# ESG Strategy During Development

GL Okjeong General Private Real Estate Investment Company

WIDE CREEK
ASSET MANAGEMENT

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# 1 Introduction

GL Okjeong General Private Real Estate Investment Company strives to identify assets with sufficient intrinsic value, increase their value by optimizing the design, and transparently operate and manage them.

It is very important to incorporate Environmental, Social, and Governance (ESG) information into investment decisions. The *ESG Strategy During Development* is to provide a framework for ESG throughout the business cycle of asset development at GL Okjeong General Private Real Estate Investment Company.

# 2 Pre-Development Phase

Understanding that integrating ESG factors into our business can improve operating profitability and reduce ESG risks while increasing opportunities, each step should be considered carefully.

## 2.1 Site Selection

During the investment identification stage, environmental aspects of the potential site or asset should be considered. Site selection considerations include, but are not limited to, the following:

i. Better connectivity
ii. Reducing carbon footprint caused by the site and asset
iii. Utilizing the existing infrastructure
iv. Reducing environmental impact from the building location
v. Preventing environmental risks posed to the surrounding natural features
vi. Avoiding development of environmentally sensitive lands
vii. Embracing development constraints

## 2.2 Due Diligence

An Environmental Due Diligence Assessment is conducted in the pre-development phase. The scope of environmental due diligence is provided in tables 1.

*Table 1 Scope of Environmental Due Diligence*

| Scope | Key Considerations |
|---|---|
| Environment | Effluents |
| | Emissions |
| | Water pollution |
| | Air pollution |
| | Energy use |
| | Natural resource use |
| | Water use |
| | Waste management |
| | Land clearance |
| | Land and soil quality |
| | Sensitive forest or other habitats |
| | Biodiversity loss |
| | Climate change: risks and opportunities |
| | Natural hazards |
| | Other environmental impacts |

# 3 Design Phase

In order to maintain the consistency and performance of ESG developed and managed by GL Okjeong General Private Real Estate Investment Company, it is important to develop Owner's Program Requirements (OPR) and Basis of Design (BOD) at the early stages of the project. In addition, a successful integrative design process challenges project teams to design, build, and manage efficient buildings that are both green and resilient.

## 3.1 Design for Building Performance

Building systems are interdependent and require cooperation and creative thinking across disciplines. An integrated design process identifies opportunities to achieve synergies across disciplines and building systems throughout the planning and design phases and beyond. Energy-related factors encompass a spectrum of factors such as site conditions, massing and orientation, basic envelope attributes, lighting levels, and thermal comfort ranges. Water-related factors span Indoor water demand, Outdoor water demand, Process water demand, Supply sources. Moreover, The health and wellbeing of occupants are also considered along with multi other aspects.

The selection of efficient energy and water systems plays a crucial role in determining a building performance. Therefore, the following strategies are recommended:

- **Energy efficient features**

i. Exceed local energy codes or standards: Energy Saving Design Standard of Building by Korea Ministry of Land, Transport and Transport

ii. Implement energy efficient features across lighting, water heating, building fabric, and space heating.

iii. Install an onsite renewable energy production system such as biofuels, geothermal, hydro, solar/photovoltaic, or wind (if applicable).

iv. Install new or use existing building-level energy meters, or submeters that can be aggregated to provide building level data representing total building energy consumption (if applicable).

- **Water efficient features**

i. Consider using water-saving fixtures to reduce indoor water use.

ii. Reduce outdoor water use through selecting native and drought-tolerant plants, which do not require irrigation beyond a maximum two-year establishment or require less water.

iii. Conserve water used for cooling tower makeup while controlling microbes, corrosion, and scale in the condenser water system.

iv. Consider using site-derived alternative water sources such as graywater and rainwater.

v. Implement other water efficiency measures such as drip/smart irrigation, leak detection system, flow control devices, and water use monitoring.

## 3.2 Design for Health and Wellness

It is also important to have spatial design that enhances the health and wellness of the building occupants and of the community. The following strategies are recommended to promote design for health and wellness:

*Table 2 Strategies to promote design for health and wellness*

| Strategy | Details |
|---|---|
| Indoor air quality | Maintain indoor air quality at a level compliant with relevant standards in South Korea. |
| Natural ventilation | Provide sufficient outdoor intake by implementing proper opening and ventilation designs for building use in accordance with relevant standards in South Korea. |
| Low Emitting Materials | Reduce concentrations of chemical contaminants that can damage air quality, human health, productivity, and the environment by selecting low emitting materials. |
| Provisions for active transport | Provide bicycle storage facilities to encourage active transport |

## 3.3 Design for Building Safety

All assets should comply with local building safety code and regulations. This includes the following:

