

Sustainability Guidelines for Design and Construction



Special Integrated Logistics Zone

Sustainability Guidelines for
Design and Construction

18/05/2026 [®]

[®] Indicates changes in this revision compared to the previous version

Disclaimer: This document is prepared in accordance with the codes, standards, and regulations in effect as of the issue date. Any future updates or revisions to relevant international or Saudi (KSA) codes, standards, or regulations shall apply and take precedence where applicable.

By **matarat**
Holding

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01

Introduction

Introduction

The purpose of these sustainability guidelines is to inform and guide the tenants in applying sustainable operational best practices. The guidelines support tenants in understanding and applying strategies aligned with the building's systems and features to significantly reduce energy, water, and resource consumption during operation phase. Additionally, they provide recommendations for sustainable products and practices to encourage responsible decision-making throughout the operation of tenant spaces.

These Sustainability Guidelines provide a comprehensive scope for guiding the operation of buildings within SILZ development towards applying sustainable practices. The scope covers strategies to reduce environmental impact, enhance resource efficiency, and promote occupant well-being across the operation phase. Moreover, one of the key objectives is to support the transition toward Nearly Net Zero by maintaining efficient operation and optimize energy and water consumption.

SILZ sustainability guidelines consist of the following:

- Guidelines main document (this document)
- Excel-based checklist and score-card

Introduction

Navigating SILZ Sustainability Guidelines

The guideline consists of Four parts:

- I. Guidelines:** this section summarizes the sustainability requirements that need to be complied with.
- II. Checklist:** A checklist is a document that outlines all sustainability credits requirements, indicating whether each is **mandatory** or **recommended**.
- III. Score Card:** is a structured tool used to assess and track compliance with sustainability guideline by assigning **one point** to each recommended requirement and evaluate the achievement of that requirement, based on which the level of compliance is defined.



Introduction

Navigating SILZ Guidelines

The proposed credits' requirements are classified in two main categories:

- ✓ Mandatory
- ✓ Recommended

Mandatory Requirements :

sustainability criteria that must be fully met for the project to achieve basic compliance with the guidelines. Failure to meet any mandatory requirement typically results in **non-compliance** and disqualification from approval.

Recommended Requirements:

Optional sustainability measures that are encouraged to enhance environmental performance. While not required for baseline compliance, they contribute to **higher sustainability ratings**.



Mandatory requirements



Recommended requirements

Scope of SILZ Sustainability Guidelines

These Sustainability Guidelines provide a comprehensive scope for guiding the operation of buildings within SILZ development towards applying sustainable practices. The scope covers strategies to reduce environmental impact, enhance resource efficiency, and promote occupant well-being across the operation phase. Moreover, one of the key objectives is to support the transition toward Nearly Net Zero by maintaining efficient operation and optimize energy and water consumption.

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Values and Benefits

Site Category credits:

The Site Category specifically addresses on-site ecosystem services, features of the surrounding community and how this infrastructure affects occupants' behavior and environmental performance. In particular, site strategies for reducing urban heat island effects and supporting rainwater runoff. Also addressed are strategies that reward thoughtful decisions about alternative transportation and parking, site lighting, pedestrian access and connection with amenities.

Energy Category credits:

The Energy category focuses on minimizing the energy consumption and carbon emissions of the built environment within the SILZ. This section focuses on energy reduction methodologies during design via passive design, load reduction, efficient systems, and on-site clean energy sources. As well, recommendations are made to minimize energy consumption from operations through on-going commissioning and adoption of policies.

Water Category credits:

The water category addresses water holistically, looking at indoor use, outdoor use, specialized uses, and metering. The underlining goals are based on an "efficiency first" approach to water conservation. Strategies to reduce potable water use in buildings entail the selection of efficient plumbing fittings, fixtures, and equipment.

Air Category credits:

People spend approximately 90% of their time indoors, so poor air quality and exposure to indoor pollutants lead to a variety of poor health outcomes, with both short- and long-term consequences.

Outdoor pollutants can be minimized by limiting the source, controlling the pathways of outdoor air to occupied spaces and filtering the outdoor air before entering the breathing zones. Indoor pollutants impact on occupants can be minimized with source reduction, physical separation, exhaust, and dilution with clean air sources. All play important roles in maintaining safe, clean air quality for enhanced occupant health and well-being.

Values and Benefits

Indoor Environmental Quality Category credits:

Good indoor environmental quality balances visual and thermal comfort. Spaces that embody these attributes are calming, satisfying, more productive, and have great overall benefit to human health. The practices outlined in this part of the guideline can minimize the negative effects of glare and bright light in addition to hot or cold exposure.

Materials Category credits:

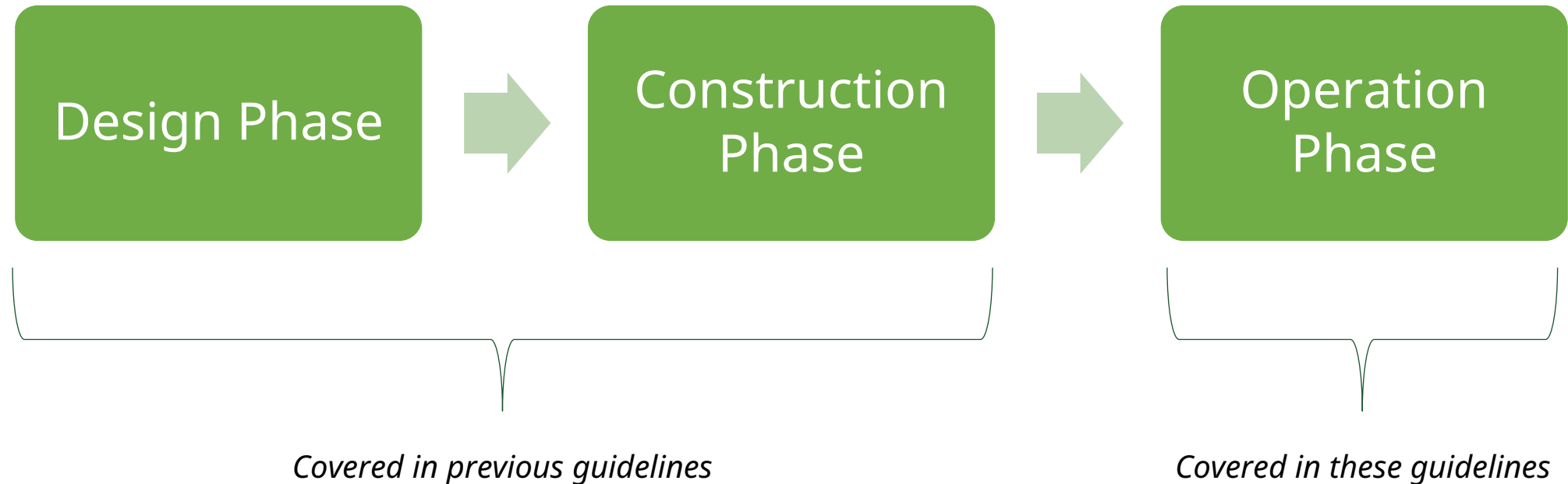
The Materials category focuses on minimizing the embodied energy and other impacts associated with the extraction, processing, transport, maintenance, and disposal of building materials. In addition, the overarching goal is to reduce human exposure to hazardous building material ingredients through the restriction or elimination of compounds or products known to be toxic and the promotion of safer replacements.

Constructions Category credits:

Construction sourcing is to give preference to the purchase of materials that boost the local economy and provide the added benefit of reduced transportation impacts. Construction waste management addresses reducing the long-term environmental impacts associated with the disposal of construction and demolition waste by recovering, reusing and recycling materials.

The goal of construction environmental management is to reduce adverse environmental and social impacts of construction activities by implementing environmental management best practices. Construction water management focuses on managing rain water and minimizing water consumption during construction. Testing and commissioning during and post construction are needed to verify envelop in addition energy and water systems performance compared to the designed and as intended.

Project Phases Covered by These Sustainability Guidelines



Project Phases Covered by These Sustainability Guidelines

The following table highlights project phases covered by these guidelines associated with the number of sustainability categories and sustainability credits per each phase.

Phase	Number of Sustainability categories	Number of sustainability credits
Design Phase: The design phase of SILZ projects begins with a Design Charrette, bringing together all key stakeholders to establish a shared vision and align sustainability goals. This collaborative work initiates an integrated design process, where input from the full project team is valued early and often.	7	32
Construction Phase: The Construction phase focuses on meeting specific performance targets that are directly aligned with the Masterplan Key Performance Indicators (KPIs). The tenant's construction team must ensure all materials purchased and used on-site comply with these targets.	1	5

These guidelines outline both **mandatory** requirements and **recommended** ones for each sustainability credit, which are intended to be used during the design, and construction phases to ensure consistent and measurable sustainability outcomes.

Levels Of Compliance

For each credit, there are:

Mandatory requirements; must be achieved.

Recommended requirements; help tenant to go beyond mandatory requirements by achieving more energy and water consumption reduction and enhanced improvements in environmental quality and waste management.

There are 42 mandatory requirements and 36 recommended requirements. While achieving mandatory requirements is a must, achieving recommended requirements defines the level that the tenant will reach.

Level	Mandatory Requirements Achieved (must for all levels) [®]	Recommended Requirements Achieved	Total Requirements Achieved [®]
Level A	43	>20	>62
Level B	43	≤10 and ≤20	44-62
Level C	43	0	43

Incentives scheme

The total achieved requirements will be assessed during the Desing review stage and at the end of the Construction phase to determine the overall sustainability score. Based on the final score, the tenant's level of achievement will be determined, and the corresponding incentives will be awarded accordingly.

Level	Incentive	Details
Level A	Streamlined (expedited) permits process.	Construction Permit Application Review Period: Reduced to 5 working days instead of 10 working days. Occupancy Permit Application Review Period: Reduced to 10 working days instead of 15 working days
	Green Tenant Spotlight.	Feature compliant tenants in newsletters, on the website, and across social media channels.
	Priority access to new spaces and expansion opportunities	Tenants receive first consideration for available plots, facilities, and future expansion opportunities within the free zone, including a first right of refusal for new land allocations.
Level B	Streamlined (expedited) permits process.	Construction Permit Application Review Period: Reduced to 5 working days instead of 10 working days. Occupancy Permit Application Review Period: Reduced to 10 working days instead of 15 working days.
	Green Tenant Spotlight.	Feature compliant tenants in newsletters, on the website, and across social media channels.
Level C	Mandatory	NA

Green Tenant Spotlight and Priority access to new spaces and expansion opportunities incentives will be awarded after the Construction Permit stage.

