PHILIPPINE GREEN BUILDING CODE
There is demand for buildings

Energy Cost

Climate Change
Buildings account for 36% of the national energy consumption.
53-70% of a building’s energy consumption is due to cooling.
Climate Vulnerability

Resource efficiency and security

Shared Responsibility

.... pursuing climate change mitigation as a function of adaptation

.... improve bottomline
Why GO green

- **36%** of energy supply
- **40%** of GHG emission
- Electricity cost is high
- Committed industry
- Policies and technology are in place to deliver emission cuts

**Significant co-benefits including cost-savings will be created.**

**Failure to build green will lock countries into high carbon economy and poor performing buildings**

**Contribute to achieve Philippine target**
Green Building provides a window of opportunity to prevent being locked in a high carbon economy.
...the State has adopted the Philippine Agenda 21 framework which espouses **sustainable development**, to fulfill human needs while maintaining the quality of the natural environment for current and future generations.

- SECTION 2   RA 9729
Green Buildings

Practice of increasing efficiency with which buildings use resources such as energy, water and materials

While also reducing the buildings’ impact on human health and the environment
Energy
- Efficient Use
- Efficient Equipt & Sys
- Less Heat Gain
- Natural Cooling
- Daylight

Materials
- Recycled
- Re-used
- Renewable
- Local & Regional
- Waste Segregation

Indoor Envi Quality
- Daylight
- Outdoor Connect
- Thermal Comfort
- Fresh air supply

Site
- More Greens
- Cooler Environ
- Feasible Location
- Protection of Biodiversity

Water
- Efficient Fixtures
- Rainwater Collect Re-use
- Wastewater treatment

Bonus!
PHILIPPINE GREEN BUILDING CODE

Referral Code of the NBC; mandatory

Signed in June 2015, effective January 2016
GREEN BUILDING CODE DEVELOPMENT

- Building Trends & Baselines
- Market Analysis
- Sensitivity Analysis
- Green Building Recommendations
- Energy Efficiency
- Water Efficiency
- Material Sustainability
- Solid Waste Management
- Site Sustainability
- Indoor Environmental Quality

25 GB Measures
## COVERAGE AND APPLICATION

Minimum Total Gross Floor Area (TGFA) coverage

<table>
<thead>
<tr>
<th>USE / OCCUPANCY</th>
<th>TGFA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotel</td>
<td>10,000 sqm</td>
</tr>
<tr>
<td>Mall</td>
<td>15,000 sqm</td>
</tr>
<tr>
<td>Office</td>
<td>10,000 sqm</td>
</tr>
<tr>
<td>Residential Condominium</td>
<td>20,000 sqm</td>
</tr>
<tr>
<td>School</td>
<td>10,000 sqm</td>
</tr>
<tr>
<td>Hospital</td>
<td>10,000 sqm</td>
</tr>
<tr>
<td>Mixed Occupancy</td>
<td>10,000 sqm</td>
</tr>
</tbody>
</table>

GB Code is for **new construction** only

Applicable to additions, alterations, conversion or renovations with TGFA as stated in the table

Mixed use – if more than one (1) building use.
ENERGY EFFICIENCY

BUILDING ENVELOPE

1. **Air Tightness and Moisture Protection**
   - reducing air infiltration and exfiltration
   - preventing outside air moisture infiltration.

2. **Window-to-Wall Ratio (WWR)**
   - Solar Heat Gain Coefficient (SHGC) and WWR
   - Windows without sunbreakers or overhangs
   - Windows with sunbreakers

3. **Natural Ventilation**
   - Use of operable windows

4. **Building Envelope Color**
   - High solar reflectance of building envelope surface

5. **Roof insulation**
   - Reduction of heat transfer through the...
ENERGY EFFICIENCY

EFFICIENCY OF MECHANICAL SYSTEMS

1. **Efficiency of Air-conditioning Equipment**
   - PSVARE Standard for Energy Efficient Buildings
     minimum efficiency requirements

2. **Energy Efficient Water Heating System**
   - PSVARE Standard, minimum performance requirements

3. **Variable Speed Drives and High Efficiency Motors**
   - devices that regulate mechanical sys
     operations based on actual demand

4. **Enthalphy Recovery of Exhaust Air**
   - Fresh air supply with energy efficient system
ENERGY EFFICIENCY

EFFICIENCY OF ELECTRICAL SYSTEMS

1. **Daylighting Provision**
   - Harvest natural daylighting

2. **Daylight Controlled Lighting System**
   - Controlled use of artificial lighting due to daylighting

3. **Lighting Power Density**
   - Regulated power consumption due to lighting

4. **Occupancy Sensors**
   - Controlled use of artificial lighting due to demand
ENERGY EFFICIENCY

EFFICIENCY OF ELECTRICAL SYSTEMS

5. **Lifts & Escalators Efficiency**
   - Use of energy-efficient conveyance systems

6. **Transformers**
   - Use of highly-efficient transformers

7. **Overhead or Elevated Water Storage**
   - Water distribution system that utilize reduced pump requirements
WATER EFFICIENCY

EFFICIENT WATER FIXTURES
Effectively modulates use of potable water

WASTE WATER MANAGEMENT

1. **Rainwater Harvesting**
   - Re-use of rainwater reduces use of potable water and slows down stormwater surface run-off

2. **Water Recycling**
   - Resulting water from sewage treatment plants (STP) can be re-used
   - Cooling Tower / Irrigation
MATERIAL SUSTAINABILITY

NON-TOXIC MATERIALS
Material resource with least impact to the environment and to human beings
SOLID WASTE MANAGEMENT

MATERIAL RECOVERY FACILITY
Efficient at source waste management and segregation
SITE SUSTAINABILITY

SITE PREPARATION & EARTHWORKS
Reducing impact of construction activities due to erosion and sedimentation

OPEN SPACE UTILIZATION
Providing green and permeable areas to help the re-charging of ground water reservoir, control of storm water surface run-off and cooler Building outside environment
INDOOR ENVIRONMENTAL QUALITY

MINIMUM FRESH AIR RATES
Maintaining good indoor air quality
By following PSVARE standards for the benefit of occupants

DESIGNATED SMOKING AREA
Restricting tobacco smoke to specified areas to maintain good indoor air quality
POTENTIAL IMPACT (2030)

<table>
<thead>
<tr>
<th>USD 864 Million</th>
<th>Costs expected to be avoided</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.87 Million Metric tons</td>
<td>Reduction in CO2e emissions</td>
</tr>
<tr>
<td>3.9 Million KWH</td>
<td>Energy use avoided</td>
</tr>
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</table>

15% min. Energy Savings Water Savings
Green Building Code

Standards

Voluntary Rating Systems
LEED, BREEAM, BERDE, GREEEN

Number of buildings

Lower end
Business as Usual
Green Buildings
GB Measures embedded in Technical Drawings & Specifications

