT-3: Natural Ventilation: 1 point
- EN-PT-4: On-Site Renewable Energy Generation: 1 point
- EN-PT-5: Energy Efficiency Improvement: 1 point
- EN-PT-6: Energy Efficiency Building Envelope: 1 point
- EN-PT-7: Energy Efficient Equipment: 1 point
- EN-PT-8: Building Automation Systems: 1 to 2 points

### 5 Transportation
- TR-PT-1: Bicycle Rider Amenities: 1 point
- TR-PT-2: Fuel Efficient and Low Emitting Vehicles: 1 point
- TR-PT-3: Parking: 3 points
- TR-PT-4: Proximity to Key Establishments: 3 points
- TR-PT-5: Public Access: 1 point
- TR-PT-6: Contribution to Public Transport Amenities: 1 to 3 points
- TR-PT-7: Public Transportation Access: 1 to 4 points
- TR-PT-8: Transportation Impact Assessment: 2 point

### 6 Indoor Environment Quality
- EQ-PT-1: External View and Daylighting: 1 point
- EQ-PT-2: Illumination Control: 1 point
- EQ-PT-3: Glare Control: 1 point
- EQ-PT-4: Thermal Control: 1 point
7 **Materials**
- **EQ-PT-5**: Indoor Air Quality 1 point
- **EQ-PT-6**: Microbial Contamination Prevention 1 point
- **EQ-PT-7**: Low VOC Environment 1 point

8 **Emissions**
- **EM-PT-1**: Pollutant and Greenhouse Gas Inventory 2 points
- **EM-PT-2**: Ozone Protection 1 point
- **EM-PT-3**: Emission Control 1 point

9 **Waste**
- **WS-PT-1**: Construction Waste Diversion 2 to 6 points
- **WS-PT-2**: Materials Recovery Facility 5 points

10 **Heritage Conservation**
- **HC-PT-1**: Heritage Feature Protection 3 points
- **HC-PT-2**: Heritage Features Promotion 1 point

11 **Innovation**
- **IN-PT-1**: Innovation in Design or Process 10 points maximum
- **IN-PT-2**: Innovation in Performance 10 points maximum

**Under MN:**
- **Conduct a design phase commissionability review** 1 point
- **Conduct of extended commissioning after one year** 1 point

**Under LE:**
- **Flood risk assessment report data based on 50-year, 24-hour rainfall** 1 point
- **Flood risk assessment report data based on 100-year, 24-hour rainfall** 1 point

**Under WT:**
- **Installation of water submeters for major water usages accounting for 40% of total water consumption** 1 point
- **Integration of water metering system with BAS** 1 point

**Under EN:**
- **BAS in place for monitoring MVAC** 1 point
- **Conduct of CFD studies of naturally ventilated spaces** 1 point
- **Annual energy reduction cost greater than 15%** 1 point
- **25% energy reduction OR 150 kWh/m² per year (12-hour operation) OR 300 kWh/m² per year (24-hour operation)** 1 point
- **Energy modelling reports representing building performance** 1 point
- 10% improvement above minimum EER for unitary A/Cs OR 10% improvement in efficiency baseline for chillers 1 point
- 20% improvement above minimum EER for unitary A/Cs OR 20% improvement in efficiency baseline for chillers 2 points
- 30% improvement above minimum EER for unitary A/Cs OR 30% improvement in efficiency baseline for chillers 3 points
- Inclusion of lifts, lighting, RE systems, and external loads in BAS 1 point

**Under EQ:**
- Use of automatic lighting controls 1 point
- 100% compliance with required VOC levels for materials 1 point

**Under MT:**
- Any three of the criteria identified in MT-PT-1 are met 1 point
- All criteria identified in MT-PT-1 are met 2 points
- All criteria identified in MT-PT-2 are met 1 point

**TOTAL POINTS**

maximum of 100 points
1 MANAGEMENT

Management focuses on the environmental performance of a building, from its pre-construction or design phase to the construction, post-construction, and commissioning.

This category incorporates commitment to the compliance of national and local laws, establishment of project and commissioning teams, conducting stakeholder consultations, and the formation of design charrettes, all constituting the design and construction phase to properly address different environmental issues.

1.1 MN-RQ-1: COMMITMENT

Projects pursuing certification under this green building rating scheme must comply with this parameter.

Emphasize commitment to the compliance with national and local laws, and generally-accepted codes of building and professional practice. Non-compliance with government mandates shall automatically disqualify the project from BERDE certification.

1.1.1 CRITERIA

Comply with the following:

- Laws, rules, regulations, and mandatory standards governing the practice of building design and construction;
- Laws, rules, regulations, and mandatory standards governing components affecting building performance, such as water, air, materials, and waste; and
- Local ordinances governing the location wherein the development has been undertaken.

1.2 MN-RQ-2: PROJECT TEAM

Projects pursuing certification under this green building rating scheme must comply with this parameter.

Establish an appropriate team that will enable the delivery of the design for the building in a coordinated, comprehensive and sustainable manner.

1.2.1 CRITERIA

Identify members of the project teams for design and construction, and determine key roles for each.
1.3 MN-RQ-3: TECHNICAL SITE ASSESSMENT

Projects pursuing certification under this green building rating scheme must comply with this parameter.

Establish a detailed technical site assessment to ensure the development accounts for site conditions, and possible remedial actions required are considered in the design and construction. Complete all necessary design bases and construction planning submittals in various technical trades in relation to the development.

1.3.1 CRITERIA

Identify the following information:

- Adjacent structures
- Site coordinates and site topography
- Relevant ordinances and laws in the area
- Geotechnical conditions of land and soil
- Locations of fault lines
- Liquefaction risk
- Volcanic eruption potential
- Rainfall information and capture potential
- Hydrology and flood potential
- Ambient air temperature and relative humidity
- Wind current behaviors
- Solar shading
- Utility companies to provide for electrical and plumbing services
- Available power in the area
- Nearest power connection points
- Available water pressure in the area
- Elevation information
- Nearest tapping point for water services
- Location of existing sewage line/s and storm water line/s
- Nearest potential evacuation area in case of fire
- Availability of space for fire trucks and Fire Department connection
- Location of fire hydrant/s
- Plant species adapt for the area
- Existing ecological entities in the area (e.g., fauna, body of water, etc.)
- Ambient air quality
- Potable water quality
- Sewerage water quality
- Municipality classification, population, and other relevant demographic data

Identify possible hazards and risks related to construction activities in the development based on actual site conditions and documentations. Determine the stormwater flow, wind flow, dust generation potential, noise pollution potential, and existing traffic management within and around the site vicinity.
1.4 MN-RQ-4: ESTABLISH BASIS OF DESIGN

Projects pursuing certification under this green building rating scheme must comply with this parameter.

Provide design guidance in order to reduce mobilization and familiarization times at the commencement of the project, and to ensure a level of consistency in the design and project construction approach.

1.4.1 CRITERIA

Identify the following information:

- Owner’s specific requirements
- Summary of external environmental information based on MN-RQ-3
- General site criteria
- Area specific site criteria
- List of reference standards
- Commissioning, operation, maintenance and facilities management
- Performance targets (based on other categories)
- Other information necessary to guide the designers/consultants in the building documentation

1.5 MN-RQ-5: DESIGN MANAGEMENT SYSTEM

Projects pursuing certification under this green building rating scheme must comply with this parameter.

Establish a management system that clearly defines all instructions and processes needed for the design team to complete the design documentation of the project.

1.5.1 CRITERIA

Conduct a kick-off meeting and orientation between the design team and the client. Discuss and identify the following:

- Components of Design Management and Coordination Team;
- Levels of authority;
- Lines of communication and reporting;
- Document and data control;
- Change/revision management; and
- Use of software.
1.6 MN-RQ-6: CONSTRUCTION MANAGEMENT SYSTEM

Projects pursuing certification under this green building rating scheme must comply with this parameter.

Establish a project-specific system that clearly defines all instructions and processes that are needed for the construction team to completely implement the project.

1.6.1 CRITERIA

Conduct a kick-off meeting and orientation within the construction team. Discuss and identify the following:

- Components of Construction Team;
- Levels of authority;
- Lines of communication and reporting;
- Construction quality assurance and control;
- Risk management, including construction safety and environment;
- Document control and change / revision management; and
- Cost and schedule management.

1.7 MN-RQ-7: COORDINATED BUILDING COMMISSIONING SYSTEM

Projects pursuing certification under this green building rating scheme must comply with this parameter.

Establish a project-specific system that would effectively undertake the commissioning of the development’s service systems.

Commissioning confirms that all systems and components are designed, installed, tested and can be operated and maintained according to the Project Owner’s operational requirements.

1.7.1 CRITERIA

Provide direction for the commissioning process during construction, resolution for issues such as scheduling, roles and responsibilities, lines of communication and reporting, approvals, and coordination.

Identify the following information:

- Project data; including project name, address, owner/developer, building type, area, target completion date, and brief description of the building;
- Basic and salient features of the systems (to be) commissioned;
- List, individual backgrounds and qualifications, reporting lines, and functional responsibilities of the commissioning team; and
- General Commissioning Management Plan and Protocol.
**Potential Innovation Points**

Projects pursuing certification under this green building rating scheme may obtain points in Innovation in Performance for the following:

- **One (1) point** for conduct of a design phase commissionability review. Results are to be reported and included in the Design Phase assessment submittals.

- **One (1) point** for conduct of extended commissioning one year after completion and handover of the facility. Appointment of the Commissioning Authority, scope of work of the appointment and the work programme for the extended commissioning are to be reported and included in the Construction Phase assessment submittals.