02

How To Use SILZ Sustainability Guidelines For Design and Construction

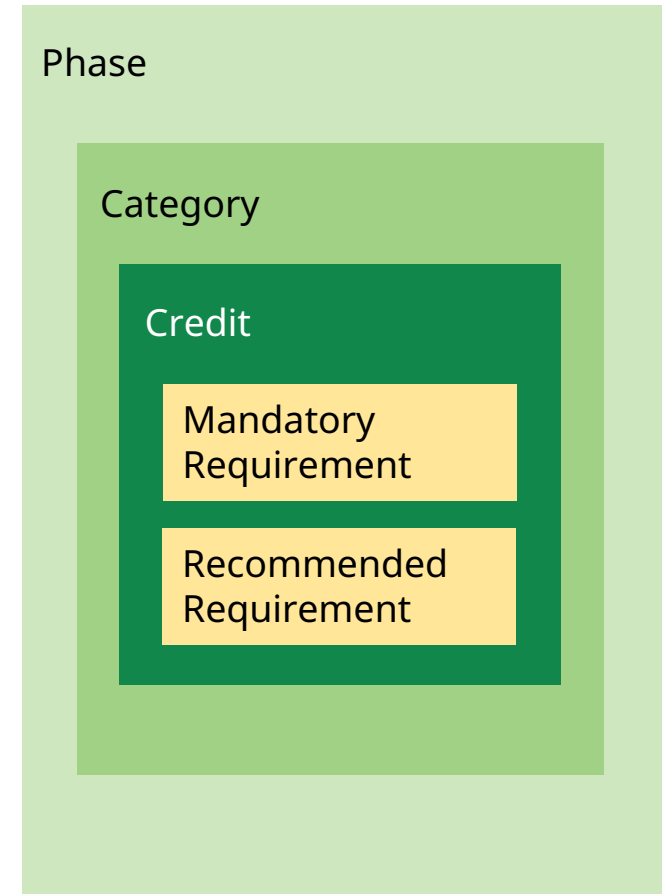
Sustainability Guidelines Structure

Phase: As previously mentioned, the guidelines are divided across two key phases- Design and Construction.

Category: Within each phase, specific sustainability aspects are identified for assessment.

Credits: Each category includes credits that provide detailed criteria (requirements) and focus areas for evaluation.

Requirements: These outline the necessary submittals and KPI's needed to achieve credit. Requirements are classified as either mandatory or recommended.



Submission Process

Submission of sustainability documents must be in line with design documents and as per details included in the **“Tenants Development Guidelines”**;

Tenant to develop a sustainability report showing the status of adherence to sustainability guidelines.

The sustainability report must be developed with consideration given to the sequence and numbering of sustainability categories and credits as per the sustainability guidelines and checklist.

Tenant to show in the report how they progress of fulfilling sustainability guidelines requirements in proper elaboration supported with needed narratives, calculations, schematics, photos,

Evidence and documents – as required in sustainability guidelines - must be annexed to the sustainability report.

The sustainability report must be updated regularly and submitted to SILZ for review.

Sustainability Report Structure

Executive Summary

Project Overview

Design Phase

- Integrated Design Process
 - IDP01 - Integrated Design Process
 - Mandatory Requirement 1 - Create preliminary shoebox energy model
 - Mandatory Requirement 2 - Prepare preliminary water consumption analysis
- Site
 - S01 - Rain Water Management
 - Recommended Requirement 1 – Sewage, Flood and Rain Water Management
 - Recommended Requirement 2 – Reduce Runoff
 - S02 - Site Lighting
 - ...
 - S03 - ...
 - ...
- Energy
- ...

Construction Phase

- ...
 - ...

Conclusions

Annexes

Submission Process

WARNING!

It is not accepted to receive sustainability submittals in a complex format and packaging of documents.

if the evidence to be annexed with the sustainability report is layout, plan, simulation report, commissioning report, EIA study, checklist, template, policy, ..., then it is expected that annexed documents names, numbering and sequence are in line with the sustainability report content.

Referral in the sustainability report to any annexed document must be clear.

Tenant is requested to submit only the relevant part of annexed evidence documents. It is not allowed to submit and large size zipped folder of many layouts and schedules as one evidence.

WARNING!

The referencing of any standard, codes or protocol shall indicate the usage of the latest version available to avoid constant changes of the guidelines whenever a new version is released and comes into effect.

SILZ review of sustainability report

SILZ design team will review the regularly tenant submittals (sustainability report and associated evidences and documents), and compare the submittals with details included the guidelines, checklist, & scorecard. Review results will be included in the “COMMENTS AND RESPONSE SHEET, CRS”. Tenants will receive SILZ comment in the CRS to rectify gaps and close the status of the credit.

Evidences and verification documents include:

- Calculations
- Manufacturers Cutsheets
- Narratives
- Drawings
- Plans
- Signage
- Policy Document

SILZ design team will review the sustainability report and all associated evidences against KPI of each requirement.

Checklist & Scorecard

Following is a mapping of credits per category per phase. The detailed excel-based checklist is annexed to this document.

Phase	Category	Credit	Requirements	
			Mandatory	Recommended
DESIGN-PHASE	INTEGRATED DESIGN PROCESS	[IDP01] Integrated Design Process	2	-
	SITE	[S01] Rainwater Management	-	2
		[S02] Site Lighting	-	1
		[S03] Urban Heat Island	-	2
		[S04] Transport/Mobility/Parking	1 [®]	2
	ENERGY	[E01] Overall Building Performance	1	1
		[E02] Envelope Thermal Performance	2	1
		[E03] External Air Infiltration	2	-
		[E04] Solar Shading	-	1
		[E05] Lighting	3	2
		[E06] Equipment	2	-
		[E07] Renewable Energy	1	1
		[E08] Commissioning	2	-
		[E09] Refrigerant Management	1	1
	WATER	[W01] Water Quality	1	-
		[W02] Water Efficiency	1	1
		[W03] Water Filtration	-	1
		[W04] Equipment	1	-
		[W05] Moisture Control	-	1
		[W06] Metering	1	1
		[W07] Landscaping	1	2

Checklist & Scorecard

Following is a mapping of credits per category per phase. The detailed excel-based checklist is annexed to this document.

Phase	Category	Credit	Requirements	
			Mandatory	Recommended
DESIGN-PHASE	AIR	[A01] Air Quality	-	2
		[A02] Air Filtration	1	1
		[A03] Smoke Free Environment	2	1
		[A04] Pollution Infiltration Management	-	2
		[A05] Source Separation	1	1
	INDOOR ENVIRONMENTAL QUALITY	[IEQ01] Daylight	1	-
		[IEQ02] Thermal Comfort	1	-
	MATERIALS	[M01] Volatile Organic Compounds (VOCs)	1	-
		[M02] Building Life Cycle Assessment (LCA)	1	-
		[M03] Material Sourcing	-	2
		[M04] Material Ingredients	3	2
CONSTRUCTION-PHASE	CONSTRUCTION	[C01] Construction-Material Sourcing	-	2
		[C02] Construction-Waste Management	2	1
		[C03] Construction-Environmental Quality	4	-
		[C04] Construction Water Management	2	1
		[C05] Testing and Commissioning	2	1

Credit Structure

In these guidelines, and in the following sections, sustainability credits are included per phase and per category. Each credit is structured with the following guidance:

Understanding

The Understanding topic provides additional information to the credit to enable proper interpretation by tenants. The intent is to provide further awareness of the Environmental, Health and Wellness concerns and strategies in implementing the various measures and requirements throughout the document.

Mandatory Requirement

Sections marked as 'mandatory' indicate areas that are taken from local code or the SILZ's Key Performance Indicators and Master Plan goals for the SILZ. They also include industry best practices that are deemed essential strategies in designing and constructing facilities such as these in today's market. By implementing these strategies, the project has potential in energy, water and resource reductions while lowering operating costs and creating a healthy working environment for building occupants. These are mandatory and will be tracked and monitored by the SILZ Development team.

Recommended

Sections marked as 'Recommended' contain strategies for design and construction measures for your design team to consider. By implementing many of these measures you are ensuring the creation of a healthy working environment, resource reductions and continued reduced operating costs for your site. These are optional but highly encouraged. They will be tracked and monitored by the SILZ Development team.

Credit Structure

Submittals (Evidence)

Verification documents required as evidences to prove the adherence with sustainability guidelines requirements. These submittals are requested to accommodate the requirement. The main submittal is the sustainability report. evidences to be included in the sustainability report might be a narrative, tables of comparison, calculations, photos, However, there might be other evidence documents to be submitted as annexes, such as site plans, layouts, polices, templates, simulation reports, checklists, ...

Key Performance Indicators (KPIs)

The sustainability vision and goals for SILZ Masterplan will be realized and monitored through a number of Key Performance Indicators. The responsibility for achieving these are spread across various providers and firms associated with the project during the design and construction phases of the project. These KPIs and the actual metrics are addressed throughout this document.

03. Design Phase Sustainability Credits

03.1

Integrated Design Process Category Credits

[IDP01] Integrated Design Process

[IDP01]	Integrated Design Process	
Understanding	An Integrative Design Process (IDP) is a collaborative approach that explores synergies between building systems to optimize performance, comfort, and environmental impact. It involves thorough coordination and challenges conventional design assumptions to improve overall efficiency.	
Mandatory requirement (1)	Description	preliminary shoebox energy model
	Submittals (evidence)	Sustainability report that includes: - Narrative showing that energy simulation was taken into consideration during design phase. - Energy model summary report annexed to the sustainability report. Note 1: Energy simulation can be done by using globally (locally) well-recognized energy modeling tool (E-QUEST, IES, HAP, ...) Note 2: Selected energy simulation tool to be approved by SILZ design team. Please refer to elaboration box [IDP01-1] that shows energy model scope.
	KPI	KPI: Availability of energy simulation. Target: Energy Simulation Report
Mandatory Requirement (2)	Description	preliminary water consumption analysis
	Submittals (evidence)	Sustainability report that includes: - Narrative on potable and non-potable water sources and consumption within the facility. - Water budget calculation results. Please refer to elaboration box [IDP01-2] for water budget analysis details.
	KPI	KPI: Availability of water budget calculation. Target: Water budget calculation report
Recommended Requirement	N/A	

[IDP01] Integrated Design Process

Elaboration Box [IDP01-1]	Energy Model Scope
The energy model must include the following:	
1. Site conditions: Assess shading, exterior lighting, hardscape, landscaping, and adjacent site conditions. 2. Massing and orientation: Assess how massing and orientation affect HVAC sizing, energy consumption, lighting, and renewable energy opportunities. 3. Envelope attributes: Assess insulation values, window-to-wall ratios, glazing characteristics, shading, and window operability. 4. Lighting levels: Assess interior surface reflectance values and lighting levels in occupied spaces. 5. Thermal comfort: Assess thermal comfort range options. 6. Plug and process load: Assess reducing plug and process loads through programmatic solutions (e.g., equipment and purchasing policies, layout options). 7. Programmatic and operational parameters: Assess multifunctioning spaces, operating schedules, space allotment, teleworking, reduction of building area, and anticipated operations and maintenance.	