Receiving will use Checklist to check completeness of Permit application docs

The evaluation of Bldg Permit Docs Including the GB Code measures under the appropriate disciplines
BUILDING PERMIT PROCESS

- Application form from the Office of the Local Building Official

- Building Official evaluates and ensure plans conform with approved standard requirements **Receipt & Check of GB Docs**

- Upon conformity the Building Official shall approve building permit application **Review of GB Docs**

- Upon approval, applicant shall pay the prescribed building permit fees

- Building Permit shall be issued
# BUILDING PERMIT PROCESS

<table>
<thead>
<tr>
<th>Ref Code / Clearance</th>
<th>LGU / Zone</th>
<th>Architectural</th>
<th>Civil/Structural</th>
<th>Electrical</th>
<th>Electronics</th>
<th>Mechanical</th>
<th>Sanitary / Plumbing</th>
<th>Fire Code</th>
<th>BP 344</th>
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<tbody>
<tr>
<td>Tourism</td>
<td>Ch 4</td>
<td>NSCP</td>
<td>Electrical</td>
<td>Electronics</td>
<td>Mechanical</td>
<td>Sanitation</td>
<td>Fire</td>
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<td>DENR</td>
<td>Ch 5</td>
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<td>Ch 12</td>
<td>Ch 13</td>
<td>Ch 13</td>
<td>Ch 13</td>
<td>Water</td>
<td>Efficiency</td>
<td>Ch 12</td>
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<tr>
<td>1. Ch 8</td>
<td>Ch 19</td>
<td>Lighting Power Density</td>
<td>Daylight controlled Lighting Sys (Control Device Functions)</td>
<td>Air Conditioning Sys</td>
<td>Overhead Tank</td>
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<tr>
<td>2. Ch 10</td>
<td>Ch 15</td>
<td>Transformer</td>
<td>Occupancy Sensors (Control Device Functions)</td>
<td>Water Heating Sys</td>
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<td>3. Ch 12</td>
<td>Site / Ground Preparation &amp; Earthworks</td>
<td>Daylight controlled Lighting Sys (Control devices within the Lighting syst)</td>
<td>Elevators, Escalators, Moving Ramps &amp; Walkways (Control Device Functions)</td>
<td>Enthalpy Recovery of Exhaust Air</td>
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<tr>
<td>Building Envelope</td>
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<td>Occupancy Sensors (Control devices within the Lighting syst)</td>
<td>Elevators, Escalators, Moving Ramps &amp; Walkways</td>
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<tr>
<td>Daylight Provision</td>
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<td>VSD and Hi-Eff Motors</td>
<td>Indoor Envi Quality</td>
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<td>Material Sustain</td>
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<td>Open Space Utilization</td>
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<td>GB Code measures distributed under relevant disciplines</td>
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**GB Code measures distributed under relevant disciplines**
# BUILDING PERMIT PROCESS

## 10 ENERGY EFFICIENCY

<table>
<thead>
<tr>
<th>Item</th>
<th>Requirement</th>
<th>Applicability</th>
<th>GB Code</th>
<th>Developer</th>
<th>Regulator</th>
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<tr>
<td>10</td>
<td>Building Envelope</td>
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</tr>
<tr>
<td>10.1</td>
<td>Air Tightness &amp; Moisture Protection</td>
<td>Required?</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Remarks</td>
</tr>
<tr>
<td>a</td>
<td>Sealed window and door assemblies</td>
<td>Applies to all building occupancies except building and spaces without air-conditioning system</td>
<td>Bay wall sections</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>Sealed utility services</td>
<td></td>
<td>Enlarged details of building envelope showing required air tightness &amp; moisture protection elements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c</td>
<td>Sealed walls</td>
<td></td>
<td>Building elevations &amp; sections</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d</td>
<td>Sealed roofing</td>
<td></td>
<td>Technical specifications of required air tightness &amp; moisture protection elements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e</td>
<td>Sealed ceiling</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f</td>
<td>Sealed flooring</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>10.1.2</td>
<td>Glass Properties</td>
<td>Use SHGC Calculator</td>
<td>Required value</td>
<td>Design Value</td>
<td>Documentation needed</td>
</tr>
<tr>
<td>a</td>
<td>Solar Heat Gain Coefficient (SHGC)</td>
<td>Applies to all building occupancies without exceptions</td>
<td>Architectural floor plans, Building elevations &amp; sections</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>Visual Light Transmittance (VLT)</td>
<td></td>
<td>Window Schedule</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.1.3</td>
<td>Natural Ventilation</td>
<td>Operable Window Calculator</td>
<td>Required?</td>
<td>Complied?</td>
<td>Documentation needed</td>
</tr>
<tr>
<td>a</td>
<td>Operable windows or balcony doors at least 10% of room space floor area</td>
<td>Applies to regularly occupied spaces</td>
<td>Architectural floor plans, Building elevations &amp; sections</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>Operable window with safety features</td>
<td></td>
<td>Window Schedule</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.1.4</td>
<td>Building Envelope Color</td>
<td>Required?</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Remarks</td>
</tr>
<tr>
<td>a</td>
<td>Building metal roof surface color white or with min. SRI of 70</td>
<td>Applies to all building occupancies without exceptions</td>
<td>Roof plan</td>
<td></td>
<td></td>
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</table>