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**1.8 MN-PT-1: BERDE Consultant**

Projects pursuing certification under this green building rating scheme may obtain **a maximum of two (2) points** under this parameter.

Promote and encourage the integrated design process, and streamline in the application and certification process through the employment of BERDE consultants.

**1.8.1 Point Allocation**

Two (2) points may be awarded for meeting the criteria below.

**1.8.2 Criteria**

A participant of the project team with sufficient knowledge in building sustainability principles should have undergone the BERDE Professional Basic Training Course, passed the examination, and is a Certified BERDE Professional in good standing OR is a green building professional certified and licensed by an accredited training institution in compliance with ISO 17021: Conformity assessment -- Requirements for bodies providing audit and certification of management systems.

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**1.9 MN-PT-2: Stakeholder Consultation**

Projects pursuing certification under this green building rating scheme may obtain **a maximum of six (6) points** under this parameter.

Involve the relevant stakeholders materially affected by the project, such as potential occupants, businesses, and local government in the design process.

**1.9.1 Point Allocation**

Six (6) points may be awarded for meeting all criteria below.
1.9.2 CRITERIA

Conduct a Focus Group Discussion (FGD) to customize the project as well as provide a sense of ownership. Discuss and identify the following information through the FGD:

- Members of the local community and appropriate stakeholders
- Functionality, development quality and impact (including aesthetics) on the inherent community of the development and the local community
- User satisfaction / productivity issues
- Management and operational implications
- Maintenance resources / burdens
- Local traffic / transport impact
- Social issues
- Opportunities for shared use of facilities
- Issues to be resolved and opportunities to be included in the design
- Translation of discussed issues and developed solutions in the design and construction

Implement strategies incorporating results from the FGD.

1.10 MN-PT-3: DESIGN CHARRETTE

Projects pursuing certification under this green building rating scheme may obtain one (1) point under this parameter.

Identify realistic and cost-effective sustainable measures that can be implemented in the new building development.

1.10.1 POINT ALLOCATION

One (1) point may be awarded for meeting all the criteria below.

1.10.2 CRITERIA

Conduct workshop/s involving the building owner, related designers, and commissioning personnel that highlights all possible ideas that will affect the design, construction and operation of the development. Inform and educate charrette participants about energy and environmental implications in design and construction so that they could effectively use BERDE in defining a high performance building.

Identify economically viable and doable strategies that could be implemented to attain the desired BERDE rating.

Document the charrette both as a training tool for future charrettes and as a source of information to the building owner and design team.
1.11 MN-PT-4: SECURITY

Projects pursuing certification under this green building rating scheme may obtain one (1) point under this parameter.

Acknowledge effective design measures that will reduce the opportunity and fear of crime in the development.

1.11.1 POINT ALLOCATION

One (1) point may be awarded for meeting the criteria below.

1.11.2 CRITERIA

Consult with local police, barangay officials, or a credible security consultant on mapping out the opportunity for crime occurrences. The final design should reflect the identified measures based on the consultation conducted.

1.12 MN-PT-5: SUSTAINABILITY COMMITMENT

Projects pursuing certification under this green building rating scheme may obtain one (1) to a maximum of four (4) points under this parameter.

Commit to the delivery of the project’s contribution to the social, environmental, and economic dimensions of sustainability, or the triple bottom line.

1.12.1 POINT ALLOCATION

One (1) point may be awarded for contributions to the social dimension.

One (1) point may be awarded for contributions to the environmental dimension.

Two (2) points may be awarded for contributions to the economic dimension.

1.12.2 CRITERIA

Contribute to employment within the vicinity, education, housing, and improvement of conditions in formal and informal settlements; and support human rights and gender equality.

Contribute to the improvement of the environmental dimension through the provision of programs to conserve and enhance water sources, land resources, and air quality.

Contribute to the betterment of the economic dimension through the improvement of the local economy, and the increase in telecommunication facilities, research, and development.
2 LAND USE AND ECOLOGY

Land Use and Ecology tackles different issues on the condition and the development of the site during the certification period. This category includes the promotion of the integrated design process for control of pollution from construction activities, utilization of land previously developed, protection of ecological features and biodiversity, and reduction of environmental impacts through encouraging environment-resilient site development.

2.1 LE-RQ-1: CONSTRUCTION ACTIVITY POLLUTION CONTROL

Projects pursuing certification under this green building rating scheme must comply with this parameter.

Reduce watercourse and air pollution brought about by construction activities.

2.1.1 CRITERIA

Implement measures that prevent erosion during construction brought about by stormwater, construction wastewater runoff, construction related sediments from reaching receiving watercourses, and air pollution brought about by dust and particulate matter.

2.2 LE-PT-1: LAND REUSE

Projects pursuing certification under this green building rating scheme may obtain two (2) to a maximum of six (6) points under this parameter.

Use land that has been previously developed, and discourage the use of undeveloped land for building.

2.2.1 POINT ALLOCATION

Four (4) points may be awarded for location on previously developed land.

Two (2) points may be awarded for remediation measures employed for contaminated land.

2.2.2 CRITERIA

Locate at least 75% of the development on an area previously used for institutional, industrial, commercial or residential applications for the last 20 years;

AND/OR

Employ remediation measures if at least 25% of the land is proven to be contaminated as per ASTM E1903-97: Standard Guide for Environmental Site Assessments Phase II: Environmental Site Assessment Process.
2.3 LE-PT-2: PROTECTION AND IMPROVEMENT OF ECOLOGICAL FEATURES

Projects pursuing certification under this green building rating scheme may obtain **two (2) to a maximum of six (6) points** under this parameter.

Protect and improve existing ecological features in the site starting from the design stage.

2.3.1 POINT ALLOCATION

**Two (2) points** may be awarded for adequate protection for all existing features of ecological value.

**Two (2) points** may be awarded for provision of native plant species.

**Two (2) points** may be awarded for the improvement of site ecology through rehabilitation of natural watercourses and wetland areas.

2.3.2 CRITERIA

Provide adequate protection for all existing features of ecological value surrounding the construction zone and site boundary area from damage, particularly during construction. Features may include trees of significant ecological value as declared by the DENR - Forest Management Bureau, and natural watercourses and wetland areas.

Provide additional native plant species; and improve the site ecology through rehabilitation of natural watercourses and wetland areas.

2.4 LE-PT-3: PRO-LOCAL BIODIVERSITY OPEN SPACE

Projects pursuing certification under this green building rating scheme may obtain **two (2) to a maximum of three (3) points** under this parameter.

Promote local biodiversity by having a high ratio of open space-to-development footprint.

2.4.1 POINT ALLOCATION

**Two (2) points** may be awarded for provision of vegetation for twenty-five percent (25%) of the total site area.

**Three (3) points** may be awarded for provision of vegetated areas covering for fifty percent (50%) of the total site area.

2.4.2 CRITERIA

Employ a high ratio of open space-to-development footprint to promote local biodiversity. Provide at least two (2) plant species in the development that are native or adapted.

Provide vegetated areas to cover 25% of the total site area. The total area of the building footprint (including access roads and parking) should not cover majority of the total site area.
2.5  **LE-PT-4: Heat Island Effect: Non-Roof**

Projects pursuing certification under this green building rating scheme may obtain **one (1) to a maximum of two (2) points** under this parameter.

Minimize impacts of thermal gradient differences between hardscapes on the building’s microclimate.

**2.5.1 Point Allocation**

One (1) point may be awarded for the minimization of the site hardscape’s heat absorption.

One (1) point may be awarded for the provision of parking spaces under cover.

**2.5.2 Criteria**

Minimize the heat absorption of 50% of the site hardscape (including roads, sidewalks, courtyards, and parking lots) by providing natural shading from trees and vegetation (predicted 5 years maturity) or installing an open grid pavement system.

Provide a minimum of 50% parking spaces under cover.

2.6  **LE-PT-5: Heat Island Effect: Building Roof**

Projects pursuing certification under this green building rating scheme may obtain **one (1) point** under this parameter.

Minimize impacts of thermal gradient differences between hardscapes and vegetated areas on the building’s microclimate.

**2.6.1 Point Allocation**

One (1) point may be awarded for meeting either one of the criteria below.

**2.6.2 Criteria**

Minimize the heat absorption of 50% of the building roof area by using vegetated roofing

OR

Minimize the heat absorption of 75% of the building roof area by using strategies such as use of open-grid pavement system with vegetated roofing.
2.7 LE-PT-6: FLOOD RISK MINIMIZATION

Projects pursuing certification under this green building rating scheme may obtain a maximum of two (2) points under this parameter.

Locate the development in an area with low flooding risk, or adopt measures to reduce the impact of flooding.

2.7.1 POINT ALLOCATION

Two (2) points may be awarded for any of the criteria achieved.

2.7.2 CRITERIA

Implement adaptive measures if project is located in flood prone areas. These may include the following:

- Raise the main floor level at least 0.60 meters above the highest elevation of the flood level
- Provide elevated bridges and walkways
- Provide standby inflatable rafts
- Implement two (2) other adaptive measures which address the following:
  - Evacuation
  - Rescue operation

POTENTIAL INNOVATION POINTS

Projects pursuing certification under this green building rating scheme may obtain one (1) Innovation point if flood risk assessment reports show data based on a 50 year, 24 hour rainfall data OR if location has a flood control system in place designed based on a 50 year, 24 hour rainfall data.

