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# EDGE USER GUIDE

Part 8

## Auditor Guidance

Version 3

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## Introduction

EDGE (Excellence in Design for Greater Efficiencies) is a standard, a green building certification and an online app of the International Finance Corporation (IFC). This document is part of a series of documents aimed at the global harmonization of EDGE buildings certification process for version 3.

This document is intended for *EDGE Auditors* and *Certification Providers*. It can also help *project teams* understand the required documentation and on-site expectations during certification.

The **Part 8—Auditor Guidance** document offers detailed instructions on *Auditor's* requirements when assessing each mandatory and optional measure.

Stakeholders are encouraged to review and comment on this document until May 30, 2025.

Table 1 shows the relative position of this document within the set of EDGE user guides.

*Table 1: Position of this document within the EDGE V3 modules.*

Module	Overarching	Design	Energy	Water	Materials	Operations	
App User Guides	Part 1 – Building Certification Guidance	Part 2 – User Guide - Design Tab	Part 3 – User Guide - Energy Measures	Part 4 – User Guide - Water Measures	Part 5 – User Guide - Materials Measures		
Building Certification Guidance							
Operations Certification Guidance			Part 6 – Operations Rating: Energy and Water				Part 7 – Operations Certification Guidance
Auditor Guidance		Part 8 – Auditor Guidance					
Methodology	For future release						
Homes Prescriptive Certification Guidance	Check country-specific documentation						
Note 1: The shaded modules are not applicable, modules in blue are initiatives in pilot phase. Note 2: All guidance and user guide documents are complimentary information to the EDGE protocol documents. In case of any discrepancy, the EDGE protocol document takes precedence							

To share feedback with the EDGE team, please send suggestions along with relevant documentation to [edge@ifc.org](mailto:edge@ifc.org).

Related documents

The following documents, and any future addenda, are referenced throughout this document:

Protocols	User Guides
<ul style="list-style-type: none"><li>EDGE Governance Protocol Overview</li><li>Chapter 4 Licensing Protocol for EDGE Auditors</li><li>Chapter 5 Licensing Protocol for EDGE Experts</li></ul>	<ul style="list-style-type: none"><li>Part 1 – Building Certification Guidance</li><li>Part 2 - User Guide - Design Tab</li><li>Part 3 – User Guide - Energy Measures</li><li>Part 4 – User Guide - Water Measures</li><li>Part 5 - User Guide - Material Measures</li></ul>

Instructions for Use of the Document

This document provides the requirements and minimum standards for conducting an audit process for a project seeking EDGE certification. The terms in *italic* are defined in Definitions.

In these documents, "Must" and "Shall" are used to prescribe obligatory actions. "Should" implies a recommendation, but it is not required. Lastly, "May" grants permission or suggests that an action is permissible, providing flexibility or discretion to the *project team*.

The following formatting conventions are used in this document:

**Notes:** This text provides optional explanations, context, clarifications, and important reminders.

**Requirements:** Specify the types of documentation that must be maintained and submitted to support the assessment process.

**Examples:** Illustrates a concept or rule through practical scenarios.

**Important:** Important requirements and/or instructions are highlighted in this box.

Glossary

EDGE	Excellence in Design for Greater Efficiencies
GIA	Gross Internal Area
IFC	International Finance Corporation
LPD	Lighting Power Density
PDU	Power Distribution Units
QC	Quality Control
UPS	Uninterrupted Power Supply

## Definitions

### Acceptable Documentation

Documentation that meets the accuracy, reliability and completeness criteria.

### Audit Trail

Refers to the official communication registry between the project team and the auditor, as well as the auditor and the certifier. The *audit trail* is hosted in the EDGE App.

### Building

As specified in *Part 1 - EDGE Certification Guidance, Definitions*, outlines the minimum criteria required for a building asset to be eligible for EDGE Certification.

### Conflict of Interest

As specified in the *Glossary for the EDGE Governance Protocol*: “A Conflict of Interest occurs in a situation in which the concerns or aims of two different parties are incompatible, or a situation in which an individual’s personal interests – family, personal ties, financial, or social factors – could compromise his or her judgment, decisions, or actions related to official work”.

### EDGE Client

It is defined in the *EDGE Certification Protocol 5.0, Certification Provider*, it is the individual or organization responsible for the creation of the *project team*.

### Project Team

The *project team* is the individual or organization responsible for the entire certification process.

### EDGE Auditor

The EDGE Auditor, henceforth referred as “*auditor*”, is an individual responsible for the processes related to auditing, both through desktop verification and site visit. The auditor must operate observing principles of impartiality, competence, responsibility and follow an evidence-based approach to decision making.

*Auditors* are individual professionals who have fulfilled all necessary requirements, including comprehensive training, relevant experience, and proven competence, to conduct audits independently. They possess the authority to perform audits without supervision and are empowered to make final decisions regarding certification recommendation.

Unlike interim auditors, auditors bear full responsibility for the accuracy and integrity of the audit process, as well as the resulting certification decisions.