**GB Code Checklist under Architectural**
## ENERGY EFFICIENCY

<table>
<thead>
<tr>
<th>Item</th>
<th>Requirement</th>
<th>Applicability</th>
<th>Required value</th>
<th>Design Value</th>
<th>Documentation needed</th>
<th>Documentation Provided?</th>
<th>Design Specification</th>
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</thead>
<tbody>
<tr>
<td>10.6.2</td>
<td>Daylight Controlled Lighting System</td>
<td>Applies to all regularly occupied spaces of all building occupancies except building spaces where daylight access hinders intended functions</td>
<td>Required? Yes/No</td>
<td>Complied? Yes/No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>Daylight sensor or photoelectric sensor in lighting system - for use within lighting control systems in day-lit zones</td>
<td>For residential condominiums, this applies only to common indoor areas with access to daylight</td>
<td></td>
<td></td>
<td>Architectural Reflected Ceiling Plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>Installed lighting fixtures within day-lit zones are exempt from using photoelectric sensor if this hinders its intended functions, with justification</td>
<td></td>
<td></td>
<td>Electrical lighting and switching circuitry layout</td>
<td></td>
<td></td>
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<tr>
<td>10.6.3</td>
<td>Lighting Power Density (LPD)</td>
<td>Applies to all building occupancies except hospitals and malls</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>a</td>
<td>Building LPD within maximum LPD requirements</td>
<td></td>
<td></td>
<td></td>
<td>Architectural Reflected Ceiling Plan w/ LEGEND Box</td>
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<td>a.1</td>
<td>Residential Dwelling</td>
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<td>10.8</td>
<td></td>
<td>Electrical Lighting Layout w/ LEGEND Box</td>
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<td>a.2</td>
<td>Hotel/Resort</td>
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<td>10.8</td>
<td></td>
<td>Building Lighting Power Density Table</td>
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<tr>
<td>a.3</td>
<td>Educational: School</td>
<td></td>
<td>12.9</td>
<td></td>
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<td>a.4</td>
<td>Institutional: Hospital</td>
<td></td>
<td>12.9</td>
<td></td>
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<tr>
<td>a.5</td>
<td>Business: Office</td>
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<td>10.8</td>
<td></td>
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<tr>
<td>a.6</td>
<td>Mercantile: Mall (excl accent lighting)</td>
<td></td>
<td>16.1</td>
<td></td>
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<tr>
<td>a.7</td>
<td>Exterior facade</td>
<td></td>
<td>2.15</td>
<td></td>
<td>Technical specifications of light fixtures</td>
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<tr>
<td>a.8</td>
<td>Active entrance (pedestrian conveyance)</td>
<td></td>
<td>98.4</td>
<td></td>
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<td>a.9</td>
<td>Inactive entrance (normally locked/inactive)</td>
<td></td>
<td>65.6</td>
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<tr>
<td>a.10</td>
<td>Covered Parking</td>
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<td>a.11</td>
<td>Open Parking</td>
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<td>10.6.4</td>
<td>Occupancy Sensors</td>
<td>Applies to all building occupancies except hospitals and malls</td>
<td>Required? Yes/No</td>
<td>Complied? Yes/No</td>
<td></td>
<td>Architectural Reflected Ceiling Plan</td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>Occupancy sensors in lighting system</td>
<td>Provisions for emergency and security lighting are exempted</td>
<td></td>
<td></td>
<td></td>
<td>Electrical Lighting layout</td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>Occupancy sensors in covered parking lighting system - at least 60% of lighting</td>
<td></td>
<td></td>
<td></td>
<td>Occupancy Sensing System Confirmation</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
### 10.5.1 Air Conditioning Equipment
Applies to all building occupancies except building and spaces without air-conditioning system

- **a. Efficient air-conditioning equipment**
  - (Equipment 1)
  - (Equipment 2)
  - (Equipment 3)
  - (Equipment 4)
  - (Equipment 5)
  - (Equipment 6)
  - (Equipment 7)
  - (Equipment 8)

### 10.5.2 Water Heating System
Applies to all building occupancies except building with no water heating system and buildings using solar water heating and/or heat pump for water

- **a. Efficient water heater**
  - (Equipment 1)
  - (Equipment 2)
  - (Equipment 3)
  - (Equipment 4)
  - (Equipment 5)

### 10.5.3 Variable Speed Drives and High Efficiency Motors
Applies to all building occupancies. Non-centralized air-conditioning systems in buildings are not required to employ variable speed controllers; and kitchen ventilation fans are exempt from this requirement.

- **a. VSD and High Efficiency motors for mechanical equipment more than 5kW**
  - (Equipment 1)
  - (Equipment 2)
  - (Equipment 3)

- **b. VSD and High Efficiency motors for cooling towers**
  - (Equipment 1)
  - (Equipment 2)
  - (Equipment 3)

- **c. High Efficiency motors for domestic pumps**
  - (Equipment 1)
  - (Equipment 2)
  - (Equipment 3)

---

**GB Code Checklist under Mechanical**
## BUILDING PERMIT PROCESS

### 10 ENERGY EFFICIENCY

<table>
<thead>
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<td></td>
<td></td>
<td></td>
<td>Description</td>
<td>GB Code Checklist</td>
</tr>
</tbody>
</table>

#### Plumbing Systems

| 10.6.7 | Overhead Water Storage | Overhead water storage tank on top of building at least 10 stories high | Applies to all building occupancies except buildings below 10 storeys high | Yes / No | Yes / No | Water Distribution Layout plan | Single Line or Schematic Diagram | Water Tank Details | Technical Specifications |

### 11 WATER EFFICIENCY

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<td>Description</td>
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#### Plumbing Systems

<table>
<thead>
<tr>
<th>11.1</th>
<th>Water Fixtures</th>
<th>Specified water fixture compliant with maximum flow rate requirements as per Table 20</th>
<th>Water Distribution Layout plan with LEGEND box</th>
<th>Yes / No</th>
<th>Yes / No</th>
<th>Water Distribution Isometries with LEGEND box</th>
<th>Water Efficient Fixtures Use Confirmation Table</th>
<th>Technical Specifications of plumbing fixtures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a.1 Dual Flush Water Closet</td>
<td>=&lt;6 full 3 low (liters/flush)</td>
<td>Water Efficient Fixtures Use Confirmation Table</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>a.2 Single Flush Water Closet</td>
<td>&lt;=4.9 liters/flush</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>a.3 Shower</td>
<td>Apply to all building occupancies</td>
<td>&lt;=9 (80 psi) liters/min at 551.6 kPa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a.4 Urinal</td>
<td>&lt;=1 liter / flush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a.5 Lavatory tap</td>
<td>&lt;=4.8 (60 psi) liters/min at 417.7 kPa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a.6 Kitchen Faucet</td>
<td>&lt;=4.8 (60 psi) liters/min at 417.7 kPa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a.7 Handheld bidet spray</td>
<td>&lt;=4.8 (60 psi) liters/min at 417.7 kPa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

GB Code Checklist under Sanitary
BUILDING PERMIT PROCESS

Air Tightness & Moisture Protection

• Unwanted air infiltration and humidity ingress into the spaces can cause additional load on the air conditioning system and a detrimental impact on air quality.

• Buildings must be planned, designed, specified and constructed with enough detail and quality to ensure air tightness is maximized.

• Vapor barrier prevents the entry of moisture through the walls.
BUILDING PERMIT PROCESS

Applicability

This measure applies to all building occupancies as indicated in Table 1. of the GB Code

Exceptions

Buildings and spaces without provisions for air conditioning systems are exempt.
Design Documents needed are the following:

1. **Bay Wall Sections**, showing details or air leakage control & water barrier at roof joints; roof/gutter joints; roof/wall joints; ceiling/wall joints; window/wall joints, door/wall joints, and wall/floor joints;

2. **Enlarged details**, showing flashing & counter-flashing; membrane; sealant & tape applications; fenestration (window & door) weatherstripping, gaskets and door bottom sweeps;

3. **Building Elevations & Sections** with call-outs specifying moisture protection material;

4. **Technical Specifications** of moisture protection (moisture barrier for walls, waterproofing membrane, flashings), sealants, gaskets, weatherstripping to be used
BUILDING PERMIT PROCESS

Air Tightness & Moisture Protection

Building Envelope
OCCUPANCY CLEARANCE PROCESS

1. Application
   - Application form from the Office of the Local Building Official

2. Processing and Evaluation
   - Building Official inspects completed building and evaluates submitted documents **Receipt & Compliance Check**

3. Approval
   - Upon conformity the Building Official shall approve occupancy application **Review of GB Docs**

4. Payment of Fees
   - Upon approval, applicant shall pay the prescribed occupancy clearance fees

5. Issuance
   - Occupancy clearance shall be issued
OCCUPANCY CLEARANCE PROCESS

Construction Application & Documentation

**Actions** needed are the following:

1. **Ocular inspection** of the completed building envelope system with reference to the building permit plans.