Projects pursuing certification under this green building rating scheme may obtain two (2) Innovation points if flood risk assessment reports show data based on a 100 year, 24 hour rainfall data OR if location has a flood control system in place designed based on a 100 year, 24 hour rainfall data.
3 WATER

Water mainly addresses the reduction of potable water consumption and wastewater discharge. The category covers the management of sewage discharge and minimization of effluent discharge through effluent monitoring, provision of a water meter to create management efficiency, and the reduction of potable water for landscape irrigation.

3.1 WT-RQ-1: EFFLUENT QUANTITY AND QUALITY MONITORING

Projects pursuing certification under this green building rating scheme must comply with this parameter.

Monitor and manage sewage discharging outside the building to minimize the effects on the local environment.

3.1.1 CRITERIA

For projects with a Sewage Treatment Plant (STP) or STP Provider, consider the location of STP and existing sewer line, and provide tapping/sampling point (manhole).

For projects without access to an existing sewer system or STP provider:

For office buildings, comply with the minimum requirements as specified in the Clean Water Act, its Implementing Rules and Regulations, and relevant local government requirements. Employ effluent treatment strategies, such as bio-augmentation/remediation, 3-chambered septic tank, or reed bed system. Consider semi-annual monitoring by credible third party.

For establishments with anticipated high volume and low quality effluent discharge, allocate a waste sampling point for each building structure discharging sewage through sewage pipeline, and install a flow meter in the waste monitoring point pipeline.

3.2 WT-PT-1: WATER SUB-METERING

Projects pursuing certification under this green building rating scheme may obtain one (1) point under this parameter.

Monitor water consumption and manage water efficiency.

3.2.1 POINT ALLOCATION

One (1) point may be awarded for meeting the criteria below.

3.2.2 CRITERIA

Install a main water meter for each new construction development. Identify available interconnection of the water sub-meter to the BAS/Facilities Management System.
Ensure that main water meters and sub-meters are calibrated, and regular calibration schedules according to manufacturer’s specifications are documented.

**POTENTIAL INNOVATION POINTS**

Projects pursuing certification under this green building rating scheme may obtain one (1) point in Innovation in Performance for the installation of water sub-meters for all major water usage in the building that account for forty percent (40%) of total building water consumption from systems such as:

- Mechanical equipment
- Irrigation and wash-down system
- Recycled water system
- Rainwater collection system
- Hot water services
- Tenanted units

Projects pursuing certification under this green building rating scheme may obtain one (1) point in Innovation in Performance for the integration of the water metering system with the Building Automation System (BAS).

### 3.3 WT-PT-2: POTABLE WATER CONSUMPTION REDUCTION

Projects pursuing certification under this green building rating scheme may obtain one (1) to a maximum of four (4) points under this parameter.

Minimize the volume of water demand excluding irrigation.

#### 3.3.1 POINT ALLOCATION

Projects pursuing certification under this green building rating scheme may obtain points for water usage reduction percentage, as follows:

- 30% to 39% reduction: One (1) point
- 40% to 49% reduction: Two (2) points
- 50% to 59% reduction: Three (3) points
- 60% reduction or more: Four (4) points

#### 3.3.2 CRITERIA

Reduce potable water usage by installing water recycling technologies and water-efficient plumbing fixtures.
3.4 WT-PT-3: EFFICIENT LANDSCAPE IRRIGATION

Projects pursuing certification under this green building rating scheme may obtain one (1) to a maximum of two (2) points under this parameter.

Reduce the use of potable water resources for landscape irrigation.

3.4.1 POINT ALLOCATION

One (1) point may be awarded for reduction of potable water usage by 50%.

One (1) point may be awarded if no potable water is used for irrigation.

3.4.2 CRITERIA

Minimize the use of potable water by at least 50% through rainwater harvesting, wastewater recycling, plant species factor, or irrigation efficiency.
4 ENERGY

Energy mainly focuses on the reduction of energy consumption. Aspects affecting energy efficiency of the building is an integral part of the category.

The category encompasses monitoring of energy consumption, energy efficiency improvement, improvement of operation and maintenance, integration of sustainable design, use of improving technologies and energy efficient equipment, energy simulation, and use of automation.

4.1 EN-PT-1: ENERGY SUB-METERING

Projects pursuing certification under this green building rating scheme may obtain one (1) point under this parameter.

Facilitate the monitoring of energy consumption of amenities and common areas.

4.1.1 POINT ALLOCATION

One (1) point may be awarded for meeting the criteria below.

4.1.2 CRITERIA

Provide methods of sub-metering for the following systems, at a minimum:

- Space Cooling
- Hot Water
- Fans (major)
- Lighting
- Other major energy-consuming items where appropriate (e.g. lifts, escalators)

**POTENTIAL INNOVATION POINT**

Projects pursuing certification under this green building rating scheme may obtain one (1) point for Innovation in Performance if a Building Automation System (BAS) is in place to monitor and control the chillers, air handling units & pumps, fans, and other major MVAC equipment.

4.2 EN-PT-2: ENERGY EFFICIENT LIGHTING

Projects pursuing certification under this green building rating scheme may obtain one (1) point under this parameter.

Specify the use of energy-efficient light fittings, fixtures, and luminaires; and enforce policies that promote their usage.
4.2.1 POINT ALLOCATION

One (1) point may be awarded for meeting the criteria below.

4.2.2 CRITERIA

Install light fittings, fixtures, and luminaires with a minimum luminous efficacy of 80 lumens per watt in all regularly occupied spaces. Light fixtures and fittings must be compliant to the pertinent Philippine National Standards (PNS) on Lighting Products, and lighting power indices or densities must meet the minimum standards stated in the Guidelines for Energy Conserving Design of Buildings.

4.3 EN-PT-3: NATURAL VENTILATION

Projects pursuing certification under this green building rating scheme may obtain one (1) point under this parameter.

Take advantage of the natural or passive means of ventilation inside the building by using the natural flow of external air around the building where appropriate. Incorporate natural ventilation wherever possible to minimize the cooling load required and save energy.

4.3.1 POINT ALLOCATION

One (1) point may be awarded for meeting the criteria below.

4.3.2 CRITERIA

Use natural ventilation techniques in 50% of regularly occupied ventilated spaces, in accordance to the Chartered Institute of Building Services Engineers (CIBSE) Applications Manual 10: Natural Ventilation in Non-Domestic Buildings.

POTENTIAL INNOVATION POINT

Projects pursuing certification under this green building rating scheme may obtain one (1) point for Innovation in Performance for the conduct of computational fluid dynamics (CFD) studies of naturally ventilated spaces achieving 0.6m/sec in velocity. This will be verified during the commissioning process.
4.4  **EN-PT-4: ON-SITE RENEWABLE ENERGY GENERATION**

Projects pursuing certification under this green building rating scheme may obtain one (1) point under this parameter.

Contribute to the reduction of energy sourced from non-renewable sources.

**4.4.1 POINT ALLOCATION**

One (1) point may be awarded for meeting the criteria below.

**4.4.2 CRITERIA**

Offset five percent (5%) of the building’s total energy demand through the installation of renewable energy technologies in the building, such as solar panels, wind energy, hydro energy, and other renewable energy harnessing systems.

**POTENTIAL INNOVATION POINT**

Projects pursuing certification under this green building rating scheme may obtain one (1) point in Innovation in Performance if annual energy reduction cost is greater than fifteen percent (15%) due to the instalment of renewable energy technologies.

4.5  **EN-PT-5: ENERGY EFFICIENCY IMPROVEMENT**

Projects pursuing certification under this green building rating scheme may obtain one (1) point under this parameter.

Document reduction of energy use from a baseline of 200 kWh/m² per year for buildings operating 12 hours per day; OR 400 kWh/m² per year for buildings operating 24 hours per day.

**4.5.1 POINT ALLOCATION**

One (1) point may be awarded for meeting the criteria below.

**4.5.2 CRITERIA**

Implement at least one of the following items for energy consumption reduction of 12.5% from the baseline:

- Active methods using energy efficient technology for equipment such as:
  - Air-conditioning (e.g. higher energy efficiency rating (EER), chilled beams, variable air volume (VAV), equipment of variable speed drive (VSD));
  - Elevators (e.g., VSD; sleep or stand-by mode);
  - Escalators (e.g., using motion sensors); and other strategies.
- Energy efficient lighting
- Co-generation
- Passive methods including energy efficient building envelope design
- Use of carbon dioxide sensors for controlling air volume of fresh air supply in regularly occupied spaces

All of the above methods should comply with the minimum efficiency requirement of the air-conditioning system as shown in the DOE Guidelines on Energy Conserving Design of Buildings.

Meet air-conditioning efficiency levels specified in ASHRAE Std. 90.1 – 2004 for air-conditioning systems.

Comply with indoor air quality standards specified in the Occupational Safety and Health Standards.

**Potential Innovation Points**

Projects pursuing certification under this green building rating scheme may obtain one (1) point in Innovation in Performance for 25% energy reduction, or attaining 150 kWh/m² per year for buildings operating 12 hours a day; OR 300 kWh/m² per year for buildings operating 24 hours per day.

Projects pursuing certification under this green building rating scheme may obtain one (1) point in Innovation in Performance for energy modelling report/s representing the building performance output based on as-built plans and specifications.

**4.6 EN-PT-6: Energy Efficient Building Envelope**

Projects pursuing certification under this green building rating scheme may obtain one (1) point under this parameter.

Design the building envelope considering heat gain into the interiors for all spaces and low air infiltration in air conditioned spaces.