### EDGE Certification Provider

The *EDGE Certification Provider*, referred to as the “*certifier*,” is responsible for reviewing the claims made by the *auditor* and issuing EDGE certificates. For more information, see the *EDGE Certification Protocol 5.0, Certification Provider*

### Desktop Verification

*Desktop Verification* are conducted to evaluate the *project team*’s design and ensure it meets the claims made in the EDGE subproject. Documentation is collected as per requirements in the EDGE User Guides and always submitted through the EDGE App to the *auditor* for review.

## Interim Auditor

*Interim Auditors* are professionals who are in the process of becoming *auditors*. They have typically completed initial training and possess some experience but have not yet met all the requirements for full certification. *Interim auditors* often work under the supervision of *auditors* or certification bodies to ensure that their audits meet the required standards.

During *Preliminary Certification*, the *Desktop Verification* focuses on evaluating the preparedness of the *project team* to fulfill the claimed measures. During the final stage, the *desktop verification* focuses on confirmed that the claimed measured match the “as built” documentation.

## Minor Information Gaps

A circumstance where the absence of data leads to a negligible impact, specifically less than a 1% deviation in energy, water, or material savings.

## On-site Audit

It is the process of verifying the actual implementation of the claimed measured. This stage involves at least one on-site visit, unless allowed by the certification approach, e.g. Portfolios or Tract housing. During the on-site audit, water flow tests of claimed measures, verification of claimed areas, photo and/or video evidence and other activities may be required depending on the typology of the *subproject*.

## Project

As specified in *Part 1 - EDGE Certification Guidance, Definitions*, a project is defined as a *building*, group of buildings, entire residential development, or portfolio submitted for EDGE certification with the same certification provider and owner.

## Project Boundary

As defined in *Part 1- EDGE Certification Guidance, Definitions*. For all auditing activities, *auditors* must consider all spaces and systems within project boundary.

## Remote Audit

The process of verifying the actual implementation of the claimed using digital tools and communication platforms when the auditor is not physically present on the site. Remote audits are allowed under specific conditions.



## Scope

This document provides comprehensive guidance to confirm that a *building* complies with EDGE or EDGE Advanced standards by outlining the procedures necessary for supporting the implementation of any claimed measures during Preliminary and/or Post-construction certification.

This guide is intended for use by accredited *auditors, interim auditors, EDGE Experts, project teams*, and anyone involved in the certification process.

This guide offers a framework for desktop verifications and site visits for EDGE projects in version 3.0 or newer. Earlier versions may also find these approaches useful, but its implementation is not mandatory.

The primary objectives of this guide are to:

- **Standardize the Audit Process:** Establish a uniform approach to auditing EDGE projects globally, ensuring consistency and reliability in the evaluation process across geographies
- **Support Compliance:** Determine the minimum requirements to effectively support the claimed building performance features against EDGE standards,
- **Promote Best Practices:** Provide the *auditor* with means to accurately verify the eligibility of a measure derived from experienced teams globally
- **Reduce certification time:** Streamline the review process with *project teams* and *certifiers*, thereby decreasing the certification process time.

The following elements are not part of the scope of this guide:

- Costs input provided by the project team in the EDGE app
- Guidance on auditors pricing models
- Calculation methodologies
- Other items already covered in other user guides, protocols and/or FAQs.

# Principles, Roles and responsibilities

## Principles

- **Impartiality:** Decisions are made based on objective evidence without being influenced by external interests or parties. *Auditors* must refer to official guidance from IFC and refrain from perpetuating previous rulings or non-recommended practices from past projects
- **Effective communication:** Adherence to a consistent format, always explaining the relevant details clearly and concisely
- **Integrity:** Ensuring that all actions and decisions are made with honesty and transparency, maintaining the highest standards of ethical conduct and maintaining professional demeanor when referencing EDGE
- **Continuous improvement:** Gather feedback from *project teams* and *certifiers* to enhance the audit process for compliance, best practices, and reduced certification time.

## Responsibilities

Both *auditors* and *interim auditors* must:

- Fully adhered to *Chapter 4 Licensing Protocol for EDGE Auditors*
- Demonstrate significant efforts to communicate with the *project team* in clear and concise ways
- De-escalate situations with frustrated project teams, even when we empathize with their challenges
- Never share login credentials with another individual
- Keep up to date with updates about the EDGE program, App, protocols, known issues and User Guides
- Report issues, conflicts of interest or general questions to *certifiers*
- Seek out for available help as recommended by the *certifier*, including but limited to forums, helpdesk forms, and official means of email communication
- Contact IFC for interpretations of user guides and protocol at [edge@ifc.org](mailto:edge@ifc.org)

Both *auditors* and *interim auditors* must NOT:

- Comment on the design of the *building* envelope, architectural design or the technical systems
- Comment on the likelihood of complying with local building codes and mandates outside the scope of the EDGE Certification
- Provide consultancy services, i.e. help the client to improve their savings or advise or assist the client in achieving the EDGE standard.