Elaboration Box [IDP01- 2]	Water budget analysis
A preliminary water budget analysis to be completed before the schematic design that explores how to reduce potable water loads in the building and accomplish related sustainability goals. Assess and estimate the project's potential non- potable water supply sources and water demand volumes, including the following:	
1. Indoor water demand: Assess flow and flush fixture design case demand volumes, calculated in accordance with local code or project recommendations. 2. Outdoor water demand: Assess landscape irrigation design case demand volume calculated in accordance with local code or project recommendations. 3. Process water demand: Assess kitchen, laundry, cooling tower, and other equipment demand volumes, as applicable. 4. Supply source: Assess all potential non-potable water supply source volumes, such as on-site rainwater and graywater, municipally supplied non-potable water, and HVAC equipment condensate.	

03.2

Site Category Credits

[S01] Rainwater Management

[S01]	Rainwater Management	
Understanding	The intent of rainwater management is to reduce runoff, prevent flooding, and limit the spread of pollutants by encouraging infiltration on-site. This is achieved through strategies such as pervious pavements, green roofs, and stormwater swales, which allow water to soak into the ground, support groundwater recharge, and reduce pressure on drainage infrastructure. For tenants handling oil, chemicals, or other hazardous materials, each tenant shall provide pollution-control systems—such as an oil–water separator, a shut-off valve, and a sediment filter—installed before the final inspection chamber or another approved system to ensure that no oil, chemicals, or contaminated stormwater enters the main stormwater network..[®]	
Recommended requirement (1)	Description	Sewage, Flood and Rainwater management
	Submittals (evidence)	Sustainability report that includes: - A narrative showing a brief description of the project that shows that the site has increased pervious surfaces. - A site plan that highlights all areas with pervious or permeable surfaces. - A narrative showing the sewage management plan. - Used materials datasheet.
	KPI	KPI: Materials datasheet showing the infiltration rate. Target: infiltration rate is not less than 82 LPM/m², Saudi Green Building Code (Mostadam) SBC 1001:2018 (Section 403 – Flood and Rainwater Management) or the latest version. Note: Tenant must submit a compliance sheet in accordance to the code requirements.
Recommended requirement (2)	Description	Reduce Runoff
	Submittals (evidence)	Sustainability report that includes: - Rainfall intensity records for 10 years. - Specification for the material used in pavement to determine runoff coefficient. - Site plan showing drainage area. (m²).
	KPI	KPI: The design of drainage system to accommodate the flowrate of the 95th percentile. Target: Accommodate the flowrate of the 95th percentile.

[S02] Site Lighting

[S02]	Site Lighting	
Understanding	The intent of this part is to minimize light pollution by controlling exterior lighting, therefore enhancing access to the night sky, improving nighttime visibility for safety and comfort, and reducing negative impacts of artificial lighting on surrounding communities and wildlife.	
Mandatory requirement	N/A	
Recommended Requirement (I)	Description	Light pollution control
	Submittals (evidence)	Sustainability report that includes: - Narrative on site lighting details - Site lighting plan annexed to the report.
	KPI	KPI: Minimizing light pollution Target: Upward light, unwanted light, and glare should be minimized for all exterior lighting fixtures <u>Note:</u> Tenant must submit a compliance sheet in accordance to the code requirements.

[S03] Urban Heat Island

[S03]	Urban Heat Island	
Understanding	Minimize heat buildup from urban surfaces by using high-reflectance materials for roofs and pavements to reduce solar heat gain, lower surface and ambient temperatures, and improve outdoor comfort. This helps decrease energy use for cooling and mitigates the urban heat island effect.	
Mandatory requirement	N/A	
Recommended Requirement (1)	Description	Design Hardscape.
	Submittals (evidence)	Sustainability report that includes: - Narrative on hardscape material SRI values. - Materials Specifications/datasheets indicating their SRI value annexed to the sustainability report.
	KPI	KPI: SRI value of hardscape material. Target: $\geq 50\%$ of your site hardscape materials to have SRI value of not less than 30.
Recommended Requirement (2)	Description	Reduce Heat Island Effect
	Submittals (evidence)	Sustainability report that includes: - Narrative on hardscape, shade structures and roofs SRI values. - Materials specifications/datasheets indicating their SRI value annexed to the sustainability report. Note: All values should exceed requirement (1)
	KPI	KPI: SRI value for hardscape, shade structures and roofs materials Target: - Hardscape: 90% of hardscape area to have an $SRI \geq 45$. - Shade structures: 100% of shading structures to have an $SRI \geq 75$. - Roofs: 100% of roofs to have an $SRI \geq 75$.

[S04] Transport/Mobility/Parking

[S04]	Transport/Mobility/Parking	
Understanding	SILZ promotes community-connected, walkable developments with access to multiple transportation options to reduce car use, support public health, and lower emissions. Tenants are encouraged to manage parking demand through strategies like carpooling and preferred parking for shared transport.	
Mandatory requirement ®	Description	Encourage sustainability
	Submittals (evidence)	Narrative on parking design Parking layout show 5% of the total parking spaces, with a minimum of 2 units
	KPI	KPI: Achieve 5% of the total parking spaces, with a minimum of 2 units for Green Vehicles Target: 5% of the total parking spaces, with a minimum of 2 units for Green Vehicles
Recommended Requirement (1)	Description	Encourage Green Vehicles
	Submittals (evidence)	Sustainability report that includes: - Narrative on parking design - Parking layout that shows: • that over 15% of all parking spaces are preferred parking for green vehicles with minimum more than 2 units® • that preferred parking spaces are distributed proportionally among various parking sections. • that Electric Vehicle (EV) charging facilities or a battery switching station are present.
	KPI	KPI: Preferred parking percentage for green vehicle. Target: 15% of parking spaces to be as preferred parking for green vehicles with minimum more than 2 units®
Recommended Requirement (2)	Description	Encourage Sustainable Commuting
	Submittals (evidence)	Sustainability report that includes: - Narrative explaining the parking design - Parking layout showing that all parking lots are fully shaded and reserved for EV. - Parking layout showing that Electric Vehicle Supply Equipment (EVSE) are installed for more than 5 % up to 15 % of site parking with a minimum more than 2 units. ®
	KPI	KPI: Percentage of spaces equipped for EVSE & shaded. Target: more Than 5% up to 15% with a minimum more than 2 units of spaces to be equipped for EVSE and shaded. ®

03.3

Energy Category Credits

[E01] Overall Building Performance

[E01]	Overall Building Performance	
Understanding	Limits on overall building energy performance enable energy and carbon emission targets to be established while allowing flexibility in design. Reducing overall building energy consumption and carbon emissions has positive impacts on cost, health and environmental factors.	
Mandatory requirement (1)	Description	Energy Efficient Building Design
	Submittals (evidence)	Sustainability report that includes: - A narrative about the energy simulation results. - Energy Modeling Report showing compliance with ASHRAE 90.1. - Electrical and Mechanical plans with details annexed to the sustainability report. Please refer to elaboration box [E01] for more details.
	KPI	KPI: building's energy consumption Target: Energy performance to comply with ASHRAE baseline. (ASHRAE Standards 90.1 and 209).
Recommended requirement (1)	Description	Higher Energy Efficient Building Design
	Submittals (evidence)	Sustainability report that includes: - A narrative about the energy simulation results. - Energy Modeling Report showing that the performance is better than ASHRAE 90.1 by 5% - Electrical and Mechanical plans with details annexed to the sustainability report. Please refer to elaboration box [E01] for more details
	KPI	KPI: building's energy consumption Target: Buildings consume 5% less energy than ASHRAE baseline.

[E01] Overall Building Performance

Elaboration Box [E01]	Energy Model Scope
Whole-building energy simulation to be conducted (using appropriate energy modeling software), to compare the total building energy consumption (kWh) to the baseline prescribed by ASHRAE Standard 90.1-2013. Energy Simulation protocols to follow ASHRAE Standard 209:2018 (Energy Simulation Aided Design for Buildings except Low-Rise Residential Buildings). <u>Note:</u> It is recommended to build on the energy model established in credit [IDP01], taking into account the details of both: mandatory and recommended requirements of this credit.	

[E02] Envelope Thermal Performance

[E02]	Envelope Thermal Performance	
Understanding	A high-performance thermal envelope minimizes heat transfer through windows, opaque surfaces, and building materials to reduce cooling loads, energy use, and costs. It also enhances comfort and daylighting, especially in industrial buildings through strategic window placement.	
Mandatory requirement (1)	Description	Properly insulated opaque envelope:
	Submittals (evidence)	Sustainability report that includes: - A narrative on used materials indicating their U values as well as SRI values - Thermal performance to meet Saudi Energy Conservation Code for Climate Zone 1 SBC 601:2018 (chapter 5: Building Envelope Requirements) or latest version for non-residential metal buildings: assembly Umax values (W/m²°C) as stated in KPI below. - Materials specifications annexed to the report.
	KPI	KPI: assembly Umax value Target: Roof = 0.369, Walls = 0.193, Floors = 0.408.
Mandatory Requirement (2)	Description	Energy efficient fenestration
	Submittals (evidence)	Sustainability report that includes: - A narrative showing the WWR calculation results. - Vertical Fenestration performance to meet SBC 601:2018, (chapter 5: Building Envelope Requirements- Umax AND SHGCmax for assembly) or latest version. - Material Specifications including the SHGC annexed to the report.
	KPI	KPI: WWR value Target: WWR not to exceed 40%. KPI: solar heat gain coefficient (SHGC) of assembly Target: Umax = 2.89 W/m²°C, SHGCmax =0.25 Note: Tenant must submit a compliance sheet in accordance to the code requirements.

[E02] Envelope Thermal Performance

[E02]	Envelope Thermal Performance	
Recommended requirement (1)	Description	Optimum skylights utilization:
	Submittals (evidence)	Sustainability report that includes: - A narrative showing the skylight percentage calculations. - Skylight performance meet SBC 601-2018 (chapter 5: Building Envelope Requirements- Umax AND SHGCmax for skylight) or latest version. - Material specifications including Umax AND SHGCmax annexed to the report.
	KPI	KPI (1): Skylight percentage from roof area. Target (1): Not to exceed 5% of the roof area KPI (2): solar heat gain coefficient (SHGC) of assembly Target (2): Skylight performance to meet SBC 601:2018 (for assembly, Umax = 1.7 W/m ² °C, SHGCmax = 0.21) <u>Note:</u> Tenant must submit a compliance sheet in accordance to the code requirements.