*Table 3 Local laws and regulations related to building safety in South Korea*

| Design Scope | No. | Relevant laws and regulations | Confirmation requirements |
|---|---|---|---|
| Architecture | 1 | District unit planning guidelines | Building coverage ratio<br>Floor area ratio |
| | 2 | | Highest floor |
| | 3 | | Use of the building |
| | 4 | Building code | Direct stairs |
| | 5 | | Public space in the site |
| | 6 | | Traffic Impact Assessment |
| | 7 | Parking lot code | No. of parking spaces |
| | 8 | | Parking plan |
| | 9 | Eco Friendly Vehicle Act | Environment friendly car parking area |
| | 10 | Law regarding activation of bicycle use | Bicycle storage |
| | 11 | Evacuation/ Fire protection law | Evacuation stair structure |
| | 12 | | Evacuation floor walking distance |
| | 13 | | Fire compartment |
| | 14 | | Fire resistant structure |
| | 15 | | Interior finishing materials for buildings |
| | 16 | | Exterior finishing materials for buildings |
| | 17 | Rules on facility standards of buildings | Measures to prevent heat loss in buildings |
| | 18 | Act on Promotion and Support of Water Reuse | Gray water facility |
| Structure | 1 | Building Act Enforcement Decree Article 2, Article 6-3 | Criteria for special structure buildings |
| | 2 | Ordinance of the Ministry of Land, Infrastructure and Transport No. 919 Article 58 | Submission of structural safety confirmation |
| | 3 | Building code Article 48-3 | Disclosure of seismic capability of buildings |
| Mechanical | 1 | Mechanical Equipment Act Article 15 and Enforcement Decree Article 12, Article 13 | Before mechanical facility construction, check and pre use inspection work items |
| Electrical | 1 | Article 63 of the Electricity Business Act | Pre-use inspection |
| Telecom | 1 | Article 8 of the Enforcement Decree of the Information and Communication Business Act | Construction for Supervision of Information & Communication Business |
| | 2 | Article 36 of the Information and Communication Business Act | Supervision result report |
| F.F | 1 | Enforcement Decree of the Act on Installation and Management of Firefighting Facilities [Appendix 4] | Fire extinguishing equipment<br>- Fire extinguisher |
| | 2 | | Fire extinguishing equipment<br>- Sprinkler |
| | 3 | | Alarm equipment<br>- Automatic fire detection system |

# 4 Construction Phase

Depending on how well the construction process is planned and managed, the construction activities can have impact to the surrounding environment and the community. To minimize the impact of construction activities, relevant measures are implemented as much as possible. Concerning health and safety during construction, designated personnel should oversee building safety compliance throughout development, and site inspections are conducted at key construction milestones.

## 4.1 Construction Indoor Air Quality Management

Developing and implementing an Indoor Air Quality (IAQ) management plan is essential for effectively regulating air quality during construction, safeguarding the health and well-being of both construction workers and building occupants. The plan is recommended to address the following:

*Table 4 IAQ management recommendations*

| Category | Measures |
|---|---|
| HVAC Protection | Keep contaminants out of the HVAC system. Do not run permanently installed equipment if possible or maintain proper filtration if it is used. |
| Source control | Keep sources of contaminants out of the building and have a plan to eliminate any that are introduced. |
| Pathway interruption | Prevent circulation of contaminated air when cutting concrete or wood, sanding drywall, installing VOC-emitting materials, or performing other activities that affect IAQ in other workspaces. |
| Housekeeping | Maintaining a clean job site results in fewer IAQ contaminants to manage. |
| Scheduling | Sequence construction activities to reduce air quality problems in new construction projects. For major renovations, coordinate construction activities to minimize or eliminate disruption of operations in occupied areas. |

## 4.2 Construction and Demolition Waste Management

Both planning and implementation are critical to reducing construction waste. Construction and demolition waste disposed of in landfills and incineration facilities can be reduced by recovering, reusing, and recycling materials. The following recommendations are promoted:

i. Develop and implement a Waste Management Plan.

ii. Set target diversion rate.

iii. Install clear signage and on-site facilities and provide training for employees/contractors.

iv. Separately manage hazardous and non-hazardous waste.

v. Monitor waste data.

vi. Conduct waste audits if target diversion rate is not met.

# 5 Operation Phase

Sustainable building operations and maintenance can lead to operational cost reduction, better occupant satisfaction, reduced GHG emissions, and improved energy and water efficiency. Continuous monitoring of building performance is crucial for identifying areas and issues that need addressing. The following areas are considered:

i. Monitoring Water Consumption

ii. Water Fixture and Fitting Replacement and Retrofit Policy

iii. Monitoring Energy Consumption

iv. Monitoring GHG Emission

v. Monitoring Waste Produced