## Roles

The differences in roles and responsibilities for *auditors* and *interim auditors* are specified in Table 2 .

Table 2: Roles and responsibilities for auditors and interim auditors

	Interim Auditors	Auditors
Desktop Verification	Evaluates the submitted documentation for the project.  Reviews <i>project team</i> comments and document findings.	Performs the audit round/rounds and communicate with the <i>project team</i> to request any needed changes and directly enter audit comments in the EDGE App after each round.

	Pass through a quality control (QC) process with the <i>auditor</i> before submitting comments to the project team or certifier	
<b>Site Visit</b>	Notify the <i>certifier</i> of proposed site audit date, prepare a Site Audit Checklist and submit it to the <i>certifier</i> for quality control before performing the site audit.	Informs the <i>project team</i> about the <i>auditor</i> protocol and the legal agreements agreed between them.
<b>In all cases</b>	Recommends the project for Preliminary or Final EDGE certification to the certifier after receiving approval from the certifier to proceed.	Recommends the project for Preliminary or Final EDGE certification to the <i>certifier</i> .

### Interim auditor training

To become an interim auditor, individual must:

- **Be an EDGE Expert.** Which can be demonstrated by submitting the EDGE Expert certificate to the *certifier*
- **Demonstrate relevant qualifications.** LEED APs are prequalified. If you are not a LEED AP, you must have
  - a) A higher education qualification (at least a bachelor's degree) in a construction industry related field -OR-
  - b) a higher education qualification (at least a bachelor's degree) in another field + three years of experience working in the construction industry as a skilled professional or tradesperson.
- **Have practical work experience.** In all cases the candidate must have at-least one year of practical work experience in green building certification anywhere in the world (such as EDGE, LEED, BREEAM, NABERS, Green Star, etc.).

To become an *auditor*, an *interim auditor* must have:

- **Auditor Experience:** Participate in at least one completed certification process as an interim auditor.
- **Formal Training:** Complete additional courses required by the certifier, such as building energy codes, building energy audits, and health and safety training.
- **Training Approval:** Achieve a "satisfactory" mark in training assessments and QCs.

Meeting the minimum requirements alone does not guarantee that an *interim auditor* will become an *auditor*; the *certifier* may discretionally set additional criteria.

If a candidate does not complete the interim auditor process with a *certifier*, they are required to restart the process from the beginning with the same or another *certifier*. Should an *auditor* already be recognized by a different *certifier*, they should be regarded as "existing auditors" by the subsequent certifier and receive a fast-track path to becoming an *auditor* for them.

**Important:** The process for *interim auditors* to become *auditors* is determined by the *certifier* handling the *interim auditor* program.

## Responsiveness to Complaints

Complaints may occur during the certification process. Responsiveness to complaints is essential for maintaining integrity and credibility during the certification process. Complaints should be managed and resolved directly involving the *certifier*, *project team* and the *auditor*, but can be escalated to IFC if no resolution is found after the three parties have been involved.

*Project teams* must:

- Document all complaints received and the actions taken to address them
- Cooperate fully with the *certifier* and *auditor* to resolve complaints
- Ensure that all relevant information and evidence related to the complaint are provided to the *certifier* and *auditor*.

The *auditor* must:

- Acknowledge receipt of the complaint promptly and inform the *certifier*
- Conduct an impartial and thorough investigation of the complaint
- Maintain confidentiality and remain responsive throughout the process
- Ensure that the complaint resolution process is documented, and records are maintained.

The *certifier* must:

- Acknowledge receipt of the complaint promptly and inform the *project team* and *auditor*
- Ensure that the complaint is investigated impartially and thoroughly
- Facilitate communication between the *project team* and *auditor* to resolve the complaint
- Make a final decision and communicate it to the *project team* and *auditor* in a clear manner
- If required, trigger an “Audit of Auditors” as described in *Chapter 4 Licensing Protocol for EDGE Auditors*
- Ensure that the complaint resolution process is documented, and records are maintained
- Escalate the complaint to IFC if no resolution is found by the parties involved.

The *certifier* may take disciplinary action or suspend an *auditor* from the certification process if:

- The *auditor* does not observe the recommendations made by the *certifier* in writing after a grace period of 15 calendar days
- The *auditor* does not facilitate the “Audit of Auditor” process
- The *auditor* has reached the limit number of warnings established by the *certifier*.

The *certifier* may NOT take disciplinary action or suspend an *auditor* from the certification process if:

- The reason for the complaint is related to a technical requirement mentioned by any of the EDGE user guides or certification guidance including this document.
- The complaint arises from a disagreement with the *auditor's* judgment or findings, given they adhered to EDGE certification protocols and user guides and provided sufficient documentation.
- The complaint arises from a conflict of interest that was disclosed and managed according to the *Chapter 1 EDGE Governance Protocol Overview* document
- The *auditor* has strong reasons not to recommend certification for the subproject. IFC may define if these reasons are valid.
- It is demonstrated that the *auditor* has been intentionally misled by the *project team*.