[E03] External Air Infiltration

[E03]	External Air Infiltration	
Understanding	Infiltration of unwanted exterior air through the building façade to conditioned spaces results in unwanted heat gains, potential introduction of air borne contaminants (i.e., pollutants, odors), as well as the potential for decreased thermal comfort. Controlling the amount of infiltration through the building envelope through envelope and HVAC design, construction practices, and air seal/barrier technologies is an effective means of reducing energy consumption and improving thermal comfort.	
Mandatory requirement (1)	Description	Ensure Building Air Tightness
	Submittals (evidence)	Sustainability report that includes: - Commissioning plan - Tender documents specifications and commissioning agent qualifications
	KPI	KPI: Availability of building air tightness testing plan Target: Developed plan according to the criteria above.
Mandatory Requirement (2)	Description	Utilize Air Curtains or other technology to Minimize Thermal Loss
	Submittals (evidence)	Sustainability report that includes: - Commissioning plan - Tender documents specifications and commissioning agent qualifications
	KPI	KPI: KPI: Availability of air curtain utilization and testing plan Target: Developed plan according to the criteria above.
Recommended Requirement	N/A	

[E04] Solar Shading

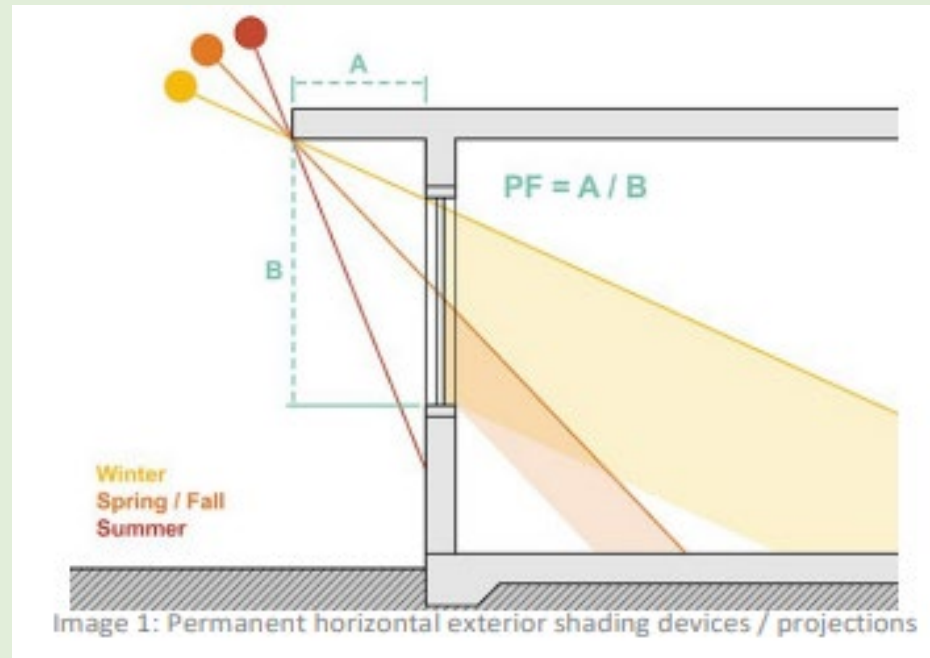
[E04]	Solar Shading	
Understanding	Uncontrolled solar heat gain is a major cause of cooling energy consumption and thermal discomfort. Appropriate application of fixed and operable shading devices will be effective at decreasing cooling load and increasing comfort. It is preferred to intercept sun penetration before entering the building with opaque external overhangs, fins, and operable shading devices.	
Mandatory requirement	N/A	
Recommended Requirement (1)	Description	Utilize permanent horizontal exterior shading devices / projections.
	Submittals (evidence)	Sustainability report that includes: - Narrative on the Elevations or sections showing horizontal shading devices with dimensions to confirm projection factor as in KPI. - Projection Factor Calculations. - Product specifications/ datasheet for automatic shading devices showing they operate to reduce solar heat gain and glare. Please refer to elaboration box [E04].
	KPI	KPI: Projection factor Target: projection factor ≥ 0.5.

[E04] Solar Shading

Elaboration Box [E04]

Details of permanent horizontal exterior shading devices / projections.

Permanent horizontal exterior shading devices / projections with projection factor of at least 0.5 (as shown in image 1) and automatically controlled shading devices to prevent solar gains and glare.



[E05] Lighting

[E05]	Lighting	
Understanding	For typical SILZ building typologies, lighting is a significant contributor to overall building energy consumption and a source for heat gain, both of which impact cooling loads. Reducing lighting power density (LPD) with efficient technologies (such as LED fixtures, task tuning, and light tubes) as well as automatically controlling lighting usage when not required are effective means of reducing energy and cooling consumption.	
Mandatory Requirement (1)	Description	Interior Lighting Power Density
	Submittals (evidence)	Sustainability report that includes: - Summary of interior lighting power calculations for each space. - Narrative of compliance with SBC 601:2018 (Chapter 9: Lighting) or latest version. Refer to elaboration box [E05-1] for LPD tables.
	KPI	KPI: Lighting Power Density (W/m²) Target: adherence to LPD values provided in the elaboration box [E05-1].
Mandatory Requirement (2)	Description	Exterior Lighting Power Density
	Submittals (evidence)	Sustainability report that includes: - Summary of exterior lighting power calculations for each space. - Narrative of compliance with SBC 601:2018 (Chapter 9: Lighting) or latest version.
	KPI	KPI: Lighting Power Density (W/m²) Target: adherence to LPD values provided in SBC 601:2018 (Section 9.4.3: Exterior Building Lighting Power) or the latest version.

[E05] Lighting

[E05]	Lighting	
Mandatory requirement (3)	Description	Lighting Controls
	Submittals (evidence)	Sustainability report that includes: - A narrative on control zoning and layout drawings. - Completed checklist showing how the lighting controls comply with SBC 601:2018 (Chapter 9: Lighting) or latest version. Please refer to elaboration box [E05-2] for lighting control examples.
	KPI	KPI: The use of lighting-controls Target: Lighting controls in compliance with SBC 601:2018 (Chapter 9: Lighting)
Recommended Requirement (1)	Description	Lower Interior Lighting Power Density
	Submittals (evidence)	Sustainability report that includes: - Summary of interior lighting power calculations for each space. - Narrative of compliance with SBC 601:2018 (Chapter 9: Lighting) or latest version. - Refer to elaboration box [E05-1] for LPD tables.
	KPI	KPI: Lighting Power Density (W/m²) Target: 25% lower than LPD values in Mandatory Requirement (1).
Recommended Requirement (2)	Description	Lower Exterior Lighting Power Density
	Submittals (evidence)	Sustainability report that includes: - Summary of exterior lighting power calculations for each space. - Narrative of compliance with SBC 601:2018 (Chapter 9: Lighting) or latest version.
	KPI	KPI: Lighting Power Density (W/m²) Target: 25% lower than LPD values in Mandatory Requirement (2).

[E05] Lighting

Elaboration Box [E05-1]

Interior Lighting Power Density for Mandatory and Recommended Requirements

The summary should include the calculations of the LPD (W/m^2), layout for each area, SBC Standard LPD values from [SBC table 9.3](#), and a comparison of the calculated values with the standards.

The table below shows an example of the Interior Lighting Power Density that comply with SBC 601:2018, Section 9.6 for mandatory requirement:

Building typology	LPD _{max}
Warehouse (Medium/bulky material storage)	6.2 W/m^2
Warehouse (Fine material storage)	10.2 W/m^2
Detailed Manufacturing	13.9 W/m^2
Office (Enclosed)	11.9 W/m^2
Office (Open plan)	10.5 W/m^2

The table below shows an example of the Interior Lighting Power Density that is 25% lower than SBC 601:2018, Section 9.6 for recommended requirement:

Building typology	LPD _{max}
Warehouse (Medium/bulky material storage)	4.7 W/m^2
Warehouse (Fine material storage)	7.7 W/m^2
Detailed Manufacturing	10.4 W/m^2
Office (Enclosed)	8.9 W/m^2
Office (Open plan)	7.8 W/m^2

[E05] Lighting

Elaboration Box [E05-2]	Lighting Control Examples
Lighting control examples: a. Room Controls - Automatic Lighting Shutoff (scheduled or occupant sensor) b. Garage Controls - Automatically reduce light power to 30% when unoccupied for more than 30 minutes c. Daylight Controls - For side daylit areas >23m² d. Stairwell Controls - Automatically reduce light power to 50% within 30 minutes of occupancy e. Exterior Lights - Daylight controls (off when daylit), landscape light off from midnight to 6 am	

[E06] Equipment

[E06]	Equipment	
Understanding	Energy requirements for equipment loads can be a constant, and significant contributor to overall energy consumption for SILZ building typologies. Not only do equipment (or plug) loads consume electricity, but waste heat results in a secondary energy draw. It is therefore beneficial to minimize equipment energy consumption through the implementation of efficient appliances, monitoring, and practices.	
Mandatory requirement (1)	Description	Real time energy and water consumption monitoring system installation
	Submittals (evidence)	Sustainability report that includes: - Brief narrative of the system type (SCADA, BMS, EMS, etc.) and its purpose. - Drawings showing the monitoring system setup. - List of utilities monitored - Sample report showing how data will be stored
	KPI	KPI: Install a real-time monitoring system that report energy consumption. Target: Main energy consuming equipment are monitored.
Mandatory Requirement (2)	Description	Use High Efficiency Motors
	Submittals (evidence)	Sustainability report that includes: - Narrative showing that all motors in HVAC and pumping systems, indicating their efficiency class. (IE1, IE2, IE3...). - Specifications of each motor proposed,
	KPI	KPI: Motor Efficiency Class. Target: IE3 or above

[E07] Renewable Energy

[E07]	Renewable Energy	
Understanding	To align with Saudi Vision 2030 guidelines for expanding adoption of clean energy sources across KSA, SILZ has a strong mandate to produce on-site renewable energy. Rooftops and vehicle shading structures provide excellent horizontal solar exposure and are ideal locations for photovoltaic electricity generation. On-site renewable energy will play an essential role in achieving the energy performance goal of a net-zero carbon site.	
Mandatory requirement (1)	Description	Onsite RE (PV): 70% of the energy consumption with minimum coverage of 60% of the roof area.
	Submittals (evidence)	Sustainability report that includes: - A narrative of System Design Summary, PV System Layout Drawings, PV System Specifications, and Energy Output Estimate. - Simulation report annexed to the sustainability report. <i>Note: The tenant's PV system proposal shall be approved by SERA. A SERA-approved third party shall carry out the final design and installation, covering electrical, structural, and FLS requirements—especially for battery storage, if applicable</i>
	KPI	KPI 1: PV Electricity Contribution Target 1: PV electricity production contributes to 70% of energy consumption. KPI 2: PV System Coverage of Roof Area Target 2: PV system covers a minimum of 60% of total roof area.