2. **Presentation of product labels, brochures and technical specifications** from manufacturers for airtight/vapor barrier products.

3. **Shop drawings and as-built drawings** of the actual completed system.

Building Envelope
OCCUPANCY CLEARANCE PROCESS

Construction Application & Documentation

Building Envelope
OCCUPANCY CLEARANCE PROCESS
Construction Application & Documentation

Shopdrawings & As-built plans

Product label, brochures & catalogs

Building Envelope
OCCUPANCY CLEARANCE PROCESS

Air-Conditioning Equipment

- The cooling equipment shall meet or exceed the minimum efficiency requirement of the 2010 PSVARE Standards for Energy Efficient Buildings as indicated in Tables 12 and Table 13.
OCCUPANCY CLEARANCE PROCESS

Applicability

This measure applies to all building occupancies as indicated in Table 1. of the GB Code

Exceptions

No exceptions
Design Application & Documentation

Design Documents needed are the following:

1. **Equipment Schedule** – showing the different properties of the cooling equipment, including the efficiency rating, represented by EER, kW/ton or COP

2. **Air-conditioning and Ventilation Layout** – schematic diagrams showing the location of the cooling equipment with their equipment ID tag

3. **Technical Specifications** – details the technical make-up or specification of the cooling equipment to be used, including expected efficiency rating.
# OCCUPANCY CLEARANCE PROCESS

## Air-Conditioning Equipment

### Equipment Schedule

#### AIR-COOLED CONDENSING UNIT: (VRF-OUTDOOR UNITS)

<table>
<thead>
<tr>
<th>UNIT DESIGNATION</th>
<th>QTY</th>
<th>COOLING CAPACITY (KW)</th>
<th>COOLING CAPACITY (TR)</th>
<th>MIN. EFFICIENCY (EER)</th>
<th>AIR ENTERING CONDENSER TEMPERATURE (°C)</th>
<th>SATURATED SUCTION TEMPERATURE (°C)</th>
<th>TOTAL POWER INPUT (KW)</th>
<th>COMPRESSOR DATA</th>
<th>CONDENSER FAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCU 3-1</td>
<td>1</td>
<td>62.98</td>
<td>17.91</td>
<td>11.3</td>
<td>35</td>
<td>7.22</td>
<td>19.02</td>
<td>SCROLL HERMETIC COMPRESSOR</td>
<td>17</td>
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</table>

#### VENTILATING FANS AND BLOWERS:

<table>
<thead>
<tr>
<th>UNIT DESIGNATION</th>
<th>QTY</th>
<th>AREA SERVED</th>
<th>TYPE</th>
<th>AIR FLOW RATE (L/S)</th>
<th>TOTAL STATIC PRESSURE (Pa)</th>
<th>FAN MOTOR (KW)</th>
<th>MOTOR EFFICIENCY (%)</th>
<th>ELECTRICAL CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>OF 3-1 TO OF 3-5</td>
<td>5</td>
<td>THIRD FLOOR VAULT, STORES, MIXING ROOM, COMPRESSOR ROOM</td>
<td>400MM DIAMETER ORBIT FAN</td>
<td>555</td>
<td>30</td>
<td>0.075</td>
<td>-</td>
<td>2.30 1 60</td>
</tr>
<tr>
<td>3H 3-1</td>
<td>1</td>
<td>THIRD FLOOR KITCHEN</td>
<td>TWIN MOTOR RANGE HOOD</td>
<td>217</td>
<td>75</td>
<td>0.127</td>
<td>-</td>
<td>2.30 1 60</td>
</tr>
<tr>
<td>KE8-1</td>
<td>1</td>
<td>SECOND FLOOR COFFEE SHOP KITCHEN</td>
<td>CENTRIFUGAL, BC-SISW EXHAUST BLOWER</td>
<td>614</td>
<td>750</td>
<td>1.5</td>
<td>84.0</td>
<td>2.30 3 60</td>
</tr>
<tr>
<td>KE8-2</td>
<td>1</td>
<td>SECOND FLOOR CANTEEN KITCHEN</td>
<td>CENTRIFUGAL, BC-DDW EXHAUST BLOWER</td>
<td>1246</td>
<td>500</td>
<td>1.5</td>
<td>84.0</td>
<td>2.30 3 60</td>
</tr>
<tr>
<td>KS8-1</td>
<td>1</td>
<td>SECOND FLOOR COFFEE SHOP KITCHEN</td>
<td>CENTRIFUGAL, FC-DDW CABINET TYPE SUPPLY BLOWER</td>
<td>492</td>
<td>250</td>
<td>0.75</td>
<td>82.5</td>
<td>2.30 3 60</td>
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<tr>
<td>KS8-2</td>
<td>1</td>
<td>SECOND FLOOR CANTEEN KITCHEN</td>
<td>CENTRIFUGAL, FC-DDW CABINET TYPE SUPPLY BLOWER</td>
<td>1122</td>
<td>500</td>
<td>1.5</td>
<td>84.0</td>
<td>2.30 3 60</td>
</tr>
</tbody>
</table>

---

**Mechanical Systems**
Actions needed are the following:

1. **Ocular inspection** of the completed building envelope system with reference to the building permit plans including the Equipment Schedule showing efficiency ratings.

2. **Presentation of product labels, brochures and technical specifications** from manufacturer of air-conditioning equipment.

3. **Equipment name plate rating**
OCCUPANCY CLEARANCE PROCESS

Construction Application & Documentation

Ocular Inspection

Mechanical Systems
OCCUPANCY CLEARANCE PROCESS

Construction Application & Documentation

Product labels & nameplate rating

Brochures & catalogs

Mechanical Systems
## EVALUATION SIMULATION NO. 1

### PHILIPPINE GREEN BUILDING CODE COMPLIANCE CHECKLIST

<table>
<thead>
<tr>
<th>Item</th>
<th>Philippine Green Building Code Requirement</th>
<th>GB Code</th>
<th>Developer</th>
<th>Regulator</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Required</td>
<td>Yes/No</td>
<td>Yes/No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Design Value</td>
<td>Documentation needed</td>
<td>Design Specification Relevant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yes/No</td>
<td>Yes/No</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Remarks</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Building Envelope

#### 10.1.1 Air Tightness & Moisture Protection

- **a. Sealed window and door assemblies**
  - Applies to all building occupancies except building and spaces without air-conditioning system
  - Required
  - Complied
  - Bay wall sections
  - Yes
  - Yes

- **b. Sealed utility services**
  - Required
  - Complied
  - Enlarged details of building envelope showing required air tightness & moisture protection elements
  - No
  - No
  - No submission of details and specs