## Conflicts of interest resolution

Conflicts of interest, as defined in the *Glossary for the EDGE Governance Protocol*, must be disclosed to the *certifier* to receive recommendations and follow-up actions. Any suspicion of conflict of interest should also be reported to the *certifier*.

### Organizational bodies with EDGE Expert and EDGE Auditor roles

Organizational bodies that provide EDGE Expert services (i.e. Consultancy to the *project team*) and *auditor* roles must establish clear working and organizational conditions to ensure separation between these functions, maintaining independence and objectivity. This will enable *EDGE Experts* and *auditors* to comply with their respective licensing protocols:

- The *Chapter 4 Licensing Protocol for EDGE Auditors* states that *auditors* must not provide training or consultancy to EDGE clients on projects they are auditing
- The *Chapter 5 Licensing Protocol for EDGE Experts* includes the EDGE Expert Code of Conduct, detailed in section 4.

The organizational bodies must commit to and explain to the *certifier* how the EDGE *auditor* will operate independently from the EDGE Expert on a **project-by-project** basis. To demonstrate such independency, organizations must provide:

- A clear organigram or other formal documentation outlining the reporting lines, roles, and separation of responsibilities between the EDGE Auditor and the EDGE Expert
- A narrative declaring the clear separation of duties, conflict of interest management, other potential risks of conflict of interest and their mitigation measures

This ensures that the assessment, verification, and validation of the project's compliance with EDGE certification standards are conducted without overlap, conflict of interest, influence, or bias. Furthermore, the organizational bodies must refrain from any reprisals against *auditors* for performing their work with total independence and objectivity.

**Examples** of conflicts of interest include individuals serving as both *auditor* and *certifier*, or *auditors* providing consulting or EDGE Expert services to their EDGE Client and any kind of commercial interests or commercial benefit other than those provided for directly by the *certifier*.

## Certification eligibility criteria

A *building* is eligible for EDGE Certification if all the following eligibility criteria are met:

1. **Compliance with Building Definition:** The *building* meets the definition of a *building* as per EDGE standards. (*EDGE Part 1 – Building Certification Guidance, Pg 5*).
2. **Achievement of Minimum Savings:** The *building* achieves at least 20% savings in each of the following categories: **Energy Efficiency:** 20%, **Water Efficiency:** 20% and **Materials Efficiency:** 20%
3. **Documentation and Evidence:** The project meets the minimum documentation requirements to demonstrate compliance. The *auditor* reviews all necessary documentation, including design plans, specifications, and performance data. The *auditor* ensures that the *project team* provides accurate and complete evidence to support their claims.
4. **On-site Visit:** At least one site visit has been conducted by the *auditor* (EDGE Auditor). *Projects* may qualify for virtual site visits under specific circumstances, as detailed in the *Remote Audits* section.
5. **Declaration of Compliance with Local Regulations:** Obtain written confirmation that the *project* complies with local *building* codes and regulations. Failure to adhere to safety, environmental protection, and quality regulations and policies will render the building ineligible for certification.

**Examples:** A signed letter from the *building* owner or owner's representative is the most common method for demonstrating compliance with local *building* codes and regulations.

6. **Correct use of the EDGE App:** The project has been modeled using the correct and applicable version of the EDGE app. While some energy measures may be modeled individually, the certification process must be done through the EDGE app.
7. **For residential buildings:** Comply with minimum water fixtures for Residential units. As specified in *Part 1 – Building Certification Guidance - Non-Typical EDGE Projects Minimum Water Fixtures for Residential Units*.
8. **For partial buildings:** Comply with the requirements specified in *Part 1 – Building Certification Guidance - Partial Building Subprojects*.
9. **For industrial buildings:** Comply with the requirements specified in *Part 1 – Building Certification Guidance – Industrial Buildings*.

# Certification process

While The overall process for EDGE certification involves several key steps detailed in *Part 1 - EDGE Certification Guidance*, this section documents the *auditor's* role in completing the certification process. Figure 1 illustrates the entire EDGE Certification Process.