[E07] Renewable Energy

[E07]	Renewable Energy	
Recommended requirement (1)	Description	Onsite RE (PV): 60% of roof area and 50% of parking canopies OR meet annual energy production requirements and offset annual carbon emissions
	Submittals (evidence)	Sustainability report that includes: - A narrative of System Design Summary, PV System Layout Drawings, PV System Specifications, and Energy Output Estimate. - Simulation report annexed to the sustainability report.
	KPI	KPI 1: PV System Coverage of Roof Area Target 1: PV system covers 60% of total roof area and 50% of parking canopies. OR KPI 2: PV Electricity Contribution Target 2: PV electricity production meets annual energy consumption and offset carbon emissions.

[E08] Commissioning

[E08]	Commissioning	
Understanding	Building Enclosure and HVAC Systems commissioning provides an important check to ensure that buildings are constructed and operate as per design intentions. Commissioning begins with a third-party check during the design process, continues with as-built performance verification, and continues with on-going maintenance and operation checks. An effective commissioning plan and execution results in increased performance, reduced energy consumption, and improved occupant comfort.	
Mandatory requirement (1)	Description	Consider Enclosure Commissioning in Design Stage and Tender Documents
	Submittals (evidence)	Sustainability report that includes: - Commissioning plan - Tender documents specifications and commissioning agent qualifications Note: Commissioning plan must be according to Basis of design “BOD” and owner project requirement “OPR”.
	KPI	KPI: Availability of enclosure commissioning plan Target: Developed enclosure commissioning plan as per criteria above
Mandatory requirement (2)	Description	Consider Building Systems Commissioning during Design Stage and Tender Documents.
	Submittals (evidence)	Sustainability report that includes: - Commissioning plan - Tender documents specifications and commissioning agent qualifications Note: Commissioning plan must be according to Basis of design “BOD” and owner project requirement “OPR”.
	KPI	KPI: Availability of building systems commissioning plan Target: Developed building systems commissioning plan as per criteria above

[E09] Refrigerant Management

[E09]	Refrigerant Management	
Understanding	Ozone and CFC refrigerants can be significant contributors to Greenhouse Gas (GHG) emissions. Reducing and/or eliminating the use of these refrigerants on site will greatly impact the overall emissions contribution of the building.	
Mandatory Requirement (1)	Description	Ozone & CFC: Zero ODP refrigerants, the site does not use CFCs or halon-based materials
	Submittals (evidence)	Sustainability report that includes: - A narrative with list of all refrigerants used on site. - Include type, equipment served, and confirmation of zero ODP and no CFCs or halons. - For each: refrigerant type, quantity, Ozone Depletion Potential (ODP), and Global Warming Potential (GWP)
	KPI	KPI 1: Percentage of refrigerant with zero ODP Target 1: 100% of refrigerants used to be zero ODP. AND KPI 2: Percentage of CFCs or halon-based refrigerants Target 2: 0% of CFCs or halon-based refrigerants
Recommended Requirement (1)	Description	Enhanced Refrigerant Management: Refrigerants are not used or only refrigerants (naturally occurring or synthetic)
	Submittals (evidence)	Sustainability report that includes: - A narrative with refrigerant Inventory to confirm that there is no need for refrigerants or they are natural ones. - For each: refrigerant type, quantity, Ozone Depletion Potential (ODP), and Global Warming Potential (GWP)
	KPI	KPI: Use of natural refrigerants Target: No use of refrigerants or use of natural refrigerants

03.4

Water Category Credits

[W01] Water Quality

[W01]	Water Quality	
Understanding	Water quality addresses the sourcing, distribution, and control of potable water to ensure safety, availability, and protection of building materials and conditions. In regions like Saudi Arabia, where desalination supplies the majority of potable water, treated water may still face contamination risks during transfer and storage, especially in local plumbing systems. Factors such as stagnant water, poor temperature control, and inconsistent pressure can promote microbial growth, including Legionella, a bacterium that causes Legionnaires' Disease when inhaled through contaminated mist or spray (e.g., from showers or cooling towers). To reduce such risks, continuous water flow, stable pressure, and proper treatment and monitoring systems are essential.	
Mandatory Requirement (1)	Description	Legionella Management
	Submittals (evidence)	Sustainability report that includes: - Narrative of Legionella Management Plan for all relevant water-based systems. - Related design requirement Note: Standards like ASHRAE 188 provide suggestions, recommendations, and best practices for managing and preventing Legionella in building water systems. Tenant design team can refer to it while developing Legionella management plan. Note: The quality of wastewater shall comply with the Sewage Discharge Quality Report issued by RAC and conform to MEWA regulations
	KPI	KPI: Legionella management plan Target: 100% of water-based systems covered by the plan.
Recommended Requirement	N/A	

[W02] Water Efficiency

[W02]	Water Efficiency	
Understanding	Potable water usage in buildings constitutes a large portion of freshwater consumption. Strategies to reduce potable water use in buildings entail the selection of efficient plumbing fittings, fixtures, and equipment. Fixtures that use 20% to 50% less water than code-required levels are now widely available. Saudi Arabia, one of the world's driest countries, has implemented a national program for rationalizing water consumption in the Kingdom, setting ambitious targets that include slashing usage by up to 43% by the end of the next decade. SILZ will provide a centralized water treatment plant (STP) for use by all tenants.	
Mandatory Requirement (1)	Description	Water demand reduction
	Submittals (evidence)	Sustainability report that includes: - Narrative on the use of water fixtures - Plumbing fixtures and fittings datasheets - A table showing SILZ/SASO water fixtures flow rates, proposed fixtures flow rate, and savings. Please refer to elaboration box [W02] for SILZ/SASO flow rate tables.
	KPI	KPI: The target flow rate. Target: Water fixtures flow rates in compliance with SILZ/SASO standard values in elaboration box [W02]
Recommended Requirement (1)	Description	Increased Indoor Water Use Performance
	Submittals (evidence)	Sustainability report that includes: - Narrative on the use of water fixtures - Plumbing fixtures and fittings datasheets - Calculations showing that fixtures and fittings flow rates are 20% lower than SASO standards.
	KPI	KPI: The target flow rate. Target: 20% lower than values in elaboration box [W02]

[W02] Water Efficiency

Elaboration Box [W02]

Water Demand Reduction Targets

1. SILZ Water demand reduction targets for low flow fixtures:

Water fixture	Target
Washroom taps	2.0 L/min (@ 4.13 bar)
Showers	8.0 L/min (@ 5.5 bar)
Water closet effective flush volume (single and dual)	4.8 L per flush
Water closet effective flush volume (urinals)	1.0 L per flush

2. SASO Maximum Flow Rates

Product Type	Category		Customs' HS Code	Maximum Flow Rate (L/Min)
Taps	Mixers	Mixer taps for public toilets	848180700000	1.9
		Mixer taps for private toilets	848180700000	6.0
		Kitchen mixer/taps	848180700000	6.0
		Bidet mixer/taps	848180700000	6.0
	Shower head and taps		732490000000	9.5
	Flusher taps		848090000000	6.0
Toilets with dual/ single flush system	Single Flush	S trap	691010000005	3.0+0.5
		P trap		4.0+0.5
	Dual flush	S trap	691010000005	(Dual Flush) Max. of the average is 3.0+0.5 as calculated by $(f+(5 \times L))/6$ (S trap) Max. of the average is 4.0+0.5 as calculated by $(f+(5 \times L))/6$ (P trap) Full flush value shall not exceed 4.8 liters
		P trap		
Flush system urinal			691090000000	1.0

[W03] Water Filtration

	Water Filtration	
Understanding	The goal for filtration is to limit the presence of sediment and water-borne bacteria levels in water for human contact and consumption. Sediment filters can reduce the turbidity of water by removing suspended solids. This can solve appearance-based concerns of water quality and prepare the water for later stages of treatment. Once the water is of a low turbidity, UV disinfection systems are effective at destroying coliforms and other microbes.	
Mandatory requirement	N/A	
Recommended Requirement (1)	Description	Provision of Drinking Water Filtration
	Submittals (evidence)	Sustainability report that includes: - Narrative on drinking water filtration - Specifications of filtration units proposed in design/ tender documents.
	KPI	KPI: Use of Filters for drinking water Target: 100% of drinking water from water dispensers is treated within the building

[W04] Equipment

[W04]	Equipment	
Understanding	Addressing all areas within a building for potential water loss and recovery is important. By supporting high-performance, cost-effective project outcomes through an early analysis of the interrelationships among systems helps to identify potential efficiencies. In some buildings, intensive appliance and process water use can exceed water use from fixtures and landscape combined. This is especially true for buildings with cooling towers or evaporative condensers.	
Mandatory Requirement (1)	Description	All water consuming equipment must meet Energy Efficiency Label
	Submittals (evidence)	Sustainability report that includes: - Narrative including list of water consuming equipment and their labels/certificates. - Compliance with SBC 1001:2018 (Section 702: installations, equipment, and appliances) or the latest version, on energy efficiency labels
	KPI	KPI: Percentage of installed water-consuming equipment with energy efficiency labels Target: 100% of water consuming equipment to be with energy efficiency labels.

[W05] Moisture Control

[W05]	Moisture Control	
Understanding	Through effective design of the building's envelope, glazing systems, plumbing assemblies and ventilation system, buildings can make conditions inhospitable to mold, microbes and pests, reducing the risk to respiratory health. Mold often grows on cooling coils in HVAC systems due to moisture condensation and can be introduced into the building's indoor air. The building should include strategies for protecting against moisture intrusion and preventing occupants' exposure to mold spores. Strategies are needed to prevent prolonged exposure of indoor air to wet/wetted surfaces contributing to moisture build up.	
Mandatory requirement	N/A	
Recommended Requirement (1)	Description	Manage Interior Liquid Water to Avoid Water Leaks.
	Submittals (evidence)	Sustainability report that includes: - Narrative explaining the interior liquid water management strategy. - Floor plans indicating the location of each device. Please refer to elaboration box [W05] on water leaks prevention.
	KPI	KPI 1: Number of manual/automatic shut-off. Target 1: All hard-piped fixtures are equipped with manual/automatic shut-off KPI 2: Leak detection Target 2: Leak detection system installed on building-wide

[W05] Moisture Control

Elaboration Box [W05]	Water Leaks Prevention
Manage Interior Liquid Water to prevent leaks and water damage, one of the following is installed: - Readily accessible, single-throw manual shut-off (governed or activated peruse). - Automatic shut-off at point-of-connection for all hard-piped fixtures (such as dishwashers, icemakers and clothes washers). - Building-wide plumbing leak detection system.	