**4.6.1 Point Allocation**

One (1) point may be awarded for meeting all of the criteria below.

**4.6.2 Criteria**

Comply with ASHRAE Standard189 – Normative Appendix A, Table A-1 Building Envelope Submittals for Climate Zone 1 (Very Hot, Humid) for building envelope heat transfer properties.

Comply with ASHRAE 90.1 for building envelope of air-conditioned spaces, with air leakage at 2 L/s-m² at 75 Pa in accordance with ASTM E779 or an equivalent approved method.

Meet properties of a continuous air barrier characteristic for the building envelope, as specified in ASHRAE Standard No.89 – Normative Appendix B, Prescriptive Continuous Air Barrier. Ensure that all connections are sealed.
Comply with provisions from the Guidelines on Energy Conserving Design of Buildings of DOE, as follows:

- The Overall Thermal Transfer Value (OTTV) for the exterior walls of buildings as well as roofs shall not exceed 45 W/m² – for buildings w/ 175 kW cooling load or greater
- Maximum Thermal Transmittance Values of roofs (in W/m²K):

<table>
<thead>
<tr>
<th>Light</th>
<th>under 50 kg/m²</th>
<th>0.50 (A/C)</th>
<th>0.8 (non-A/C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium</td>
<td>50-230 kg/m²</td>
<td>0.80 (A/C)</td>
<td>1.1 (non-A/C)</td>
</tr>
<tr>
<td>Heavy</td>
<td>over 230 kg/m²</td>
<td>1.20 (A/C)</td>
<td>1.5 (non-A/C)</td>
</tr>
</tbody>
</table>

4.7 EN-PT-7: ENERGY EFFICIENT EQUIPMENT

Projects pursuing certification under this green building rating scheme may obtain one (1) point under this parameter.

Use energy-efficient air-conditioning equipment complying with the provisions in the DOE Guidelines on Energy Conserving Design of Buildings.

4.7.1 POINT ALLOCATION

One (1) point may be awarded for meeting the criteria below.

4.7.2 CRITERIA

Comply with specifications for energy-efficient air-conditioning equipment shown on the DOE Guidelines on Energy Conserving Design of Buildings, particularly on Table 6.6 on the Minimum Performance Rating of Various Air Conditioning System:

<table>
<thead>
<tr>
<th>Unitary A/C Units</th>
<th>EER (in kJ/kW-h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 20 kWr capacity</td>
<td>10.3</td>
</tr>
<tr>
<td>21 to 60 kWr capacity</td>
<td>9.8</td>
</tr>
<tr>
<td>61 to 120 kWr capacity</td>
<td>9.7</td>
</tr>
<tr>
<td>Over 120 kW capacity</td>
<td>9.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chillers</th>
<th>kWe/TR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scroll Chillers (up to 175 kW)</td>
<td></td>
</tr>
<tr>
<td>21 to 60 kW capacity</td>
<td>1.0</td>
</tr>
<tr>
<td>61 to 120 kW capacity</td>
<td>0.8</td>
</tr>
<tr>
<td>Screw Chillers (above 245 kW)</td>
<td></td>
</tr>
<tr>
<td>Air cooled</td>
<td>0.8</td>
</tr>
<tr>
<td>Water cooled</td>
<td>0.65</td>
</tr>
<tr>
<td>Centrifugal chillers (up to 14 kW)</td>
<td></td>
</tr>
<tr>
<td>Water cooled</td>
<td>0.58</td>
</tr>
</tbody>
</table>
**POTENTIAL INNOVATION POINTS**

Projects pursuing certification under this green building rating scheme may obtain points in Innovation in Performance for the following:

- **One (1) point each** for 10% improvement above the minimum energy efficiency rating (EER) for unitary air conditioning units, and for 10% improvement in efficiency baseline for chillers.
- **Two (2) points each** for 20% improvement above the minimum EER for unitary air conditioning units, and for 20% improvement in efficiency baseline for chillers.
- **Three (3) points each** for 30% improvement above the minimum EER for unitary air conditioning units, and for 30% improvement in efficiency baseline for chillers.

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**4.8 EN-PT-8: BUILDING AUTOMATION SYSTEMS**

Projects pursuing certification under this green building rating scheme may obtain **one (1) to a maximum of two (2) points** under this parameter.

Use automation systems to monitor and control energy consuming equipment.

**4.8.1 POINT ALLOCATION**

**One (1) point** may be awarded for installation of automatic controls, performance monitoring, and electronic documentation of significant building services systems.

**One (1) point** may be awarded for the establishment of an electronic system indicating overall power consumption and consumption of significant loads.

**4.8.2 CRITERIA**

Install automatic controls and performance monitoring, and electronically document significant building services systems. These will serve as bases for real-time informed decisions concerning operations and maintenance.

Establish an indicator of overall power consumption and consumption of significant loads.

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**POTENTIAL INNOVATION POINT**

Projects pursuing certification under this green building rating scheme may obtain **one (1) point in Innovation in Performance** for inclusion of lifts and lighting, renewable energy systems, and external loads in the system.
5 TRANSPORTATION

Transportation focuses on lessening transport circulation and encouraging the use of alternative transportation to reduce emission and use of energy. This category covers the use of greener modes of transportation, parking provisions to encourage use of alternative transportation, and the reduction of emission, congestion and hardscapes. The category also deals with the proximity to key establishments, public access, and transport amenities to further reduce the extended travels.

5.1 TR-PT-1: BICYCLE RIDER AMENITIES

Projects pursuing certification under this green building rating scheme may obtain one (1) point under this parameter.

Encourage the use of bicycles as an alternative form of transport by incorporating bicycle rider facilities in the design.

5.1.1 POINT ALLOCATION

One (1) point may be awarded for meeting all of the criteria below.

5.1.2 CRITERIA

The project’s vicinity must have existing bicycle lanes of at least 1.20 meters wide without gutter.

Connect offsite bicycle lanes to the project site and provide bicycle lanes with direct access to the bicycle storage facilities.

Provide secure bicycle parking and/or storage within 200 meters of a building entrance for 5% or more of Full-Time Equivalent (FTE) building occupants.

Provide showers and changing facilities in the building or within 200 meters of a building entrance for 0.5% of building occupants. Number of shower stalls will be based on the number of bicycle parking slots, with ratio of 1:5.

5.2 TR-PT-2: FUEL EFFICIENT AND LOW EMITTING VEHICLES

Projects pursuing certification under this green building rating scheme may obtain one (1) point under this parameter.

Encourage the use of fuel-efficient and low emitting vehicles by providing preferred parking.

5.2.1 POINT ALLOCATION

One (1) point may be awarded for meeting the criteria below.
5.2.2 CRITERIA

Provide preferred parking for fuel efficient and low-emitting vehicles such as hybrid vehicles, liquefied petroleum gas (LPG) or compressed natural gas (CNG) powered vehicles, electric powered vehicles, and vehicles used for employee carpool and vanpool. Preferred parking provisions for these vehicles should be at least 3% of the total vehicle parking capacity.

5.3 TR-PT-3: PARKING

Projects pursuing certification under this green building rating scheme may obtain a maximum of three (3) points under this parameter.

Encourage use of alternative transport systems to reduce related emissions and congestion, and reduce hardscapes by ensuring allocated parking areas/slots do not exceed National Building Code of the Philippines or requirements of the local government units (LGU).

5.3.1 POINT ALLOCATION

Three (3) points may be awarded for meeting the criteria below.

5.3.2 CRITERIA

Do not exceed requirements for parking capacities as reflected in the National Building Code of the Philippines or LGU Building Code, whichever is more stringent.

5.4 TR-PT-4: PROXIMITY TO KEY ESTABLISHMENTS

Projects pursuing certification under this green building rating scheme may obtain a maximum of three (3) points under this parameter.

Reduce the need for extended travel and multiple trips by locating the development in close proximity to local amenities.

5.4.1 POINT ALLOCATION

Three (3) points may be awarded for meeting the criteria below.

5.4.2 CRITERIA

Situate the building no farther than 250m from 10 basic services, accessible by pedestrian lanes and sidewalks, measured from a regular entrance/exit of the building. Such key establishments include:

a. Bank
b. Place of Worship
c. Convenience Grocery (Sari-Sari Store)
d. Health Center
e. Fire Station
f. Parlor / Barber Shop
g. Laundry/Dry Cleaners
h. Library
i. Park
j. Pharmacy
k. Post Office
l. Restaurant (*Carinderia / Turo-turo*)
m. School
n. Supermarket (Wet Market)
o. Theater/Movie House
p. Fitness Center
q. Day Care Center
r. Hardware
s. Medical or Dental Office (NOTE: Medical offices offering exclusively aesthetic services do not qualify)
t. *Barangay* Hall
u. Residential Area

### 5.5 TR-PT-5: PUBLIC ACCESS

Projects pursuing certification under this green building rating scheme may obtain one (1) point under this parameter.

Contribute to ease of people movement within the vicinity.

#### 5.5.1 POINT ALLOCATION

One (1) point may be awarded for meeting the criteria below.

#### 5.5.2 CRITERIA

Implement design strategies that allow people to pass within the building premises and grounds to provide more options for pedestrian movement. Ensure due consideration is given for building security.

### 5.6 TR-PT-6: CONTRIBUTION TO PUBLIC TRANSPORT AMENITIES

Projects pursuing certification under this green building rating scheme may obtain one (1) to a maximum of three (3) points under this parameter.

Provide amenities within the site for ease of public transport.