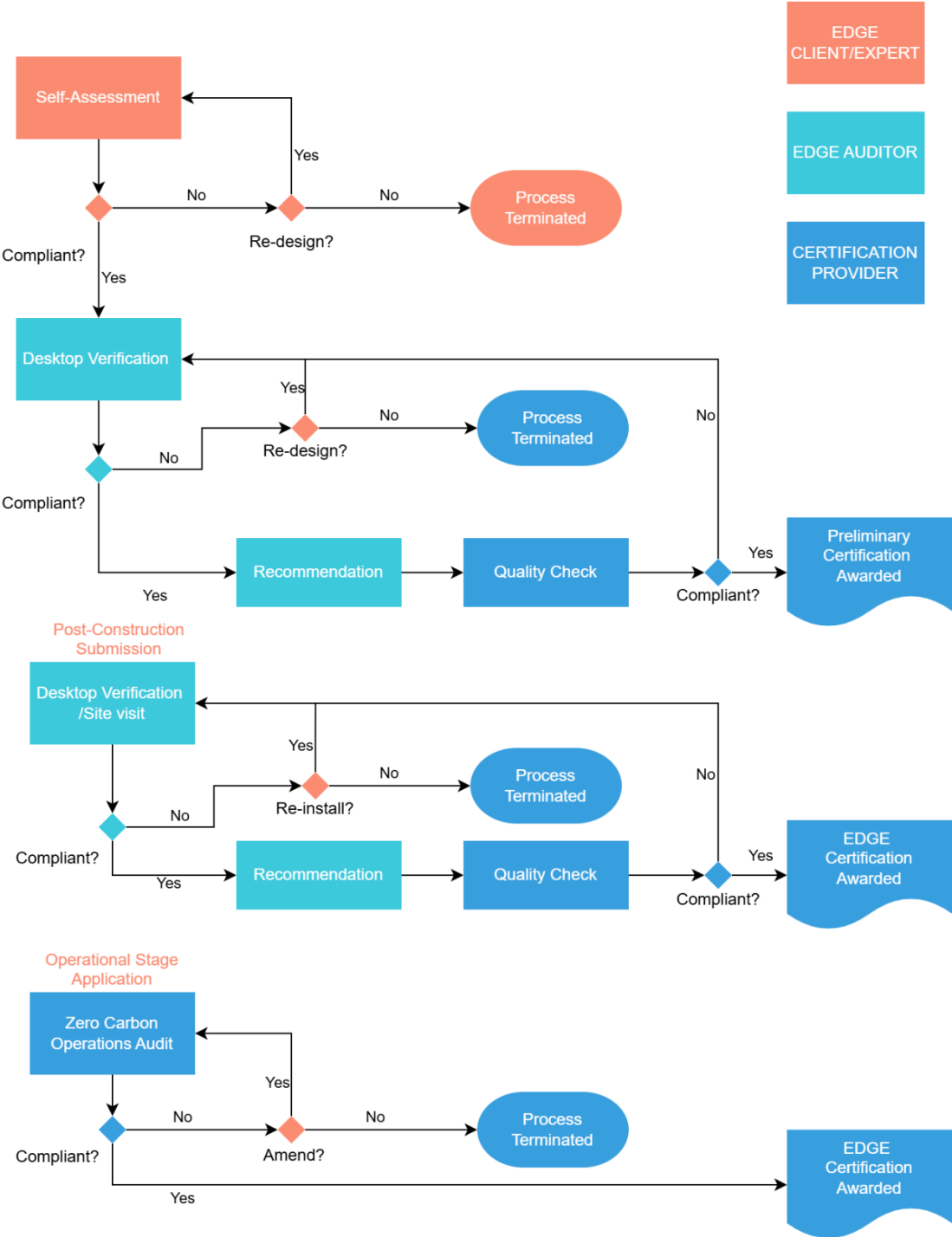


Figure 1: Processes followed for EDGE Certification.

- **Desktop Verification:**
  - a. The auditor verifies the provided documentation to ensure it meets the compliance standards and aligns with the EDGE User Guide and meets the *acceptable documentation* criteria.
  - b. During this process, the *auditor* serves as the *project team*'s sole point of contact.
  - c. The auditor updates the *project team* on audit progress, results, and next steps.
- **Preliminary Stage Report and Recommendations:**
  - d. The *auditor* prepares an audit report that summarizes the findings and confirms alignment with the *acceptable documentation* criteria.
  - e. Based on the desktop verification findings, the *auditor* may recommend the project for certification by submitting it to the *certifier* for review and certification decision.
  - f. *Auditor* must provide comments in line with the *auditor's comments* section.
  - g. In case of questions related to compliance, the *auditor* shall approach the *certifier* for support. On the other hand, questions related to interpretation of the user guides, e.g. intent of the measures, may be addressed directly to IFC keeping the certifier in the loop and including the project/subproject number.
- **Desktop Verification/Site Visit:**
  - h. Conduct a desktop verification, and site visit audit to verify that the building's construction and performance align with the submitted documentation and EDGE standards. In line with the Desktop verification and *Site Visit* section, respectively.
- **Final Stage Report and Recommendations:**
  - i. Based on the final audit, the *auditor* makes a recommendation to the relevant *certifier* for EDGE Certification (Final stage).
  - j. If the certifier identifies a non-conformity and/or requests additional clarification for the purpose of conformity, the *auditor* must channel them directly to the project team. Upon response from the *project team*, the auditor must review, highlight any changes, recommend whether the project should be certified and re submit it for continuation of the review and a certification decision. The *auditor* must provide comments in line with the *auditor's comments* section.
- **Zero Carbon:**
  - k. The *auditor* does not have a direct role in the zero-carbon certification.