- **c. Sealed walls**
  - Required
  - Complied
  - Building elevations & sections
  - Yes
  - Yes

- **d. Sealed roofing**
  - Required
  - Not Complied
  - Technical specifications of required air tightness & moisture protection elements
  - Yes
  - No
  - No specifications provided

- **e. Sealed ceiling**
  - Required
  - Not Complied
  - Yes
  - Yes

- **f. Sealed flooring**
  - Required
  - Not Complied
  - Yes
  - Yes

#### 10.1.2 Glass Properties

- **a. Solar Heat Gain Coefficient (SHGC)**
  - Applies to all building occupancies without exceptions
  - 0.24
  - 0.7
  - Architectural floor plans, Building elevations & sections
  - Yes
  - Yes

- **b. Visual Light Transmittance (VLT)**
  - 0.35
  - 0.35
  - Window Schedule
  - Yes
  - Yes

- **c. WWR Computation Table**
  - Yes

- **d. Window Glass specifications**
  - Yes
  - Yes
## Building Envelope

### 10.1.1 Air Tightness & Moisture Protection

<table>
<thead>
<tr>
<th>Item</th>
<th>Philippine Green Building Code Requirement</th>
<th>Applicability</th>
<th>GB Code</th>
<th>Developer</th>
<th>Regulator</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Required</td>
<td>Design Value</td>
<td>Design Compliance</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>value</td>
<td>Design Value</td>
<td>Documentation needed</td>
</tr>
<tr>
<td>Building and spaces without air-conditioning system</td>
<td>Applies to all building and spaces without air-conditioning system</td>
<td>Required</td>
<td>Complied</td>
<td>Bay wall sections</td>
<td>Yes</td>
</tr>
<tr>
<td>a. Sealed window and door assemblies</td>
<td>Required</td>
<td>Complied</td>
<td>Enlarged details of building envelope showing required air tightness &amp; moisture protection elements</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>b. Sealed utility services</td>
<td>Required</td>
<td>Not Complied</td>
<td>No submission of details and specs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Sealed walls</td>
<td>Required</td>
<td>Complied</td>
<td>Building elevations &amp; sections</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>d. Sealed roofing</td>
<td>Required</td>
<td>Not Complied</td>
<td>Technical specifications of required air tightness &amp; moisture protection elements</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>e. Sealed ceiling</td>
<td>Required</td>
<td>Not Complied</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Sealed flooring</td>
<td>Required</td>
<td>Not Complied</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 10.1.2 Glass Properties

<table>
<thead>
<tr>
<th>Item</th>
<th>Philippine Green Building Code Requirement</th>
<th>Applicability</th>
<th>GB Code</th>
<th>Developer</th>
<th>Regulator</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Use SHGC Calculator</td>
<td>Design Value</td>
<td>Design Compliance</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Documentation needed</td>
<td>Document Provided?</td>
<td>Design Specification Relevant</td>
</tr>
<tr>
<td>a. Solar Heat Gain Coefficient (SHGC)</td>
<td>Applies to all building occupancies without exceptions</td>
<td></td>
<td>0.24</td>
<td>0.7</td>
<td>Architectural floor plans, Building elevations &amp; sections</td>
</tr>
<tr>
<td>b. Visual Light Transmittance (VLT)</td>
<td>Applies to all building occupancies without exceptions</td>
<td></td>
<td>0.35</td>
<td>0.35</td>
<td>Window Schedule</td>
</tr>
</tbody>
</table>

---

**PERMIT NOT ISSUED**
## EVALUATION SIMULATION NO. 2

### 13.1 Material Recovery Facility (MRF)

<table>
<thead>
<tr>
<th>Item</th>
<th>Philippine Green Building Code Requirement</th>
<th>Applicability</th>
<th>Required value</th>
<th>Design Value</th>
<th>Design Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>MRF with minimum floor area as per Table 15</td>
<td>Applies to all building occupations without exceptions</td>
<td>19.29</td>
<td>25.00</td>
<td>Yes/No; Yes/No</td>
</tr>
<tr>
<td>b</td>
<td>MRF fully enclosed &amp; easily accessible</td>
<td>Required</td>
<td>Complied</td>
<td>Architectural floor plans &amp; site development plan showing location of MRF</td>
<td>Yes</td>
</tr>
<tr>
<td>c</td>
<td>Solid waste containers for 4 types of waste; compostable; non-recyclable; recyclable; special</td>
<td>Required</td>
<td>Complied</td>
<td>MRF Floor Area Computation Table</td>
<td>Yes</td>
</tr>
<tr>
<td>d</td>
<td>For hospitals, isolated bins for hazardous wastes</td>
<td>Not Required</td>
<td>Not Applicable</td>
<td>Technical specifications for the MRF</td>
<td></td>
</tr>
</tbody>
</table>

### 14 SITE SUSTAINABILITY

<table>
<thead>
<tr>
<th>Item</th>
<th>Philippine Green Building Code Requirement</th>
<th>Applicability</th>
<th>Required value</th>
<th>Design Value</th>
<th>Design Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1</td>
<td>Site / Ground Preparation and Earthworks</td>
<td>Applies to all building occupations without exceptions</td>
<td>Required?</td>
<td>Complied?</td>
<td>Yes/No; Yes/No</td>
</tr>
<tr>
<td>a</td>
<td>Building site and erosion control</td>
<td>Required</td>
<td>Complied</td>
<td>Site Erosion and Sedimentation Control Plan</td>
<td>Yes</td>
</tr>
<tr>
<td>b</td>
<td>Pollution mitigation and construction safety per Rule XI of the NBC</td>
<td>Required</td>
<td>Complied</td>
<td>Technical specifications in support of the erosion &amp; control plan</td>
<td>Yes</td>
</tr>
<tr>
<td>c</td>
<td>Storm water collection management plan</td>
<td>Required</td>
<td>Complied</td>
<td>Site Development Plan</td>
<td>Yes</td>
</tr>
<tr>
<td>d</td>
<td>Storm water collection facilities</td>
<td>Required</td>
<td>Complied</td>
<td>Technical specifications</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### Open Space Utilization

<table>
<thead>
<tr>
<th>Item</th>
<th>Philippine Green Building Code Requirement</th>
<th>Applicability</th>
<th>Required value</th>
<th>Design Value</th>
<th>Design Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Minimum 50% of the required Unpaved Surface Area (USA) shall be vegetated</td>
<td>Applies to all building occupations without exceptions</td>
<td>50%</td>
<td>Complied</td>
<td>Site Development Plan</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>USA Computation Table</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

---

**Notes:**
- MRF floor area Calculator
- GB Code Developer Regulator
- Design Compliance Documentation needed Design Specification Relevant
# EVALUATION SIMULATION NO. 2