#### 5.6.1 POINT ALLOCATION

One (1) point is awarded for each provision of public transport amenities.
5.6.2 CRITERIA

Provide the following public transport amenities:

- Covered walkways connecting the building to transport waiting areas
- Public Utility Vehicle (PUV) Waiting Areas
- PUV Terminals

5.7 TR-PT-7: PUBLIC TRANSPORTATION ACCESS

Projects pursuing certification under this green building rating scheme may obtain one (1) to a maximum of four (4) points under this parameter.

Reduce pollution and land development impacts from automobile use.

5.7.1 POINT ALLOCATION

One (1) point may be awarded for proximity to rail stations.

One (1) point may be awarded for proximity to bus stops.

One (1) point may be awarded for proximity to Public Utility Jeepney (PUJ) and Asian Utility Vehicle (AUV) routes.

One (1) point may be awarded for shuttle links.

5.7.2 CRITERIA

Locate project within 500 meters walking distance (measured from a main building entrance) of an existing or planned and funded commuter rail or light rail.

AND/OR

Locate project within 500 meters walking distance (measured from a main building entrance) of 1 or more stops for 2 or more public, campus, or private bus lines usable by building occupants.

AND/OR

Locate project within 250 meters walking distance (measured from a main building entrance) of 1 or more public jeepney, van, or AUV stops for 2 or more public, jeepney, van, or AUV routes usable by building occupants.

If there is no PUJ or AUV stops established by any national or local transportation authority, locate the project within 250 meters walking distance (measured from the building’s main entrance) of 1 or more PUJ or AUV routes for 2 or more PUJ or AUV routes usable by building occupants.
AND/OR

If the project site is in a remote area with no access to public transportation, the building occupants are provided with a shuttle link that provides transportation between the building and any public transportation stops or stations stated above.

5.8 TR-PT-8: TRANSPORTATION IMPACT ASSESSMENT

Projects pursuing certification under this green building rating scheme may obtain a maximum of two (2) points under this parameter.

Provide an analysis of the contribution of the building to traffic within the vicinity through a Transportation Impact Assessment (TIA).

5.8.1 POINT ALLOCATION

Two (2) points may be awarded for meeting all of the criteria below.

5.8.2 CRITERIA

Undergo a Transportation Impact Assessment (TIA) conducted by a transportation engineer or planner certified by the Environmental Management Bureau. This assessment shows that existing roadways could accommodate additional volume brought about by the development.

Evaluate if the project falls under the general threshold, zoning threshold, public size threshold, and public roadway modification threshold.

- **General Threshold.** It is required that a TIA be conducted whenever a proposed development will generate 100 or more new peak hour vehicle trips to or from the site or:
  
  - When a specified amount of area is being rezoned.
  - When development contains a specified number of dwelling units or square footage.
  - When development will occur in a sensitive area.
  - When financial assessments are required and the extent of impact must be determined.

- **Zoning Threshold (Deviations).** A TIA shall be required if a proposal falls under the Deviations clause of the Zoning Ordinance. The assessment as to whether a project falls under this clause simply entails the comparison of the proposal with the allowed uses and land use intensities in the zone where it is located.

- **Public Size Threshold.** The Zoning Administrator shall prepare a list of Significantly Sized Projects (SSP) with the corresponding thresholds. The project proponent shall, in turn, submit information that corresponds to the required threshold criteria. Proposals within the list of SSP’s and exceed the specified threshold criteria shall be required to conduct TIA regardless of conformance with the use or land use intensity provisions of the Zoning Ordinance.
- *Public Roadway Modification Threshold.* The project proponent shall submit its submittals for the Public Roadway Modifications to the Zoning Administrator. A TIA shall be conducted if the modifications required fall under the criteria specified herein.

The TIA shall discuss the following at a minimum:

- Transportation Improvements.
- Road Geometry
- Traffic Safety
- Site Circulation and Parking
- Transportation facilities related to public transport, bicycle and pedestrian travel
- Transportation Demand Management.
- Neighbourhood Traffic and Parking Management.
6 **INDOOR ENVIRONMENT QUALITY**

Indoor Environment Quality deals with human comfort, lighting, thermal levels, acoustics, and views. The category includes lighting design to acquire good lighting levels, thermal levels and indoor acoustics, control of illumination and prevention of glare.

6.1 **EQ-RQ-1: LIGHTING LEVELS**

Ensure adequate lighting is provided in interior spaces based on activity.

6.1.1 **CRITERIA**

*Projects pursuing certification under this green building rating scheme must comply with this parameter.*

Specify minimum illuminance (lux) levels in all internal areas of the building in accordance with the DOLE Department Order No. 13, OSHA Standards, and the DOE Guidelines for Energy Conserving Design of Buildings.

6.2 **EQ-RQ-2: THERMAL LEVELS**

*Projects pursuing certification under this green building rating scheme must comply with this parameter.*

Ensure that appropriate thermal comfort levels are achieved.

6.2.1 **CRITERIA**

Calculate cooling load based on projected load submittals to identify thermal comfort levels.

6.3 **EQ-PT-1: EXTERNAL VIEW AND DAYLIGHTING**

*Projects pursuing certification under this green building rating scheme may obtain one (1) point under this parameter.*

Connect the building occupants with the outdoor environment and provide good levels of daylight for building users.

6.3.1 **POINT ALLOCATION**

One (1) point may be awarded for meeting the criteria below.

6.3.2 **CRITERIA**

Provide direct access to outdoor views for 75% of interior spaces, OR access to daylighting for 50% of interior spaces. Establish maximum sight lines relative to normal working positions.
6.4  **EQ-PT-2: ILLUMINATION CONTROL**

Projects pursuing certification under this green building rating scheme may obtain **one (1) point under this parameter.**

Implement lighting design practices that reduce the unnecessary lighting of spaces.

### 6.4.1 POINT ALLOCATION

**One (1) point** may be awarded for meeting the criteria below.

### 6.4.2 CRITERIA

Allow separate occupant control of lighting in the following areas, where applicable:

- Office and circulation spaces
  - In office areas, zones of no more than four (4) workplaces
  - Separately zone and control lighting at workstations adjacent to windows/atria and other building areas
- Zone presentation and audience areas in seminar and lecture rooms
- Separately zone stacks, reading, and counter areas in library spaces

Use dimmers to modulate illumination levels as needed.

---

**POTENTIAL INNOVATION POINT**

Project may obtain **one (1) point in Innovation in Performance** for the use of automatic lighting controls such occupancy, daylight or motion sensor.

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6.5  **EQ-PT-3: GLARE CONTROL**

Projects pursuing certification under this green building rating scheme may obtain **one (1) point under this parameter.**

Allow occupants to control glare in occupied areas by avoiding contrasts on ceiling, wall and floor surfaces, and by providing adequate means of control relative to the glare source.

### 6.5.1 POINT ALLOCATION

**One (1) point** may be awarded for meeting either of the criteria below.

### 6.5.2 CRITERIA

Install an occupant-controlled shading system on all windows, glazed doors and roof lights in regularly occupied spaces; OR

Comply with the corresponding reflectance values (in percentage) for surfaces:
Ceilings 80% – 92%
Walls 40% – 60%
Floors 21% – 39%
Furniture 26% – 44%

6.6  EQ-PT-4: THERMAL CONTROL

Projects pursuing certification under this green building rating scheme may obtain one (1) point under this parameter.

Provide user controls which allow independent adjustment of cooling systems within the building.

6.6.1  POINT ALLOCATION

One (1) point may be awarded for meeting the criteria below.

6.6.2  CRITERIA

Design the building cooling system to allow occupant control of zoned areas within regularly occupied spaces. The zoning should allow separate occupant control of each area including perimeter spaces (e.g., having direct access to solar heat gain), central zone (e.g., having no direct access to solar heat gain) and other intermediate spaces (such as corridors, etc).

6.7  EQ-PT-5: INDOOR AIR QUALITY

Projects pursuing certification under this green building rating scheme may obtain one (1) point under this parameter.

Reduce the health risk due to poor indoor air quality.

6.7.1  POINT ALLOCATION

One (1) point may be awarded for meeting the criteria below.

6.7.2  CRITERIA


Place air intakes 20 meters beyond sources of external pollution sources.

Provide a 10 meter distance between intake and exhaust of building HVAC system.

Ensure naturally ventilated areas are beyond 10 meters of external pollution sources, and enforce a “No Smoking” policy in the common areas of the building, with smoking areas located 10 meters from entrances and 20 meters from air intakes.
6.8 EQ-PT-6: MICROBIAL CONTAMINATION PREVENTION

Projects pursuing certification under this green building rating scheme may obtain one (1) point under this parameter.

Reduce the risk of disease caused by growth of microbes in building services equipment during operation, and prevent outdoor pollutant and chemical sources from contaminating the building’s indoor environment by trapping dust, dirt, and other pollutants.

6.8.1 POINT ALLOCATION

One (1) point may be awarded for meeting the criteria below.

6.8.2 CRITERIA

Design all water systems in the building to comply with measures to prevent Legionnaire’s disease.

Design all duct systems in the amenities and common areas of the building to avoid microbial growth in the duct system.

Provide entryway mats at all public entrances. Mats, carpets or grilles that are mounted on the floor should be 3 meters or 10 feet measured in the distance of travel into the building, and may be installed indoors or outdoors, contiguously or in parts. Mats, carpets or grilles should be part of the regular maintenance cleaning program to ensure that pollutants trapped in the mats or grills are regularly disposed. Mats at emergency exits and private entrances are not required.