## Auditing Process

Figure 2**Error! Reference source not found.** shows the interactions among the *project team* (EDGE Client/Expert), the *auditor*, and the *certifier*. Additionally, it defines the revision cycle for the *auditor* and

*certifier*. The official communication is conducted through the audit trail, which is described in the next subsection.

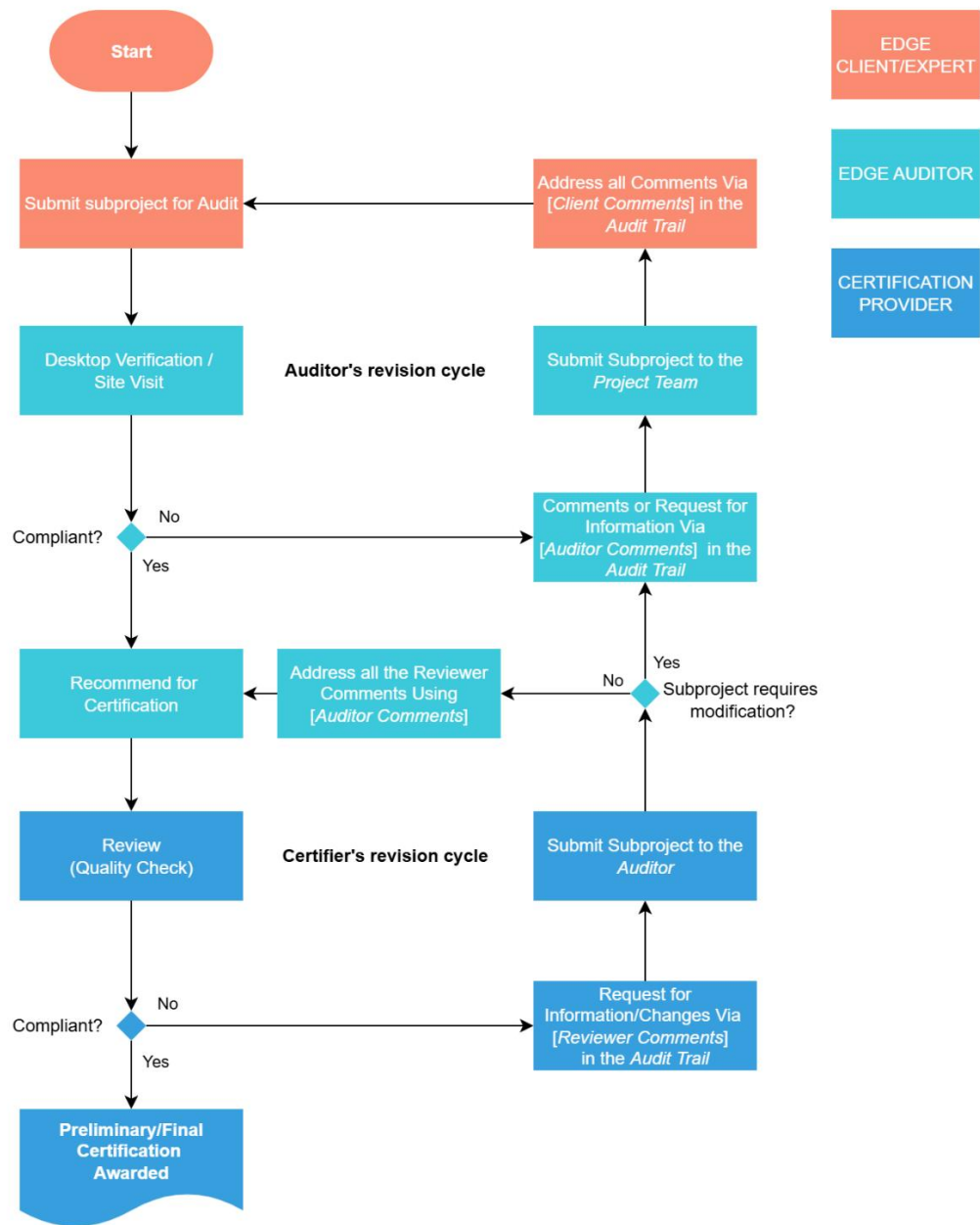


Figure 2: Auditing workflow.

**Important:** The *auditor* cannot directly make modifications in the *subproject*. The *project team* is responsible for implementing the required amendments from the certifier's reviewer or the auditor.

## Audit Trail

The *audit trail* is the official means of communication to approve a measure or request additional evidence and documentation as needed to support the measures/design inputs. The comments must provide a clear and comprehensive record of all auditing activities and findings to the *certifier*. A detailed *audit trail* must be included in the EDGE App using the relevant comment fields, as shown in Figure 3.



Figure 3: Auditors, Reviewer and Client's comments in the EDGE App.

### Comments between the *project team* and *auditor*

- The “Client Comments” and “Auditor Comments” sections must be used for formally resolving queries and moderating the reviewer’s comments from the *certifier*
- The *auditor* must inform the *project team* about documents they may need to meet compliance guidance
- If documentation is superseded, the *project team* must indicate it in the “Client Comments” sections to ensure that only the correct documentation is reviewed by the *auditor*. A file name versioning must reflect the latest version, e.g. **Roof\_Areas\_with\_SRI-02.pdf**
- The certifier may require a specific template (including language and structure) for communication between the project team and the auditor.