<table>
<thead>
<tr>
<th>Item</th>
<th>Philippine Green Building Code Requirement</th>
<th>Applicability</th>
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<th>Design Value</th>
<th>Design Compliance</th>
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<tr>
<td></td>
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<td>Documentation needed</td>
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<tr>
<td>13.1</td>
<td>Material Recovery Facility (MRF)</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>MRF with minimum floor area as per Table 15</td>
<td>Applies to all building occupancies without exceptions</td>
<td></td>
<td>19.29</td>
<td>Architectural floor plans &amp; site development plan showing location of MRF</td>
</tr>
<tr>
<td></td>
<td>MRF fully enclosed &amp; easily accessible</td>
<td></td>
<td></td>
<td>25.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Solid waste containers for 4 types of waste; compostable; non-recyclable; recyclable; special</td>
<td>Required</td>
<td>Complied</td>
<td>MRF Floor Area Computation Table</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>For hospitals, isolated bins for hazardous wastes</td>
<td>Not Required</td>
<td>Not Applicable</td>
<td>Technical specifications for the MRF</td>
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</table>

## 14 SITE SUSTAINABILITY

<table>
<thead>
<tr>
<th>Item</th>
<th>Philippine Green Building Code Requirement</th>
<th>Applicability</th>
<th>Required value</th>
<th>Design Value</th>
<th>Design Compliance</th>
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<tr>
<td></td>
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<td></td>
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<td>Documentation needed</td>
</tr>
<tr>
<td>14.1</td>
<td>Site / Ground Preparation and Earthworks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Applies to all building occupancies without exceptions</td>
<td>Required?</td>
<td>Complied?</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Building site and erosion control</td>
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<td></td>
<td>Required</td>
<td>Complied</td>
</tr>
<tr>
<td></td>
<td>Pollution mitigation and construction safety per Rule XI of the NBC</td>
<td>Required</td>
<td>Complied</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Storm water collection management plan</td>
<td>Required</td>
<td>Complied</td>
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<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Storm water collection facilities</td>
<td>Required</td>
<td>Complied</td>
<td></td>
<td>Yes</td>
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<td>14.2</td>
<td>Open Space Utilization</td>
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<tr>
<td></td>
<td>Applies to all building occupancies without exceptions</td>
<td>USA Calculator</td>
<td>Design Value</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Minimum 50% of the required Unpaved Surface Area (USA) shall be vegetated</td>
<td>Required</td>
<td>Complied</td>
<td>Site Development Plan</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50%</td>
<td></td>
<td>Required</td>
<td>Complied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>USA Computation Table</td>
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## EVALUATION SIMULATION NO. 3

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<tbody>
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<td><strong>Electrical Systems</strong></td>
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<td></td>
</tr>
<tr>
<td>10.6.2 Daylight Controlled Lighting System</td>
<td>Applies to all regularly occupied spaces of all building occupancies except building spaces where daylight access hinders intended functions</td>
<td>Required?</td>
<td>Complied?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Daylight sensor or photoelectric sensor in a lighting system - for use within lighting control systems in day-lit zones</td>
<td>Required</td>
<td>Complied</td>
<td>Architectural Reflected Ceiling Plan</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Installed lighting fixtures within day-lit zones are exempt from using photoelectric sensor if this hinders its intended functions, with justification</td>
<td></td>
<td></td>
<td>Electrical lighting and switching circuitry layout</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lighting control diagram</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
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<tr>
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<td>Technical Specifications</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>a</td>
<td>Building LPD within maximum LPD requirements</td>
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<td></td>
</tr>
<tr>
<td>a.1</td>
<td>Residential Dwelling</td>
<td>Applies to all building occupancies without exceptions</td>
<td>10.8</td>
<td>2.25</td>
<td>Architectural Reflected Ceiling Plan w/ LEGEND Box</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>a.2</td>
<td>Hotel/Resort</td>
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<td>0.00</td>
<td>Electrical Lighting Layout w/ LEGEND Box</td>
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<tr>
<td>a.3</td>
<td>Educational: School</td>
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<td>0.00</td>
<td>Building Lighting Power Density Table</td>
<td>Yes</td>
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<td>a.4</td>
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<td>Mercantile: Mall (excl accent lighting)</td>
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<td>16.1</td>
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<tr>
<td>a.7</td>
<td>Exterior facade</td>
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<td>2.15</td>
<td>0.00</td>
<td></td>
<td></td>
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<tr>
<td>a.8</td>
<td>Active entrance (pedestrian conveyance)</td>
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<td>98.4</td>
<td>0.00</td>
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<td>Inactive entrance (normally locked/inactive)</td>
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Technical specifications of lights is different from lamp fixtures indicated in LEGEND BOX of Electrical Lighting Layout.
### EVALUATION SIMULATION NO. 3

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<tr>
<th>Item</th>
<th>Philippine Green Building Code Requirement</th>
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<th>Design Value</th>
<th>Documentation needed</th>
<th>Design Compliance</th>
<th>Design Specification Relevant</th>
</tr>
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<tbody>
<tr>
<td><strong>Electrical Systems</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Yes/No</td>
<td>Yes/No</td>
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<tr>
<td>10.6.2</td>
<td>Daylight Controlled Lighting System</td>
<td>Applies to all regularly occupied spaces of all building occupancies except building spaces where daylight access hinders intended functions</td>
<td>Required?</td>
<td>Complied?</td>
<td></td>
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<tr>
<td></td>
<td>Daylight sensor or photoelectric sensor in a lighting system - for use within lighting control systems in day-lit zones</td>
<td>For residential condominiums, this applies only to common indoor areas with access to daylight</td>
<td>Required</td>
<td>Complied</td>
<td>Architectural Reflected Ceiling Plan</td>
<td>Yes</td>
<td>Yes</td>
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<td></td>
<td>Installed lighting fixtures within day-lit zones are exempt from using photoelectric sensor if this hinders its intended functions, with justification</td>
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<td></td>
<td>Electrical lighting and switching circuitry layout</td>
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<td>Lighting control diagram</td>
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#### 10.6.3 Lighting Power Density (LPD)

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<th>Design Value</th>
<th>Documentation needed</th>
<th>Design Compliance</th>
<th>Design Specification Relevant</th>
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<td>0.00</td>
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<td>a.3</td>
<td>Educational: School</td>
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<td>0.00</td>
<td>Building Lighting Power Density Table</td>
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<td>a.4</td>
<td>Institutional: Hospital</td>
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<td>12.9</td>
<td>0.00</td>
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<td></td>
</tr>
<tr>
<td>a.5</td>
<td>Business: Office</td>
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<td>10.8</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a.6</td>
<td>Mercantile: Mall (excl accent lighting)</td>
<td></td>
<td>16.1</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a.7</td>
<td>Exterior facade</td>
<td></td>
<td>2.15</td>
<td>0.00</td>
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<td></td>
</tr>
<tr>
<td>a.8</td>
<td>Active entrance (pedestrian conveyance)</td>
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<td>0.00</td>
<td></td>
<td></td>
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<tr>
<td>a.9</td>
<td>Inactive entrance (normally locked/inactive)</td>
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<td>65.6</td>
<td>0.00</td>
<td></td>
<td></td>
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<tr>
<td>a.10</td>
<td>Covered Parking</td>
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<td>3.2</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a.11</td>
<td>Open Parking</td>
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<td>1.6</td>
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**PERMIT NOT ISSUED**