6.9 EQ-PT-7: LOW VOC ENVIRONMENT

Projects pursuing certification under this green building rating scheme may obtain one (1) point under this parameter.

Encourage a healthy built environment by specifying internal finishes with low Volatile Organic Compound (VOC) content.

6.9.1 POINT ALLOCATION

One (1) point may be awarded for meeting the criteria below.

6.9.2 CRITERIA

Comply with the following for 60% of all indoor materials used in the amenities and common areas:

- Green Seal GS-11 for architectural flat and non-flat paints
- Green Seal GS-03 for anti-corrosive and anti-rust coatings
- South Coast Air Quality Management District (SCAQMD) Rule #1113 for clear wood finishes, floor coatings, stains, sealers, shellacs
- SCAQMD Rule #1168 for adhesives
Use materials certified under NELP-Green Choice Philippines, or acceptable equivalent under the Global Eco-labelling Network (GEN).

**POTENTIAL INNOVATION POINT**

Projects pursuing certification under this green building rating scheme may obtain **one (1) point in Innovation in Performance** for 100% compliance with required VOC levels for materials.
7 MATERIALS

This category generally deals with hazardous substances, measure of recycled content, and the reduction of CO₂ emissions of materials. It covers different trades specifically civil works, electrical works, and architectural finishes.

7.1 MT-PT-1: CIVIL WORKS

Projects pursuing certification under this green building rating scheme may obtain a maximum of two (2) points under this parameter.

7.1.1 POINT ALLOCATION

One (1) point may be awarded for any of the criteria achieved.

7.1.2 CRITERIA

Use materials with reduced negative environmental impacts by taking into account the life cycle cost of products for civil works. These include cement, steel, and structural wood.

Materials shall not contain hazardous substances such as lead, mercury, hexavalent chromium, cadmium, polybrominated biphenyls, and polybrominated biphenyls ether.

Use wood sourced from companies that implement forest management practices for 50% of all wood used for structural components. These companies should conform to existing Philippine forestry laws and regulations and has in place a replanting and reforestation program.

Use structurally sound and industry accepted substitute mixes such as fly-ash, slag, silica, or others, and recycled materials in concrete aggregates for the recycled content of 20% of cement used (percentage based on volume).

Use structurally sound and industry accepted substitutes for the recycled content of 20% of steel materials used (percentage based on volume).

These products should be certified by a third-party certification body demonstrating compliance to ISO/IEC Guide 65 – General requirements for bodies operating product certification systems.

<table>
<thead>
<tr>
<th>POTENTIAL INNOVATION POINTS</th>
</tr>
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</table>

Projects pursuing certification under this green building rating scheme may obtain one (1) point in Innovation in Performance if any three (3) of the criteria identified are met.

Projects pursuing certification under this green building rating scheme may obtain two (2) points in Innovation in Performance if all criteria identified are met.
7.2 MT-PT-2: ELECTRICAL WORKS

Projects pursuing certification under this green building rating scheme may obtain a maximum of two (2) points under this parameter.

7.2.1 POINT ALLOCATION

One (1) point may be awarded for any of the criteria achieved.

7.2.2 CRITERIA

Use materials with reduced environmental impacts by taking into account the life cycle cost of products in electrical works. These products include lamps and ballasts.

Use of materials certified under NELP-Green Choice Philippines, or an acceptable equivalent under the Global Eco-labelling Network (GEN).

Materials shall not contain hazardous substances. Mercury content shall not exceed 5mg per lamp for compact fluorescent lamps, 5mg for linear fluorescent lamps with normal life time, and 8mg for linear fluorescent lamps with long life time. Ballasts should bear a CE marking as a pre-requisite requirement of Restriction of Hazardous Substances (RoHS).

Potential Innovation Point

Projects pursuing certification under this green building rating scheme may obtain one (1) point for Innovation in Performance if all criteria are met.

7.3 MT-PT-3: ARCHITECTURAL WORKS AND FINISHES

Projects pursuing certification under this green building rating scheme may obtain a maximum of two (2) points under this parameter.

7.3.1 POINT ALLOCATION

One (1) point may be awarded for any of the criteria achieved.

7.3.2 CRITERIA

Use finishes and materials with reduced environmental impacts by taking into account the life cycle cost of products for architectural works. These include glass, wood and wood products, metals, textile, ceramic tiles and cement, plastics, acoustic and ceiling tiles, rubber, and concrete hollow blocks.

Use salvaged materials for non-structural purposes.

Use materials certified under NELP-Green Choice Philippines, or acceptable equivalent under the Global Eco-labelling Network (GEN).
Comply with one or any combination of the following for 20% (by cost) of all materials:

- Use wood sourced from companies that implement forest management practices that conform to existing Philippine forestry laws and regulations and has in place a replanting and reforestation program. These products should be certified by a third-party certification body demonstrating compliance to ISO/IEC Guide 65 – General requirements for bodies operating product certification systems.

- Use rapidly renewable materials (i.e. bamboo, cork, etc.).

- Use materials with recycled content.
8 EMISSIONS

Emission deals with the building’s emissions and ways to measure and prevent further emissions. This category includes carbon inventory, prevention of refrigerant leak through providing measure to monitor it, and controlling emissions from equipment which involve combustion and burning.

8.1 EM-PT-1: POLLUTANT AND GREENHOUSE GAS INVENTORY

Projects pursuing certification under this green building rating scheme may obtain a maximum of two (2) points under this parameter.

Record the equivalent carbon emissions of the building by executing a life cycle inventory (LCI).

8.1.1 POINT ALLOCATION

Two (2) points may be awarded for meeting the criteria below.

8.1.2 CRITERIA

Conduct an LCI and account for values for the following:

- Criteria air pollutants as defined by the Clean Air Act: carbon monoxide (CO), nitrogen oxides (NOx), lead (Pb), sulphur dioxide (SO$_2$), particulate matter (PM10 and PM2.5), ozone (O$_3$) and ozone precursors: volatile organic compounds (VOC) and ammonia (NH$_3$).
- Greenhouse gases: carbon dioxide (CO$_2$), methane (CH$_4$), nitrous oxide (N$_2$O), and fluorinated gases: hydrofluorocarbons, perfluorocarbons, and sulphur hexafluoride.
- Hazardous air pollutants as defined by the Clean Air Act such as cadmium, formaldehyde, and lead, radon, and asbestos.

8.2 EM-PT-2: OZONE PROTECTION

Projects pursuing certification under this green building rating scheme may obtain one (1) point under this parameter.

Reduce the use of ozone depleting substances for refrigerants and fire suppression systems, provide measures to monitor and prevent refrigerant leak, encourage and reduce the emissions of refrigerants to the atmosphere arising from leakages in a building’s cooling plant, and implement an automatic permanent refrigerant leak detection system.

8.2.1 POINT ALLOCATION

One (1) point may be awarded for meeting the criteria below.
8.2.2 CRITERIA

Avoid the use of ozone-depleting substances for refrigerants and fire suppression systems. Specify and implement an automatic permanent refrigerant leak detection system for the building.

8.3 EM-PT-3: EMISSION CONTROL

Projects pursuing certification under this green building rating scheme may obtain one (1) point under this parameter.

Provide and implement measures to mediate the emissions from equipment, which involve combustion or burning.

8.3.1 POINT ALLOCATION

One (1) point may be awarded for meeting the criteria below.

8.3.2 CRITERIA

Implement strategies that alter the emissions of the building into an air quality level within DENR standards at a minimum.
9 WASTE

Waste deals with the management of waste in the building in all stages: design, construction, operation and deconstruction. This category includes formulating an overall waste management plan and recycling plan, waste management during construction, and the establishment of a materials recovery facility for the operational life of the building.

9.1 WS-RQ-1: WASTE MANAGEMENT PLAN

Projects pursuing certification under this green building rating scheme must comply with this parameter.

Provide an overall waste management plan for the operational life of the building.

9.1.1 CRITERIA

Establish a waste management plan that enables compliance to national and local waste policies.

Provide an outline of waste streams and quantities to be managed.

9.2 WS-RQ-2: WASTE MANAGEMENT – DURING CONSTRUCTION

Projects pursuing certification under this green building rating scheme must comply with this parameter.

Ensure the appropriate management of waste during construction to promote resource efficiency.

9.2.1 CRITERIA

Establish a waste management system that would aid in the following:

- Internal collection and segregation;
- Collection and disposal/recycling by qualified vendors or material handlers;
- Monitoring of amount and type of waste for disposal by weight or volume, and amount and type of waste that can still be reused by weight or volume;
- Reuse of construction waste; and
- Disposal.
9.3 WS-PT-1: CONSTRUCTION WASTE DIVERSION

Projects pursuing certification under this green building rating scheme may obtain two (2) to a maximum of six (6) points under this parameter.

Divert 60% of construction waste from landfill from established construction waste management system.

9.3.1 POINT ALLOCATION

Two (2) points may be awarded for the recycling or salvaging of 40% to 59% of construction waste.

Four (4) points may be awarded for the recycling or salvaging of 60% to 79% of construction waste.

Six (6) points may be awarded for the recycling or salvaging of 80% of construction waste or greater.

9.3.2 CRITERIA

Document and attain diversion of construction waste from landfill from established construction waste management system.

9.4 WS-PT-2: MATERIALS RECOVERY FACILITY

Projects pursuing certification under this green building rating scheme may obtain a maximum of five (5) points under this parameter.

Provide a dedicated storage facility for the waste generated during the operational life of the building, which will include the segregation of waste.