The following template is suggested for standardizing the *auditors’* comments in the trail.

The following has been checked and verified by the auditor:

- Documentation Requirements
  - Concise text to describe requirement 1 [located in [file name], page [page in the file]; otherwise, state that it is unavailable and quote alternative document submitted]
  - Add as per the requirements listed
- Parameter(s)
  - Parameter name [value with units] [document name] [page number(s)]
  - Add parameters that have been checked/tested/measured as needed
- Auditors’ comments
  - Add a concise text here for further explanations where necessary (e.g. relationship with other measures)
- Remedial Guidance:
  - In case the design input/measure does not approve provide text here for suggestions.

### Comments between the auditor and certifier

- The certifier may require a specific template (including language and structure) for communication between the certifier and the auditor.
- The *auditor* shall review the *certifier's reviewer* comments, labeled as "Reviewer comment", and determine when further clarification from the client is required.
- The final auditor's comment reports to the *certifier* that the audit was completed and highlights the sections of the documents containing the relevant information
- If more information is needed after reviewing the *auditor's* report, the *certifier* rejects the auditor's certification recommendation
- The *certifier's reviewer* comments are addressed to the *auditor*
- At resubmission, the *certifier* only checks the latest *auditor* comments.

The following template is suggested for standardizing the *auditor's* comments in the *audit trail*. However, certifiers may implement specific templates if they are consistently applied throughout their projects.

**Commented by:** Reviewer Name

The following has been reviewed

Certifier Reviewer's comments

- In case of rejection, the reason for rejection must be very clear, specifying what does not comply with the user guide

Remedial Guidance:

- In case the design input/measure does not approve provide text here for suggestions.

## Acceptable documentation

The main task of the *auditor* is to verify claims of compliance as per the *acceptable documentation* criteria and in line with the latest requirements EDGE User Guides. To demonstrate that the documentation is acceptable, it must show alignment with *accuracy*, *completeness* and *reliability* as described in the sections below.

### Accuracy

Documentation is considered accurate when:

- The documentation highlights values that align with the values reported in the measure or design page
- Information is easy to find
- The documentation contains the required information in an acceptable format
- A document can be deemed accurate if another *auditor* or *interim auditor* not involved in the certification reviews it and can reach the same conclusions
- Documents that are not written in English, include translations only for the reported parameters and relevant information.

### Completeness

Documentation is considered complete when:

- The *auditor* is satisfied that they are or can be verified to be complete records of the original documents or files
- The documentation should cover at least 90% of the measure claimed and may have minor gaps. If coverage is below 90%, it must still demonstrate completeness by showing the measure's intent through other documents without contradictions. The auditor must confirm and explain how the measure aligns with EDGE user guide criteria.

**Example:** The lighting power density (LPD) calculations in EEM22 are documented for 90% of the Gross Internal Area (GIA) but the influence of this gap, along with all other gaps, does not exceed more than 1% in energy savings.

### Reliability

Documentation is considered reliable when:

- The certifier can access digital copies of the original documents, which are properly referenced and linked to entries in the EDGE App
- Digital documents are traceable, i.e., copies of original documents contain sufficient information to identify and access the original document, including date, title, and author
- The *auditor* collects the information directly
- The *auditor* is satisfied that they are or can be verified to be true records of the original documents or files
- Photos are geo-referenced and datetime stamped.

**Important:** In line the protocol, the Submitted documentation must be available for at least five years after the certification date. For this reason, only external links that lead to public and well-known websites are accepted, e.g. Google maps, Climate One Building, etc.

## Desktop Verification

The desktop verification is designed to evaluate the project's compliance with energy, water, and material efficiency standards through a review of submitted documentation according to EDGE guides.

The *auditor* shall verify that the new building design or existing building retrofit proposal meets the *acceptable documentation* criteria. All EDGE projects must undergo at least one desktop verification to achieve preliminary or final certification.

This process involves reviewing architectural, mechanical, and electrical plans and that the *project team* has completed the self-assessment on the EDGE App correctly. The following steps outline the desktop verification procedures:

- Become familiar with the layout, services, and features of the *building*
- Verify project level documentation and design tab assumptions
- Confirm evidence of construction details, such as existing building drawings, calculations, and photographs
- Review installation documentation or equipment specification
- Verify calculations and assumptions used to estimate energy savings.

## Design

All inputs on the Design tab must be verified to be specific to the project and backed up by evidence. Inaccurate representation of building information in the Design Tab can affect project baseline and assessment result. e.g. a change in the default climate data.

The *auditor* must review that the project narrative clearly defines the likely end use of the building, project boundary, building age, and other project-level characteristics relevant to the certification. See *Annex 1: Examples* for more information.