Technical specifications of lights is different from lamp fixtures indicated in LEGEND BOX of Electrical Lighting Layout
### EVALUATION SIMULATION NO. 4

**PHILIPPINE GREEN BUILDING CODE COMPLIANCE CHECKLIST**

<table>
<thead>
<tr>
<th>Item</th>
<th>Mechanical Systems</th>
<th>Applicability</th>
<th>GB Code</th>
<th>Developer</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>10.5.1</td>
<td><strong>Air Conditioning Equipment</strong></td>
<td>Applies to all building occupancies except building and spaces without air-conditioning system</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. Efficient air-conditioning equipment</td>
<td><em>Air-cooled, split systems</em> &lt;68,585 KJ/H</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td><em>Water cooled, Electrically operated, centrifugal</em> ≥600 tons</td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Through-the-wall, air-cooled, single packaged</em> &lt;31,655 KJ/H</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Water Heating System</strong></td>
<td>Applies to all building occupancies except building with no water heating system and buildings using solar water heating and/or heat pump for water</td>
<td></td>
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<tr>
<td></td>
<td>a. Efficient water heater</td>
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<tr>
<td></td>
<td>(Equipment 2)</td>
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<td>Equipment Schedule</td>
<td>Yes</td>
<td>Yes</td>
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<td></td>
<td>(Equipment 3)</td>
<td></td>
<td>Plumbing &amp; Electrical power layout</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>(Equipment 4)</td>
<td></td>
<td>Technical Specifications of Water Heating system</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td></td>
<td>(Equipment 5)</td>
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<td>Document Provided?</td>
<td>No</td>
<td>No</td>
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</table>

**Technical Specifications**

- Air Conditioning & Ventilation Layout
- Equipment Schedule
- Technical Specifications of the various AC equipment
- Equipment Schedule
- Plumbing & Electrical power layout
- Technical Specifications of Water Heating system
## PHILIPPINE GREEN BUILDING CODE COMPLIANCE CHECKLIST

### 10 ENERGY EFFICIENCY

#### Mechanical Systems

<table>
<thead>
<tr>
<th>Item</th>
<th>Philippine Green Building Code Requirement</th>
<th>Applicability</th>
<th>GB Code</th>
<th>Developer</th>
<th>Regulator</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Remarks</td>
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<tr>
<td>10.5.1</td>
<td>Air Conditioning Equipment</td>
<td>Applies to all building occupancies except building and spaces without air-conditioning system</td>
<td>EER or COP or kW/Ton</td>
<td>EER or COP or kW/Ton</td>
<td>Design Compliance</td>
</tr>
<tr>
<td></td>
<td>a. Efficient air-conditioning equipment</td>
<td>Air-cooled, split systems &lt;68,585 KJ/H</td>
<td>12.0 EER</td>
<td>13</td>
<td>Equipment Schedule</td>
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<tr>
<td></td>
<td></td>
<td>Water cooled, Electrically operated, centrifugal ≥600 tons</td>
<td>0.57 Kw/ton</td>
<td>0.55</td>
<td>Air-conditioning &amp; Ventilation Layout</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Through-the-wall, air-cooled, single packaged &lt;31,665 KJ/H</td>
<td>12.0 SEER</td>
<td>10.9</td>
<td>Technical Specifications of the various AC equipment</td>
</tr>
<tr>
<td>10.5.2</td>
<td>Water Heating System</td>
<td>Applies to all building occupancies except building with no water heating system and buildings using solar water heating and/or heat pump for water</td>
<td>Required Efficiency Factor</td>
<td>Efficiency Factor</td>
<td>Design Specification Relevant</td>
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<tr>
<td></td>
<td>a. Efficient water heater</td>
<td>none</td>
<td></td>
<td></td>
<td>Equipment Schedule</td>
</tr>
</tbody>
</table>

### PERMIT NOT ISSUED

---

**PHILIPPINE GREEN BUILDING CODE COMPLIANCE CHECKLIST**

10 GB Code Developer
Yes/No Yes/No Remarks

10.5.1 Air Conditioning Equipment

- **Applicability**
  - Applies to all building occupancies except building and spaces without air-conditioning system

- **EER or COP or kW/Ton**
  - EER = 12.0
  - COP = 13
  - kW/Ton = 0.57

- **Remarks**
  - Equipment Schedule
  - Air-conditioning & Ventilation Layout
  - Technical Specifications of the various AC equipment

10.5.2 Water Heating System

- **Applicability**
  - Applies to all building occupancies except building with no water heating system and buildings using solar water heating and/or heat pump for water

- **Efficiency Factor**
  - Efficiency Factor = 10.9

- **Remarks**
  - Equipment Schedule
  - Plumbing & Electrical power layout
  - Technical Specifications of Water Heating system

**PERMIT NOT ISSUED**
## 11.2.1 Rainwater Harvesting

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>a Rainwater harvesting tank with minimum required volume capacity</td>
<td>20.00</td>
<td>Stormwater drainage layout plan</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>b Provision of rainwater collection and distribution system for toilet flushing, irrigation and cooling tower make-up use</td>
<td>22.00</td>
<td>Stormwater drainage Isometries</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Applies to all building occupancies.**

- No distribution to Cooling Tower as there is no such system installed.

- Rainwater harvesting tank details
- Stormwater drainage layout plan
- Rainwater harvesting Storage Tank
- Computation Table
- Technical Specifications

### 11.2.2 Water Recycling

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>a Provision of a separate recycled water (sourced from STP) filtration and distribution system for non-potable purposes such as toilet flushing, irrigation and cooling tower make-up use.</td>
<td>Not Required</td>
<td>Not Applicable</td>
<td>Sewage system plan showing filtration and distribution system</td>
<td></td>
<td></td>
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</tbody>
</table>

**Applies to all building occupancies with sewage treatment plant (STP)**

- Sewage system Isometries showing filtration and distribution system
- STP & Filtration details
- Technical Specifications of STP with narrative on treatment and recycling operations

---

**Notes:**
- All building occupancies with sewage treatment plant (STP)
# EVALUATION SIMULATION NO. 5

## 11.2.1 Rainwater Harvesting

<table>
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<tr>
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<tbody>
<tr>
<td>a</td>
<td>Rainwater harvesting tank with minimum required volume capacity</td>
<td>Designed</td>
<td>20.00</td>
<td>22.00</td>
<td>Stormwater drainage layout plan</td>
<td>Yes</td>
</tr>
<tr>
<td>b</td>
<td>Provision of rainwater collection and distribution system for toilet flushing, irrigation and cooling tower make-up use</td>
<td>Stormwater drainage Isometries</td>
<td>Yes</td>
<td>Yes</td>
<td>No distribution to Cooling Tower as there is no such system installed</td>
<td></td>
</tr>
</tbody>
</table>