[W06] Metering

[W06]	Metering	
Understanding	Building-Level Water Metering allows the opportunity to support water management and identify opportunities for additional water savings by tracking water consumption. Disparities often exist between how buildings are designed to operate and how they perform. Metering of potable water usage allows facilities management staff to monitor changes in water usage as efficiency measures are implemented.	
Mandatory Requirement (1)	Description	Install Water Meters for Effective Water Management
	Submittals (evidence)	Sustainability report that includes: - Narrative on water metering - Layout showing meters and submeters locations within the site. Please refer to elaboration box [W06-1]
	KPI	KPI: The use of water meters Target: Whole building, and main systems to be covered by water meters. Please refer to elaboration box [W06-1]
Recommended Requirement (1)	Description	Install Additional Water Submetering
	Submittals (evidence)	Sustainability report that includes: - Narrative on water submetering details - Layout evidence showing additional submeters installed within the site. As per the elaboration box [W06-2] below.
	KPI	KPI: The use of water meters Target: Cover additional sub-systems. Please refer to elaboration box [W06-2]

[W06] Metering

Elaboration Box [W06-1]	Details of Water Metering
Water Metering: Install water meters for monitoring internal and external water use, and to use the data to encourage effective management of consumption levels. a. Whole building: Provide meters at whole building level for the main supply and implement a sub-metering strategy. b. Sub-metering: Potable water, process water and landscape (at a minimum).	

Elaboration Box [W06-2]	Details of Additional Water Sub-metering
Consider additional sub-metering as appropriate for: a. Sub(tenant)spaces b. Water-based cooling systems c. Irrigation d. Showers e. Indoor and outdoor water features f. External and internal hose bibs g. Indoor public water use h. Domestic hot water i. Boiler j. Reclaimed water k. Other process water	

[W07] Landscaping

[W07]	Landscaping	
Understanding	The intent behind reducing outdoor water consumption and landscape irrigation practices is that they consume large quantities of potable water, sometimes accounting for 30% to 70% of the water used for non-agricultural purposes. Good landscape design and use of native, adapted, and drought-tolerant plants can dramatically reduce and even eliminate the need for irrigation while better integrating the building site into its surroundings and attracting native wildlife. Native plants also tend to require less fertilizer and fewer chemical pesticides, which degrade water quality when carried away in stormwater runoff. Developing a water budget that allows landscape professionals to consider the effects of the many design variables, such as plant types, planting density, and irrigation system elements, is an effective way to address landscape water use.	
Mandatory Requirement (1)	Description	Irrigation System: water reductions through plant species selection and irrigation system efficiency.
	Submittals (evidence)	Sustainability report that includes: - Narrative on land species and Irrigation - Irrigation system design and plans. - Water budget calculations that shows irrigation system needs.
	KPI	KPI: Plant species selection Target: All plant species are selected to be native/adaptive

[W07] Landscaping

[W07]	Landscaping	
Recommended Requirement (1)	Description	Design an Optimum Outdoor landscape irrigation systems
	Submittals (evidence)	Sustainability report that includes: - Narrative on land species and Irrigation - Irrigation system design and plans. - Water budget calculations - Compliance with SBC (Mostadam) 1001:2018 (Section 404.1.1: Landscape Irrigation) or the latest version.
	KPI	KPI: Percentage of irrigation system water consumption reduction from the calculated midsummer baseline. Target: 50% reduction.
Recommended Requirement (2)	Description	Smart controls
	Submittals (evidence)	Sustainability report that includes: - Narrative on Irrigation Control System. - System Layout Drawings showing the areas that are smart controlled. - Sensor's datasheets showing their accuracy
	KPI	KPI: The use of smart controllers in irrigation system. Target: All landscapes to be covered by smart controllers.

03.5

Air Category Credits

[A01] Air Quality

[A01]	Air Quality	
Understanding	The overall air quality strategies are in place to provide acceptable levels of air quality for occupants of buildings in the SILZ. Inhalation exposure to indoor pollutants can lead to a variety of poor health and well-being outcomes, including (but not limited to) headaches, dry throat, eye irritation, asthma, respiratory disease, poisoning and cancer. Clean air for occupants is an essential aspect of a healthy building. Life safety and odor management is maintained with “minimum acceptable levels” of outdoor air but improved indoor air quality can benefit health and productivity. Additional outside air through passive, natural ventilation as well as advanced ventilation strategies can achieve these goals (when outside air quality permits), without increasing cooling energy consumption	
Mandatory Requirement	N/A	
Recommended Requirement (1)	Description	Outdoor Air Quality
	Submittals (evidence)	Sustainability report that includes: - A narrative explaining fresh air intakes within the site. - The design layout of fresh air intakes. - Calculations of fresh air and ventilation.
	KPI	KPI: Supply rate of fresh air Target: To meet ASHRAE 62.1 (2010).
Recommended Requirement (2)	Description	Sufficient Fresh Air at Densely Occupied Areas
	Submittals (evidence)	Sustainability report that includes: - A narrative of the philosophy of fresh air and ventilation system control - Layout drawings showing the details of fresh air and ventilation system. Refer to elaboration box [A01].
	KPI	KPI: Demand controlled ventilation system coverage Target: All spaces with area larger than 50 m ² are supplied by fresh air through demand-controlled ventilation system.

[A01] Air Quality

Elaboration Box [A01]	Demand control ventilation system
CO2 sensors are installed in all densely occupied areas of the building larger than 50m2. The systems are capable of modulating the fresh air supply rates for those areas based on sensor feedback, through an appropriate ventilation system such as a variable air volume (VAV) box	

[A02] Air Filtration

[A02]	Air Filtration	
Understanding	The annual average PM2.5 rating for the region typically far exceeds WHO recommendations. Exposure to high PM levels can lead to respiratory conditions that lead to illness or death. Therefore, adequate indoor air quality requires that mechanically ventilated spaces implement air filtration and document a maintenance protocol for installed filters. Improving central air filtration to a minimum of MERV 8 has also been recommended by ASHRAE as an effective means of reducing airborne pathogens, such as SARS-CoV-2 causing COVID-19.	
Mandatory Requirement (1)	Description	Design for a Minimum MERV 8 filter media for all air intakes
	Submittals (evidence)	Sustainability report that includes: - A narrative on air filtration within the site. - Layout drawing indicating that all air intakes are equipped with MERV 8 filters.
	KPI	KPI: Minimum Efficiency Reporting Value (MERV) for filters. Target: 8 or above Note: Tenant must submit a compliance sheet in accordance to the code requirements.
Recommended Requirement (1)	Description	Filters equipped with on-board pressure sensors or filter change indicators that signal when filter requires cleaning or replacement
	Submittals (evidence)	Sustainability report that includes: - A narrative on the use of filters and sensors at the site. - Specifications and layout drawings of filters and sensors proposed in the design.
	KPI	KPI: Filters specifications Target: All filters to be equipped with pressure sensors or filter change indicators.

[A03] Smoke Free Environment

[A03]	Smoke Free Environment	
Understanding	Exposure to tobacco smoke is an important cause of ill health for both smokers and those exposed to second-hand smoke. Inhalation of tobacco smoke can lead to significant health issues, such as asthma attacks, respiratory infections, coronary heart disease, stroke, and cancer. The most effective way to limit exposure to tobacco smoke is to provide a 100% smoke-free environment for occupants in both indoor and outdoor spaces.	
Mandatory Requirement (1)	Description	Indoor: Smoking and the use of e-cigarettes is prohibited in interior spaces.
	Submittals (evidence)	Sustainability report that includes: - A narrative explaining the smoking prohibition policy within the site. - Policy or check-in signages - A design drawings showing the smoke detectors within the site.
	KPI	KPI: Smoking prohibition Target: All indoor areas are 100% smoke-free environments (Including bathrooms , and non-occupied ancillary spaces).
Mandatory Requirement (2)	Description	Signage: Signage to be provided to clearly communicate smoking instructions
	Submittals (evidence)	Sustainability report that includes: - A narrative explaining that there is a sufficient amount of signages indicating smoking prohibition. - Signage design and locations.
	KPI	KPI: Number of signages Target: All areas to be equipped with signages
Recommended Requirement	Description	Outdoor: design a designated smoking area.
	Submittals (evidence)	Sustainability report that includes: - A narrative describing the designated smoking areas within the site and their locations. - Layout drawings showing the outdoor designated areas.
	KPI	KPI: Prohibition boundary Target: Smoking is prohibited within 7.5m of all entrances, operable windows, and building air intakes

[A04] Pollution Infiltration Management

[A04]	Pollution Infiltration Management	
Understanding	When outdoor air quality is poor, there is a need for measures that minimize or prevent the introduction of potentially harmful substances into indoor spaces via unintended pathways. Indoor air quality and thermal comfort can be compromised by leaks and gaps that break the building's air barrier. As well, pollutants can be transferred to occupied spaces by the occupants themselves.	
Recommended Requirement (1)	Description	Outside Air Intakes
	Submittals (evidence)	Sustainability report that includes: - A narrative describing the outside air intakes within the site. - Layout drawing shows the location if outside air intakes. - Compliance with SBC 601:2018, chapter 8: Indoor Air Quality and Ventilation Systems, section 8.3.5: Outdoor Air Intakes, Table 8.1: Air Intake Minimum Separation Distance SI).
	KPI	KPI: Air intake separation from pollutant sources Target: Separation distances as per requirement stated in SBC 601:2018, chapter 8: Indoor Air Quality and Ventilation Systems, section 8.3.5: Outdoor Air Intakes, Table 8.1: Air Intake Minimum Separation Distance SI).
Recommended Requirement (2)	Description	Attached parking garages: Limit vehicular exhaust entry, maintain garage pressure below adjacent occupiable spaces
	Submittals (evidence)	Sustainability report that includes: - A narrative describing the strategy to limit vehicular exhaust entry from the adjacent parking garages. - Layout drawing of the parking garage with needed details.
	KPI	KPI: Limitation of air migration from garage to occupied spaces. Target: Garage pressure is below than the occupied spaces.

[A05] Source Separation

[A05]	Source Separation	
Understanding	Many harmful pollutant sources with the potential to negatively impact our indoor air quality, are used/stored within our buildings. Strategies are required that isolate the key sources of odors, germs, pollution or humidity through doors or dedicated exhaust.	
Mandatory Requirement (1)	Description	Source Separation: Identify potential sources of indoor air pollutants and create a separation management
	Submittals (evidence)	Sustainability report that includes: - A narrative describing the existing pollutant sources within the site, and the separation management plan. - Layout showing the location with potential sources of air pollutant.
	KPI	KPI: Identify sources of indoor air quality Target: Separation management plan is created
Recommended Requirement (1)	Description	Source Separation: Separate ventilation and exhaust systems of areas with polluted air
	Submittals (evidence)	Sustainability report that includes: - A narrative describing the existing pollutant sources within the site, their separation management plan and details of separation measure. - Layout shows the exhaust system of areas with polluted air.
	KPI	KPI: Number of identified areas with polluted air equipped with exhaust system. Target: 100% of the total areas within the site to be equipped with exhaust systems.