9.4.1 POINT ALLOCATION

Five (5) points may be awarded for meeting the criteria below.

9.4.2 CRITERIA

Comply with the following requirements for the Materials Recovery Facility (MRF):

- Provide contained areas that are clearly marked for segregated waste such as biodegradable, non-biodegradable and recyclable at a minimum;
- Locate the facility in an area within accessible reach of the building occupants and with good vehicular access to facilitate collections;
- Allocate adequate space to store the projected volume of waste generated during the operation of the building. The following must be complied with as a minimum:
  - At least 2m² per 1000m² of net floor area for buildings <5000m²
  - A minimum of 10m² for buildings ≥5000 m²
  - An additional 2m² per 1000m² of net floor area where catering is provided (with an additional minimum of 10m² for buildings ≥5000m²).
10 Heritage Conservation

Heritage Conservation deals with the conservation of Philippine historic and heritage sites and preservation of the country’s culture. The category includes conservation assessment, protection of significant features of a heritage building, and promotion of heritage features.

10.1 HC-RQ-1: Conservation Assessment

Projects pursuing certification under this green building rating scheme must comply with this parameter.

Preserve and protect heritage, historic, or cultural sites, structures and/or properties and promote local culture alongside implemented green building practices.

10.1.1 Criteria

Use green building practices in the conservation process without compromising the original aesthetic features or historical significance of the project.

Use green construction methods/systems that will comply with the concept of “the least intervention is the best conservation.”

10.2 HC-PT-1: Heritage Feature Protection

Projects pursuing certification under this green building rating scheme may obtain a maximum of three (3) points under this parameter.

Protect features of aesthetic and historical significance in the project which are at risk of destruction.

10.2.1 Point Allocation

Three (3) points may be awarded for meeting the criteria below.

10.2.2 Criteria

Use designs that retain/preserve the significant heritage features of the project, and materials/alternative materials/systems that promote green building practices in the conservation process.

10.3 HC-PT-2: Heritage Features Promotion

Projects pursuing certification under this green building rating scheme may obtain one (1) point under this parameter.

Promote the building as significant heritage reflective of the artistry and ingenuity of its builders, and indicative of significant turning points in Philippine history, art, and architecture through the use of green building systems/methods/practice or adaptive reuse.
10.3.1 **POINT ALLOCATION**

One (1) point may be awarded for meeting the criteria below.

10.3.2 **CRITERIA**

Use green building practices in the conservation process without compromising the original aesthetic features of the building, e.g. architectural style.

Use green construction methods/systems that will comply with the concept of "reversibility in conservation" and "the least intervention is the best conservation."

Employ adaptive reuse of the building that promotes green building.
11 Innovation

Innovation focuses on encouraging the industry to go above and beyond the rating scheme, and to recognize and reward those who introduce new technology, design and processes that will impact the environmental performance of the building. The category provides additional recognition for initiatives that innovate in the field of sustainability.

Applications for Innovation Points are evaluated by the BERDE Assessment Team, and are recognized by the Innovation Review Panel under the BERDE Committee.

11.1 IN-PT-1: Innovation in Design or Process

Projects pursuing certification under this green building rating scheme may obtain a maximum of ten (10) points under this parameter.

Incorporate groundbreaking technologies and inventive techniques in design or process for better environmental performance of the building.

11.2 IN-PT-2: Innovation in Performance

Projects pursuing certification under this green building rating scheme may obtain a maximum of ten (10) points under this parameter.

Incorporate groundbreaking technologies and inventive techniques in building operations for better environmental performance of the building.
ANNEX A
(NORMATIVE REFERENCE)

DEFINITION OF TERMS

Accessible Vegetated Area
- Vegetated area that is accessible from common areas.

Adaptive Reuse
- Utilization of buildings, other built-structures, and sites of value for purposes other than that for which they were intended originally, in order to conserve the site, their engineering integrity and authenticity of design.

Algae
- Any of various chiefly aquatic, eukaryotic, photosynthetic organisms, ranging in size from single-celled forms to the giant kelp.

Ambient Air
- The outdoor air in which humans and other organisms live and breathe.

Atmospheric Pollution, Air Pollution
- Any alteration of the physical, chemical and biological properties of the atmospheric air, or any discharge thereto of any liquid, gaseous or solid substances that will or is likely to create or to render the air resources of the country harmful, detrimental, or injurious to public health, safety or welfare or which will adversely affect their utilization for domestic, commercial, industrial, agricultural, recreational, or other legitimate purposes.

Barangay
- The smallest political unit into which cities and municipalities in the Philippines are divided. It is the basic unit of the Philippine political system. It consists of less than 1,000 inhabitants residing within the territorial limit of a city or municipality and administered by a set of elective officials, headed by a barangay chairman (punong barangay).

Bicycle
- A vehicle with two wheels tandem, handlebars for steering, a saddle seat, and pedals by which it is propelled.

Biodiversity
- The biological diversity in an environment as indicated by different species of plants and animals.

Bio-Fuels
- Bioethanol and biodiesel and other fuels made from biomass and primary used for motive, thermal power generation, with quality specifications in accordance with PNS.

Category
- Priorities for the measurement of the economic, environmental and social performance of building in the Philippines as identified by PHILGBC.

Charrette
- An intensive session where designers and other people collaborate on a vision for development. It provides a forum for ideas and offers the advantage of giving immediate feedback.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Commissioning</td>
<td>A process to verify if the building’s systems and assemblies are planned, designed, installed, tested, operated, and maintained to meet the owner’s project requirements.</td>
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<tr>
<td>Composting</td>
<td>Controlled decomposition of organic matter by micro-organisms, mainly bacteria and fungi, into a humus-like product.</td>
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<tr>
<td>Conservation</td>
<td>All the processes and measures of maintaining the cultural significance of a cultural property, including but not limited to, preservation, restoration, reconstruction, protection, adaptation or any combination thereof.</td>
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<tr>
<td>Contractor</td>
<td>Deemed synonymous with the term “builder” and, hence, any person who undertakes or offers to undertake or purports to have the capacity to undertake or submits a bid to, or does himself or by or through others, construct, alter, repair, add to, subtract from, improve, move, wreck or demolish any building, highway, road, railroad, excavation or other structure, project, development or improvement, or to do any part thereof, including the erection of scaffolding or other structures or works in connection therewith. The term contractor includes subcontractor and specialty contractor.</td>
</tr>
<tr>
<td>Daylight</td>
<td>The combination of all direct and indirect sunlight outdoors during the daytime.</td>
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<tr>
<td>Deconstruction Plan</td>
<td>Look into design for dis-assembly/sustainable demolition.</td>
</tr>
<tr>
<td>Desertification</td>
<td>The degradation of land in arid, semi arid and dry sub-humid areas into desert, resulting from various factors including climatic variations and human activities.</td>
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<tr>
<td>Effluent</td>
<td>Discharge from known sources which are passed into a body of water or land, or wastewater flowing out of a manufacturing plant, industrial plant including domestic, commercial and recreational facilities.</td>
</tr>
<tr>
<td>Emission</td>
<td>Any measurable air contaminant, pollutant, gas stream or unwanted sound from a known source which is passed into the atmosphere.</td>
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<tr>
<td>Erosion</td>
<td>The process of weathering and transport of solids such as sediment, soil, rock and other particles in the natural environment.</td>
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<tr>
<td>Faecal Coliform or Thermotolerant Coliform</td>
<td>A subgroup of coliform bacteria that has high positive correlation with fecal contamination associated with all warm blooded animals. These organisms can ferment lactose at 44.5°C and produce gas in a multiple tube procedure (EC Confirmation) or acidity with the Membrane Filter procedure (M-FC Medium).</td>
</tr>
<tr>
<td>Flood</td>
<td>An abnormal progressive rise in the water level of a stream that may result in the overflowing by the water of the normal</td>
</tr>
</tbody>
</table>
confines of the stream with the subsequent inundation of areas which are not normally submerged.

Glare

Glare is difficulty seeing in the presence of bright light such as direct or reflected sunlight or artificial light; Glare can be generally divided into two types, discomfort glare and disability glare, discomfort glare results in an instinctive desire to look away from a bright light source or difficulty in seeing a task while disability glare renders the task impossible to view, such as when driving westward at sunset.

Greenhouse Gases (GHG)

Those gases that can potentially or can reasonably be expected to induce global warming, which include carbon dioxide, oxides of nitrogen, chlorofluorocarbons, and the like.

Hazard Identification

The process used to determine all possible situations, events and circumstances that may expose people to injury, illness, disease or death or may cause damage or loss of equipment and property, or damage to the environment.

Hazardous Substances

Substances which present either: (1) short-term acute hazards such as acute toxicity by ingestion, inhalation, or skin absorption, corrosivity or other skin or eye contact hazard or the risk of fire explosion; or (2) long-term toxicity upon repeated exposure, carcinogenicity, resistance to detoxification process such as biodegradation, the potential to pollute underground or surface waters.

Heritage

Historical, anthropological, archaeological, artistic geographical areas and settings that are culturally significant to the country, as declared by the National Museum and/or the National Historical Institute.

Heritage Conservation

All the processes and measures of maintaining the cultural significance of a cultural property including, but not limited to, preservation, restoration, reconstruction, protection, adaptation or any combination thereof.

Illuminance (Luminance)

The quality of radiating or reflecting light.

Illumination

The act of illuminating or the state of being illuminated.

Indoor Environment Quality

Covers issues such as indoor air quality, thermal comfort, illumination, daylight, views, acoustics and occupant control of building systems.