**Applied to all building occupancies.**

### Rainwater Harvesting tank details
- Rainwater harvesting tank details
- Rainwater harvesting Storage Tank
- Rainwater Harvesting Computation Table
- Technical Specifications

### Stormwater drainage layout plan
- Yes

### Rainwater harvesting tank details
- Yes

### Technical Specifications
- Yes

## 11.2.2 Water Recycling

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</thead>
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<tr>
<td>a</td>
<td>Provision of a separate recycled water (sourced from STP) filtration and distribution system for non-potable purposes such as toilet flushing, irrigation and cooling tower make-up use.</td>
<td>Not Required</td>
<td>Not Applicable</td>
<td>Sewage system plan showing filtration and distribution system</td>
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<td></td>
</tr>
</tbody>
</table>

**Applied to all building occupancies with sewage treatment plant (STP)**

### Sewage system plan showing filtration and distribution system
- Yes

### Technical Specifications of STP with narrative on treatment and recycling operations
- Yes

### STP & Filtration details
- Yes

### Sewage system Isometries showing filtration and distribution system
- Yes

### Technical Specifications
- Yes
## EVALUATION SIMULATION NO. 6

### PHILIPPINE GREEN BUILDING CODE COMPLIANCE CHECKLIST

#### ENERGY EFFICIENCY

<table>
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<th>Item</th>
<th>Requirement</th>
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<th>Regulator</th>
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<td>Item</td>
<td>10.6.7 Overhead Water Storage</td>
<td>Required?</td>
<td>Yes/No</td>
<td>Remarks</td>
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<td>Yes/No</td>
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<td>Item</td>
<td>11.1 Water Fixtures</td>
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<td>Item</td>
<td>Specified water fixture compliant with maximum flow rate requirements as per Table 20</td>
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<td>Item</td>
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<td>Max. Flowrate</td>
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<td>Yes</td>
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<td>Yes</td>
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<td>Item</td>
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#### WATER EFFICIENCY

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<th>Construction Compliance</th>
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<tr>
<td>Item</td>
<td>11.1 Water Fixtures</td>
<td>Applies to all building occupancies</td>
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<tr>
<td>Item</td>
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<td>Max. Flowrate</td>
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<td>4.9</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Item</td>
<td>a.2 Single Flush Water Closet</td>
<td>Flowrate</td>
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<td>4.9</td>
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<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Item</td>
<td>a.3 Shower</td>
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<td>7.2</td>
<td>7.2</td>
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<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Item</td>
<td>a.4 Urinal</td>
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<td>1</td>
<td>1</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Item</td>
<td>a.5 Lavatory tap</td>
<td></td>
<td>4</td>
<td>4.8</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Item</td>
<td>a.6 Kitchen Faucet</td>
<td></td>
<td>4</td>
<td>4.8</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Item</td>
<td>a.7 Handheld bidet spray</td>
<td></td>
<td>3.9</td>
<td>4.8</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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</table>
### PHILIPPINE GREEN BUILDING CODE COMPLIANCE CHECKLIST

#### PLUMBING SYSTEMS

<table>
<thead>
<tr>
<th>Item</th>
<th>Philippine Green Building Code Requirement</th>
<th>Applicability</th>
<th>GB Code</th>
<th>Developer</th>
<th>Regulator</th>
<th>Design Compliance</th>
<th>Construction Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.6.7</td>
<td>Overhead Water Storage</td>
<td>Applies to all building occupancies except buildings below 10 storeys high</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Remarks</td>
<td>Yes/No</td>
<td>Yes/No</td>
</tr>
<tr>
<td></td>
<td>Water Distribution Layout plan</td>
<td>Required</td>
<td>Yes</td>
<td>Yes</td>
<td>Ocular Inspection &amp; Verification</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Single Line or Schematic Diagram</td>
<td>Yes</td>
<td>Yes</td>
<td>Product Labels and/or nameplate rating</td>
<td>Yes</td>
<td>Yes</td>
<td>Capacity indicated on the tank</td>
</tr>
<tr>
<td></td>
<td>Water Tank Details</td>
<td>Yes</td>
<td>Yes</td>
<td>Brochures &amp; Catalogues</td>
<td>No</td>
<td>No</td>
<td>Tank is site fabricated</td>
</tr>
<tr>
<td></td>
<td>Technical Specifications</td>
<td>Yes</td>
<td>Yes</td>
<td>Shopdrawings</td>
<td>Yes</td>
<td>Yes</td>
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#### WATER EFFICIENCY

<table>
<thead>
<tr>
<th>Item</th>
<th>Philippine Green Building Code Requirement</th>
<th>Applicability</th>
<th>GB Code</th>
<th>Developer</th>
<th>Regulator</th>
<th>Design Compliance</th>
<th>Construction Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.1</td>
<td>Water Fixtures</td>
<td>Applies to all building occupancies</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Remarks</td>
<td>Yes/No</td>
<td>Yes/No</td>
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<tr>
<td>a.1</td>
<td>Dual Flush Water Closet</td>
<td>Max. Flowrate (liters/flush)</td>
<td>6 full and 3 low flow</td>
<td>Water Distribution Layout plan with LEGEND box</td>
<td>Yes</td>
<td>Yes</td>
<td>Ocular Inspection &amp; Verification</td>
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<tr>
<td>a.2</td>
<td>Single Flush Water Closet</td>
<td>4.9 (liters/flush)</td>
<td>4.9</td>
<td>Water Efficient Fixtures Use Confirmation Table</td>
<td>Yes</td>
<td>Yes</td>
<td>Product Labels and/or nameplate rating</td>
</tr>
<tr>
<td>a.3</td>
<td>Shower</td>
<td>7.2</td>
<td>7.2</td>
<td>Brochures &amp; Catalogues</td>
<td>Yes</td>
<td>Yes</td>
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<td>a.4</td>
<td>Urinal</td>
<td>1</td>
<td>1</td>
<td>Shopdrawings</td>
<td>No</td>
<td>No</td>
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<td>a.5</td>
<td>Lavatory tap</td>
<td>4</td>
<td>4</td>
<td>Technical Specifications of plumbing fixtures</td>
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<td>a.6</td>
<td>Kitchen Faucet</td>
<td>3.9</td>
<td>3.9</td>
<td>As-Built Drawings</td>
<td>Yes</td>
<td>Yes</td>
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</table>

#### OCC CLEARANCE

**NOT ISSUED**
GREEN BUILDING IN THE PHILIPPINES

Mandatory GB Code

Other Codes & Laws

Voluntary
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FOR A SMARTER WORLD

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Green Building Code Standards

Voluntary Rating Systems
LEED, BREEAM, BERDE, GREEEN

Number of buildings

Lower end  Business as Usual  Green Buildings