03.6

Indoor Environmental Quality Category Credits

[IEQ01] Daylight

[IEQ01]	Daylight	
Understanding	The intent is for designed spaces to integrate daylight into indoor environments so that daylight may be used for visual tasks along with electric lighting. It also provides individuals with a connection to outdoor spaces through view windows. Exposure to daylight has been proven to have a substantial impact on mood, circadian health and productivity. Indoor daylight access and balance with solar heating gains should be accounted for at all stages of building planning from architectural and façade design to interior design and layout.	
Mandatory Requirement (1)	Description	Daylight design
	Submittals (evidence)	Sustainability report that includes: - A narrative that describes daylight integration within the site. - Layout showing that the current daylight is in compliance with SBC 1001:2018 (Section 808: Daylighting) or latest version.
	KPI	KPI: Compliance with SBC 1001:2018 (Section 808: Daylighting) or latest version. Target: Daylight designed in compliance with SBC 1001:2018 (Section 808: Daylighting) or latest version.
Recommended Requirement	N/A	

[IEQ02] Thermal Comfort

[IEQ02]	Thermal Comfort	
Understanding	The intent is for buildings to have indoor thermal environments that provide comfortable thermal conditions to the majority of people in support of their health, well-being and productivity.	
Mandatory Requirement (1)	Description	Thermal environmental conditions
	Submittals (evidence)	Sustainability report that includes: - A narrative describing the thermal environmental conditions at the building. - Design details showing compliance with ASHRAE Standard 55 – 2013 or latest version.
	KPI	KPI: Compliance with ASHRAE 55 - 2013 Target: Building thermal comfort designed in compliance with ASHRAE 55 – 2013 or latest version.
Recommended Requirement	N/A	

03.7

Materials Category Credits

[M01] Volatile Organic Compounds (VOCs)

[M01]	Volatile Organic Compounds (VOCs)	
Understanding	Mitigate associated exposure and health hazards to humans by the restriction and elimination of identified VOCs commonly used in building materials and products thereby reducing their presence in indoor air quality.	
Mandatory Requirement (1)	Description	Manage VOCs and Low-Emitting Materials
	Submittals (evidence)	Sustainability report that includes: - Comprehensive overview narrative of all the materials used and their VOCs. - Sample Materials and products specifications/datasheets - Extract of the tender documents that reflects the above requirements. Note: Refer to elaboration box [M01] for more details.
	KPI	KPI: percentage of material volume or weight with VOC content and emission limits according to SBC. Target: 95% or larger of the materials volume or weight used must comply with SBC. [refer to the elaboration box M01]
Recommended Requirement	N/A	

[M01] Volatile Organic Compounds (VOCs)

Elaboration Box [M01]	VOC criteria
Volatile Organic Compounds and Low-Emitting Materials are:	
a) Adhesive and Sealants:	
i) All adhesives and sealants inside the building shall meet the VOC emission thresholds set by Saudi Green Building Code SBC 1001 Table 806.2(1) and 806.2 (1)).	
b) Paints and Coatings:	
i) All paints and coatings inside the building shall meet all VOC emission thresholds set by Saudi Green Building Code SBC103 1001 Table 806.3(1) and 806.3(2)).	
c) Formaldehyde:	
i) All installed components contain <100 ppm of urea-formaldehyde (or the extent allowable by Saudi Green Building Code SBC 1001 and SBC 806.2).	
ii) Ensure the following meet stated limits:	
• composite wood products • laminating adhesives and resins • thermal insulation	
d) Suspended Ceiling Systems:	
i) All internal suspended ceiling systems must have a maximum formaldehyde limit of 13.5 ppb (16.5 ug/m3) or to the extent allowable by the Saudi Green Building Code SBC 1001 SBC Table 806.5(1) and 806.5(2).	
e) Flooring and Insulation Emissions:	
i) All installed flooring and thermal and acoustic insulation inside the building meet emission thresholds by Saudi Green Building Code SBC 1001 Table 806.4(1) and 806.4(2)).	

[M02] Building Life Cycle Assessment (LCA)

[M02]	Building Life Cycle Assessment (LCA)	
Understanding	LCA is a compilation and evaluation of the inputs and outputs and the potential environmental impacts of a product system throughout its life cycle. The entire life cycle of a product (or building) is examined, the processes and constituents identified, and their environmental effects assessed—both upstream, from the point of manufacture or raw materials extraction, and downstream, including transportation, use, maintenance, and end of life. This may be called “cradle to grave.” products going directly into the landfill. Another term, “cradle to cradle” emphasizes recycling and reuse at the end of life rather than disposal.	
Mandatory Requirement (1)	Description	Prepare a Whole Building Life Cycle Assessment
	Submittals	Sustainability report that includes: - Narrative explaining the LCA - LCA goals/ developing baseline. Refer to the elaboration box [M02] below
	KPI	KPI: percentage of improvement in environmental performance of the building. Target: 20% of reduction in 3 environmental impact categories is set as goal.
Recommended Requirement	N/A	

[M02] Building Life Cycle Assessment (LCA)

Elaboration Box [M02]	Details of building LCA
A full building life cycle assessment shall comply with the requirements of ASTM E2921, and the execution of a complete building life cycle assessment shall be required in accordance with the following: The assessment must demonstrate that the building project achieves an improvement of no less than 20% in environmental performance, particularly in relation to thermal energy consumption and at least two of the following impact indicators, compared to a reference building design of similar size and function, and developed according to the minimum energy requirements of the Saudi Energy Code for Green Buildings (SBC 1001) and the structural requirements of the General Saudi Building Code (SBC 201). Impact Indicators: 1.1 Use of primary energy 1.2 Acidification potential 1.3 Eutrophication potential 1.4 Ozone depletion potential 1.5 Chemical smog potential The life cycle assessment tool must be approved by the Code Official. The assessment must include the building's operational energy. For relocatable buildings, average operational energy estimates must account for possible variations in building location, including relocation, reconfiguration through addition or subtraction of building units, or changes in the building's functions.	

[M03] Material Sourcing

[M03]	Material Sourcing	
Understanding	Raw material extraction has a direct environmental impact on Earth's ecosystems. Unmanaged extraction practices can cause not only deforestation but also degradation of water sources, habitat loss, threats to rare and endangered species, releases of toxic chemicals, and the infringement of indigenous peoples' rights. In addition to seeking the responsible sourcing of virgin materials, teams are also encouraged to reduce raw material usage by selecting reused and recycled materials for selecting products to have been extracted or sourced in a responsible manner.	
Recommended Requirement (1)	Description	Material Selection
	Submittals	Sustainability report that includes: - Project design specifications that ensure compliance with SBC 1001:2018 (Section 505: Material selection) or latest versions.
	KPI	KPI: percentage of total building materials specified in the project design, in compliance with SBC 1001:2018 (Section 505: Material selection) or latest version. Target: 55% of the of total building materials specified in the project design must comply with the KPI.
Recommended Requirement (2)	Description	Use Local Materials
	Submittals	Sustainability report that includes: - Project design specifications that ensure compliance with SBC 1001:2018 (Section 505: Material selection) or latest versions.
	KPI	KPI: percentage of construction materials specified to be sourced within KSA. Target: 20% of construction materials specified to be sourced within KSA.

[M04] Material Ingredients

[M04]	Material Ingredients	
Understanding	The goal is to minimize the use of hazardous building material ingredients; help support the demand for safer chemical alternatives and protect the environment and health impacts on workers. In response to growing concerns over hazardous material and product ingredients, several different systems have been introduced to the market to help differentiate safer alternatives.	
Mandatory Requirement (1)	Description	Do not use Prohibited Materials
	Submittals	Sustainability report that includes: - A narrative explaining and stating that the materials specified within the project are not from the prohibited materials as per SBC 1001:2018 (Section 805.1: prohibited materials) or latest version - Material specifications/datasheet showing that the material is safe and complies with SBC 1001:2018 (Section 805.1: prohibited materials) or latest version. - Extract of the tender documents that reflects the above requirements. Note: According to SBC 1001:2018 , Section 805.1, the prohibited materials are: - Materials containing asbestos - Insulation foam made of urea-formaldehyde
	KPI	KPI: Use of prohibition materials. Target: 0% Prohibited material specified to be used within the site.
Mandatory Requirement (2)	Description	Use of Non-Polluting Insulation Materials
	Submittals	Sustainability report that includes: - A narrative showing that the specified material complies with elaboration box [M04-1]. - Insulation materials specifications/datasheets. - Extract of the tender documents that reflects the above requirements.
	KPI	KPI: The use of non-polluting Insulation materials. Target: All insulation materials specified in compliance with elaboration box [M04-1].

[M04] Material Ingredients

[M04]		Material Ingredients
Mandatory Requirement (3)	Description	Use Material with High Recycled Content
	Submittals	Sustainability report that includes: - A narrative explaining the use of material with high recycled content within the site. - Extract of the tender documents that reflects the above requirements.
	KPI	KPI: Recycled content to be as per Saudi Green Building Code (Mostadam) 1001:2018 (Section 502.2) or latest version. Target: All recycled materials within the site to be according to SBC as per elaboration box [M04-2].
Recommended Requirement (1)	Description	Use Material with No or Limited Asbestos, Mercury Content
	Submittals	Sustainability report that includes: - A narrative explaining that materials specified within the project has no/limited asbestos and mercury content. - Material's specifications/datasheet stating that it has zero asbestos content Check elaboration box [M04-3]. - Extract of the tender documents that reflects the above requirements.
	KPI	KPI 1: Asbestos content Target 1: Specified materials that contain asbestos less than 1% by weight. KPI 2: Mercury content Target 2: Specified material to be low mercury or mercury free.
Recommended Requirement (2)	Description	Restrict Lead in drinking Water Systems
	Submittals	Sustainability report that includes: - A narrative showing that the drinking water systems within the site are lead free. - Materials Specifications/datasheet that reflect this requirement (Lead-free). - Extract of the tender documents that reflects the above requirements.
	KPI	KPI: restricting lead in specified drinking water systems' components. Target: All systems components to be lead free.

[M04] Material Ingredients

Elaboration box [M04-1]	Insulation Materials Criteria
All insulation (thermal and acoustic) must meet the following: a) Be manufactured without the use of chlorofluorocarbons (CFCs) or hydrochlorofluorocarbons (HCFCs) b) Have an Ozone Depletion Potential of zero (ODP=0) and a Global Warming Potential of ≤ 5. c) ≤ 13.5 parts per billion (ppb) of added formaldehyde. d) Be non-toxic and not release toxic fumes during combustion	

Elaboration box [M04-2]	Recycled materials
Recycled Content: As per Saudi Green Building Code (Mostadam) 1001:2018 (Section 502.2). a. Recycled content building materials shall contain $\geq 25\%$ combined post-consumer and pre-consumer recovered material and shall comply with Section 505.2.3. b. Steel & Aggregates shall comply with 25% (minimum) recycled content by cost for all steel reinforcement and aggregates used in construction. c. Blinding and sub-base shall comply with 80% by volume of blinding and sub-base produced from recycled waste materials	

Elaboration box [M04-3]	Asbestos Restriction and Mercury limitation
Specify building materials that contain asbestos less than 1% by weight; examples include: 1. Thermal insulation 2. Surfacing materials, 3. Wallboard/millboard, 4. Resilient floor covering 5. Roofing and siding shingles (including metal cladding) and construction mastics Limit Mercury: Specify that newly installed 'low-mercury' or 'mercury-free' lamp technology meets the recommended maximum mercury content including: a) Illuminated exit signs, b) Thermostats, c) Switches, and d) Electrical relays are mercury-free.	