Innovation

The act or process of inventing or introducing something new.

Integrated Design

Integrated Design is a new design process that is shaped to ensure that sustainable design issues will be understood by all team members, the issues addressed and solutions found. All the issues relating to team formation, communication, design procedures, and design tools should be re-examined and re-evaluated.

Legionnaire’s Disease

A type of pneumonia caused by bacteria. A person usually
gets it by breathing in mist from water that contains bacteria.

Lumens
The basic unit used to measure the flow of light in the SI system, equal to the amount of light emitted through a solid angle of one steradian by a light source with the intensity of one candela (0.0015 watt).

Luminaire
An object that gives light.

Luminous Efficacy
The ratio of the total luminous flux emitted by a light source to the power input of the source.

Lux
A unit of illumination equal to the direct illumination on a surface.

Materials Recovery Facility
Includes a solid waste transfer station or sorting station, drop-off center, a composting facility, and a recycling facility.

Microclimate
Microclimate is a local atmospheric zone where the climate differs from the surrounding area.

Montreal Protocol
The Montreal Protocol on Substances that Deplete the Ozone Layer was designed to reduce the production and consumption of ozone depleting substances in order to reduce their abundance in the atmosphere, and thereby protect the earth’s fragile ozone Layer. The original Montreal Protocol was agreed on 16 September 1987 and entered into force on 1 January 1989.

Ozone Depleting Substances (ODS)
Substances that significantly deplete or otherwise modify the ozone layer in a manner that is likely to result in adverse effects of human health and the environment such as, but not limited to, chlorofluorocarbons, halons and the like.

Parameter
The identified scope under each Category of the BERDE Green Building Rating System. Parameters are with its respective intent, features and submittals. Parameters are classified into Requirements or Points.

Point
Parameters voluntary provisions recommended by PHILGBC with equivalent scoring and weighting for BERDE Certification.

Recyclable Material
Any waste material retrieved from the waste stream and free from contamination that can still be converted into suitable beneficial use or for other purposes, including, but not limited to, newspaper, ferrous scrap metal, non-ferrous scrap metal, used oil, corrugated cardboard, aluminium, glass, office paper, tin cans and other materials as may be determined by the Commission.

Recycling
Treating of used or waste materials through a process of making them suitable for beneficial use and for other purposes, and includes any process by which solid waste materials are transformed into new products in such a manner that the original products may lose their identity, and which may be used as raw materials for the production of other goods or services: Provided, that the collection, segregation and re-use
of previously used packaging material shall be deemed recycling under this Act.

**Refrigerant**

Chemical used in a cooling mechanism, such as an air conditioner or refrigerator, as the heat carrier which changes from gas to liquid and the back to gas in the refrigeration cycle. Most common commercial refrigerants are the Chlorofluorocarbons (CFCs) which, because of their high ozone damaging potential, are being phased out.

**Renewable Energy**

Energy resources that do not have an upper limit on the total quantity to be used. Such resources are renewable on a regular basis, and whose renewal rate is relatively rapid to consider availability over an indefinite period of time. These include, among others, biomass, solar, wind, geothermal, ocean energy, and hydropower conforming with internationally accepted norms and standards on dams, and other emerging renewable energy technologies.

**Requirement**

Mandatory parameters of the BERDE Green Building Rating System. Requirement parameters are minimum provisions that must be accomplished to attain BERDE Certification.

**Risk Assessment**

A methodology to determine the nature and extent of risk by analyzing potential hazards and evaluating existing conditions of vulnerability that together could potentially harm exposed people, property, services, livelihood and the environment on which they depend. Risk assessments with associated risk mapping include: a review of the technical characteristics of hazards such as their location, intensity, frequency and probability; the analysis of exposure and vulnerability including the physical, social, health, economic and environmental dimensions; and the evaluation of the effectiveness of prevailing and alternative coping capacities in respect to likely risk scenarios.

**Risk Management**

The systematic approach and practice of managing uncertainty to minimize potential harm and loss. It comprises risk assessment and analysis, and the implementation of strategies and specific actions to control, reduce and transfer risks. It is widely practiced by organizations to minimize risk in investment decisions and to address operational risks such as those of business disruption, production failure, environmental damage, social impacts and damage from fire and natural hazards.

**Sedimentation**

The process of sand and mud settling and building up on the bottom of a creek, river, lake, or wetland.

**Sewage**

Means water-borne human or animal wastes, excluding oil or oil wastes, removed from residences, building, institutions, industrial and commercial establishments together with such groundwater, surface water and storm water as maybe present including such waste from vessels, offshore structures, other receptacles intended to receive or retain waste or other places
or the combination thereof.

**Small Power**
Refers to plug loads of appliances

**Solar Energy**
Energy derived from solar radiation that can be converted into useful thermal or electrical energy.

**Solid Waste**
All discarded household, commercial waste, nonhazardous institutional and industrial waste, street sweepings, construction debris, agriculture waste, and other non-hazardous/non-toxic solid waste.

**Stakeholder**
A person or group not owning shares in an enterprise but affected by or having an interest in its operations, such as the employees, customers and local community.

**Stormwater**
Water that accumulates on land as a result of storms, and can include runoff from urban areas such as roads and roofs.

**Sustainability**
An economic, social, and ecological concept. It is intended to be a means of configuring civilization and human activity so that society and its members are able to meet their needs and express their greatest potential in the present, while preserving biodiversities and natural ecosystems, and planning and acting for the ability to maintain these ideals indefinitely.

**Vegetation**
Plant life or total plant cover (as of an area).

**Wastewater**
Waste in liquid state containing pollutants.

**Wetland**
A lowland area, such as a marsh or swamp that is saturated with moisture, especially when regarded as the natural habitat of wildlife.

**Workstation**
An area with equipment for the performance of a specialized task usually by an individual.

**Potable water**
Water suitable (both health and acceptability considerations) for drinking and cooking purposes.
# ANNEX B
(NORMATIVE REFERENCE)

## ACRONYMS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
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</thead>
<tbody>
<tr>
<td>ASHRAE</td>
<td>American Society of Heating, Refrigerating And Air-Conditioning Engineers</td>
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<tr>
<td>ASTM</td>
<td>American Standard for Testing And Materials</td>
</tr>
<tr>
<td>AUV</td>
<td>Asian Utility Vehicle</td>
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<tr>
<td>BERDE</td>
<td>Building for Ecologically Responsive Design Excellence</td>
</tr>
<tr>
<td>BAS</td>
<td>Building Automation System</td>
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<tr>
<td>BMS</td>
<td>Building Management System</td>
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<tr>
<td>CFC</td>
<td>Chlorofluorocarbon</td>
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<tr>
<td>CFD</td>
<td>Computational Fluid Dynamics</td>
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<tr>
<td>CIBSE</td>
<td>Chartered Institute of Building Services Engineer</td>
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<tr>
<td>CNG</td>
<td>Compressed Natural Gas</td>
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<tr>
<td>DENR</td>
<td>Department of Environment And Natural Resources</td>
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<tr>
<td>DOE</td>
<td>Department of Energy</td>
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<tr>
<td>EER</td>
<td>Energy Efficiency Rating</td>
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<tr>
<td>FGD</td>
<td>Focus Group Discussion</td>
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<td>FTE</td>
<td>Full-Time Equivalent</td>
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<tr>
<td>GEN</td>
<td>Global Eco-Labelling Program</td>
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<tr>
<td>GHG</td>
<td>Greenhouse Gas</td>
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<tr>
<td>GS</td>
<td>Green Seal</td>
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<tr>
<td>HVAC</td>
<td>Heating, Ventilation, And Air-Conditioning</td>
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<tr>
<td>LCI</td>
<td>Life Cycle Inventory</td>
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<tr>
<td>LGU</td>
<td>Local Government Unit</td>
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<tr>
<td>LPG</td>
<td>Liquefied Petroleum Gas</td>
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<tr>
<td>MRF</td>
<td>Materials Recovery Facility</td>
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<tr>
<td>MVAC</td>
<td>Mechanical Ventilation And Air-Conditioning</td>
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<tr>
<td>NAMRIA</td>
<td>National Mapping And Resource Information Authority</td>
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<tr>
<td>NELP</td>
<td>National Eco-Labelling Program</td>
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<tr>
<td>OSHS</td>
<td>Occupational Safety And Health Standards</td>
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<tr>
<td>OTTV</td>
<td>Overall Thermal Transfer Value</td>
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<tr>
<td>P.D.</td>
<td>Presidential Decree</td>
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<tr>
<td>PHILGBC</td>
<td>Philippine Green Building Council</td>
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<tr>
<td>PNS</td>
<td>Philippine National Standards</td>
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<tr>
<td>Abbreviation</td>
<td>Description</td>
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<tr>
<td>PUJ</td>
<td>Public Utility Jeepney</td>
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<tr>
<td>PUV</td>
<td>Public Utility Vehicle</td>
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<tr>
<td>SCAQMD</td>
<td>South Coast Air Quality Management District</td>
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<tr>
<td>STP</td>
<td>Sewage Treatment Plant</td>
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<tr>
<td>TIA</td>
<td>Transport Impact Assessment</td>
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<tr>
<td>TMB</td>
<td>BERDE Committee which serves as the Technical Management Board</td>
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<tr>
<td>VOC</td>
<td>Volatile Organic Compound</td>
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<tr>
<td>VSD</td>
<td>Variable-Speed Drive Air Compressor</td>
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<tr>
<td>CBP</td>
<td>Certified BERDE Professional</td>
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