04. Construction Phase Sustainability Credits

04.1

Construction Category Credits

[C01] Construction-Material Sourcing

[C01]	Construction-Material Sourcing	
Understanding	Supporting the sourcing of materials within your local community can have a significant and positive outcome in the construction process. When materials are sourced locally, the product has less distance to travel to the site reducing the overall carbon footprint. In addition, materials such as stone that is sourced locally encourages vernacular building styles, supports the local economy, and connects users directly with the impacts of their choices	
Recommended requirement (1)	Description	Construction Materials: Target Environmentally Friendly Material as Specified in Design Stage
	Submittals (evidence)	Sustainability report that includes: - A narrative explaining that the chosen materials are environmentally friendly. - Materials specification/datasheet showing its recycled content and labelled with ISO 14021.
	KPI	KPI: The percentage of materials that are recycled and labelled. Target: 50% of materials by value that may be recycled and labelled as such (based on ISO 14021 Standard for Environmental Labels and Declarations)
Recommended Requirement (2)	Description	Local & Regional Materials: Prioritize materials from the Gulf Cooperation Council area.
	Submittals (evidence)	Sustainability report that includes: - A narrative showing the materials origin are from local vendors and GULF regions. - Material certification of origin annexed in the sustainability report.
	KPI	KPI: Use of local and regional materials. Target: Prioritize materials that are extracted, processed and/or manufactured within the Gulf Cooperation Council area.

[C02] Construction-Waste Management

[C02]	Construction-Waste Management	
Understanding	Reducing waste at the source is one strategy to address waste management because it avoids environmental harms throughout a material's life cycle, from supply chain and use to recycling and waste disposal. Source reduction encourages the use of innovative construction strategies, such as prefabrication and designing to dimensional construction materials, thereby minimizing material cutoffs. Other areas of focus include stringent construction waste management goals that are set at the beginning of the project and managed and tracked throughout the duration of the construction phase. Tenant shall Follow The Waste Management Guideline for the Special Integrated Logistics Zone (SILZ) during Construction and operation. ®	
Mandatory requirement (1)	Description	Management Plan: Tenants to develop a Construction and Demolition Waste Management Plan (CDWMP).
	Submittals (evidence)	Sustainability report that includes: - Narrative on the strategy to manage construction and demolition waste. - Construction and Demolition Waste Management Plan
	KPI	KPI: Define construction and demolition waste. Target: CDWMP is created
Mandatory Requirement (2)	Description	Waste: Develop strategies to ensure that nonhazardous construction waste shall be diverted from the landfill.
	Submittals (evidence)	Sustainability report that includes: - Narrative that explains the methodology used to divert a nonhazardous construction waste. - Construction and Demolition Waste Management Plan - The percentage of nonhazardous construction waste to be diverted from the landfill.
	KPI	KPI: percentage of diverted waste. Target: Minimum of 50% of the nonhazardous construction waste to be diverted from the landfill.

[C02] Construction-Waste Management

[C02]	Construction-Waste Management	
Recommended requirement	Description	Waste: Develop additional strategies related to nonhazardous construction waste diversion from landfill.
	Submittals (evidence)	Sustainability report that includes: - A narrative showing the additional strategies to increase the percentage of non-hazardous construction waste to be diverted from the landfill. - Construction and Demolition Waste Management Plan of diverted waste
	KPI	KPI: Percentage of diverted waste Target: 50% up to 95% of nonhazardous construction waste shall be diverted from landfill.

[C03] Construction-Environmental Quality

[C03]	Construction-Environmental Quality	
Understanding	To promote the well-being of construction workers and building occupants by minimizing indoor air quality problems associated with construction and renovation. Construction activities adversely affect indoor air quality (IAQ) when they generate dust, toxic substances, or other contaminants, which can cause health problems not only for construction workers but also those who occupy the building long after construction is complete. Incorporating IAQ best practices during construction can protect building occupants from airborne pollutants, toxins and dust associated with the construction process.	
Mandatory requirement (1)	Description	Indoor Air Quality (IAQ) Management Plan: Develop and implement a Construction IAQ Plan
	Submittals (evidence)	Sustainability report that includes: - Narrative on the strategy to manage indoor air Quality - IAQ construction checklist as per elaboration box [C03-1] - Date stamped pictures
	KPI	KPI: Regularly filled IAQ checklist. Target: Weekly filled IAQ checklist.
Mandatory Requirement (2)	Description	Indoor Air Quality (IAQ) Testing: IAQ testing for occupied areas at the end of construction, prior to occupancy .
	Submittals (evidence)	Sustainability report that includes: - Narrative on the methodology developed for the IAQ testing for occupied areas at the end of construction prior to occupancy. - Fresh air calculations for flush out. - Date stamped pictures for windows, doors, thermostat during flush out.
	KPI	KPI: Duration of flush out Target: Minimum 14 days of flush out.

[C03] Construction-Environmental Quality

[C03]	Construction-Environmental Quality	
Mandatory requirement (3)	Description	Construction Environmental Management Plan: Develop and implement a Construction Environmental Management Plan (CEMP)
	Submittals (evidence)	Sustainability report that includes: - A narrative showing strategy on construction environmental management - Construction Environmental Management Plan (CEMP) as per elaboration box [C03-2]
	KPI	KPI: Implementation of CEMP. Target: CEMP that complies with elaboration box [C03-2]
Mandatory Requirement (4)	Description	Develop Construction Activity Pollution Prevention Policy
	Submittals (evidence)	Sustainability report that includes: - A narrative showing construction activity pollution prevention actions. - Construction Activity Pollution Prevention Policy according to elaboration box [C03-3]
	KPI	KPI: Develop construction activity pollution prevention policy Target: construction activity pollution prevention policy that complies with elaboration box [C03-3]

[C03] Construction-Environmental Quality

Elaboration box [C03-1]	Construction IAQ Plan
Develop and implement a Construction IAQ Plan for the construction and preoccupancy phases of the building. Ensure that the following is addressed:	
1. SMACNA: During construction, meet or exceed all applicable recommended control measures of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA)IAQ Guidelines for Occupied Buildings under Construction (ANSI/SMACNA008– 2008, Chapter 3). 2. Filtration: Do not operate permanently installed air-handling equipment during construction unless filtration media with a minimum efficiency reporting value (MERV) of 8, as determined by ASHRAE 52.2–2007. 3. Tobacco: Prohibit the use of tobacco products inside the building and within 25 feet (7.5 meters) of the building entrance during construction. 4. Moisture: Develop and implement a moisture control plan to protect stored on-site and installed absorptive materials from moisture damage.	

Elaboration box [C03-2]	Construction Environmental Management Plan
Develop and implement a Construction Environmental Management Plan (CEMP) to address the environmental and social impacts of construction activities. The implementation of the CEMP should address the following:	
a) Comprehensive Environmental Impact Assessment (EIA) b) Construction control plan c) Construction noise pollution monitoring plan d) Construction waste management plan (required, see Construction Waste section) e) Energy and water consumption reduction plan f) Water conservation g) Site audit plan h) Construction materials transportation and procurement plan	

Elaboration box [C03-3]	Construction Activity Pollution Prevention Policy
Develop Construction Activity Pollution Prevention Policy: Policy plan should address the following:	
a) Reduction of pollution from construction activities by controlling soil erosion, waterway sedimentation, and airborne dust. b) Erosion and sedimentation control (ESC) measures during construction. c) Local code requirements may be followed if they are equally stringent or more stringent than the Construction General Permit (CGP) and National Pollutant Discharge Elimination System (NPDES).	

[C04] Construction Water Management

[C04]	Construction Water Management	
Understanding	The Construction Water Management focuses on minimizing water use and preventing pollution during the construction phase of a project. It promotes responsible water practices that conserve resources, protect site, and reduce environmental impacts.	
Mandatory requirement (1)	Description	Rainwater Management during construction
	Submittals	Sustainability report that includes: - Narrative of the rainwater management measures during construction phase. - Develop rainwater management plan during construction - Site photos
	KPI	KPI: Implementation of rainwater management within the construction (photos from the site). Target: Developed and implemented rainwater management plan during construction
Mandatory Requirement (2)	Description	Optimize water consumption during construction
	Submittals	Sustainability report that includes: - Narrative of the water consumption optimization measures during construction phase. - On-site faucets flowrate values. - Site photos
	KPI	KPI: The target flow rate values Target: Values in elaboration box [W02] in water category – water efficiency credit.
Recommended Requirement (1)	Description	Optimize water consumption during construction - Further requirements
	Submittals	Water treatment unit - Limits for toilets and faucets for site offices. (higher saving %)
	KPI	KPI: The target flowrate values. Target: 20% reduction from the values in elaboration box [W02] in water category- water efficiency credit

[C05] Testing and Commissioning

[C05]	Testing and Commissioning	
Understanding	A structured quality assurance process that ensures all building systems and equipment are installed, tested, and operating according to the design intent, project specifications, and the owner's requirements.	
Mandatory requirement (1)	Description	Building Envelope Commissioning
	Submittals	Sustainability report including the following: - Final stamped Testing & Commissioning (T&C) certificate issued by an approved third party, confirming compliance with project specifications, relevant local authority regulations, and applicable standard codes
	KPI	KPI: Testing and commissioning for building envelope done. Target: A stamped Testing & Commissioning (T&C) certificate.
Mandatory Requirement (2)	Description	Energy and Water Systems Commissioning (Non-Industrial Systems)
	Submittals	Sustainability report including the following: - Final stamped Testing & Commissioning (T&C) certificate issued by an approved third party, confirming compliance with project specifications, relevant local authority regulations, and applicable standard codes
	KPI	KPI: Testing and commissioning for non-industrial water and energy systems done. Target: A stamped Testing & Commissioning (T&C) certificate.

[C05] Testing and Commissioning

[C05]	Testing and Commissioning	
Recommended Requirement (1)	Description	Enhanced Testing and Commissioning
	Submittals	Sustainability report including the following: - Narrative of the commissioning standard chosen. - Plan and list of tasks for the commissioning - Commissioning report for industrial systems - SOPs, manuals and training material - Final stamped Testing & Commissioning (T&C) certificate issued by an approved third party, confirming compliance with project specifications, relevant local authority regulations, and applicable standard codes
	KPI	KPI: Enhanced commissioning done Target: A stamped Testing & Commissioning (T&C) certificate.



SILZ

Thank You

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By **matarat**
Holding