**Requirements:** Any user-defined entries must be verified and backed up by supporting documentation.

### Building Type

#### *Primary Building Type and Subtype*

The *auditor* must review and verify that the *building* type and subtype provided by the client aligns with the definitions outlined in Part 2 - *User Guide - Design Tab*. Ensure the selected *building* type accurately reflects the project's purpose and design. For new buildings, a narrative showing how the building will be likely used. The narrative is specific to the subproject and must include the applicable construction phases

**Important:** Selections in building type tab and location tab cannot be changed after project registration.

### Location

The *auditor* must verify that the city selected in the EDGE application has climatic characteristics that match the *building* location. If the exact city is not available, choose the closest city within the same country with the most similar climate characteristics. If the location differs from the entry in the **Location** section, the *auditor* must verify the justification from the *project team* as necessary.

**Notes:** The auditor is responsible for reviewing the documentation to validate and justify any changes to climate data or the selection of the city.

## Project Details

There are no relevant actions for the *auditor* in the section.

## Subproject Details

The *auditor* must verify and briefly explain the following parameters.

### *Subproject name*

The auditor must verify that the subproject name accurately reflects the certified area and phase of the building(s). For example, if a residential building includes uncertified commercial space, state that only the residential part is covered.

### *Subproject multiplier*

Ensure the multiplier is correctly applied based on the subproject's scope and size, and the details provided in the Subproject section pertain exclusively to the *building* phase being modelled within this file. The Subproject Multiplier indicates the frequency with which the entire subproject is replicated within the overall Project. For Homes and Apartments use "No. of Homes/apartments" to specify the number of similar units/homes in the residential development instead of the Subproject Multiplier. The total exterior areas (e.g. irrigation, external carparking, Area with Exterior Lighting) in the subproject must be divided by the project multiplier.

**Examples:** A project consisting of 5 identical warehouse buildings, must be modeled as a single warehouse and allocate one-fifth of the exterior areas to represent the proportional part of the entire project. Then, the Subproject multiplier must be set to 5.

An apartment development consisting of 4 identical building with 2 apartment typologies must either input all the different typologies of the entire development and use Subproject multiplier of 1 OR only model the 2 apartment typologies within one building and use Subproject multiplier of 4.

### *Certification stage*

Verify that the correct certification stage (e.g., preliminary or post-construction) is selected in line with the project narrative.

### *Subproject Type*

Ensure the subproject type is correctly indicated. New construction is restricted for new developments and major renovations, the *existing buildings* option is used when no significant changes in the *building* are being made to reach the certification, retrofit is used when at least 10% of the GIA is renovated with the purpose of increasing resource efficiency used for lighting, HVAC, hot water, envelope or process loads.

**Examples:** The *Project Narrative: Supporting* documents indicate that the building consist of a greenfield development, hence, the *new construction* option must be selected.

## Building Data

All parameters must be identifiable and referenced in the documentation. When multiple typologies are selected, the area per unit must include the Balcony, Staircase and Enclosed Garage. In apartments, Indoor Car Parking and Corridor, Staircase, Lift Lobby must be included. All indoor common areas for exclusive use of apartment owners must be proportionally assigned to the area of the units. Physical building characteristics should always match the project. See *Annex 1: Examples* for more information.

Commercial and residential buildings can be certified separately. For residential buildings, all operational areas must be reported, such as the gym, lobby, pool, social hall, and communal areas. An office occupying less than 10% of a residential building can be counted as GIA but does not need to be included in the calculations. If the commercial/office area exceeds 10%, its certification is optional.

#### Area and loads break down

Ensure that any adjustments to default values in the EDGE calculator are justified with appropriate documentation. Any adjustment to default values in the calculator must be justified with documentation.

#### Detailed Loads Input

The *project team* must submit a summary letter detailing the load modifications, along with attached documentation such as: Architectural Plans and Drawings, Mechanical, Electrical, and Plumbing (MEP) Plans, Load Calculations, and Energy Models

#### Kitchen and Food Prep Loads Input

Verify that the inputs for kitchen and food preparation loads are accurate and supported by documentation.

**Examples:** For new buildings, a narrative showing how the building will be likely used. For existing buildings, a user survey of a representative sample size where users are asked on the kitchen use patterns.

#### Building Dimensions

Ensure all parameters and values are highlighted in the documentation. Physical building characteristics should always match the project.

#### Building HVAC System

Ensure that any change from the default values is properly justified.

#### Fuel Usage

Any drop selection must be justified and verified with supporting documentation. Ensure the fuel usage data is accurate and aligns with the project's design and operational parameters.

#### Climate Data

Ensure the climate data (e.g., temperature, humidity) accurately reflects the project location and is consistent with the EDGE calculator inputs. Ensure that any change from the default values is properly justified. If the *project team* modifies the climatic data, they must clearly identify the source of information. The climatic data must align with the following order of importance: first, the official climate zone according to the jurisdiction; second, the ASHRAE document; and finally, if no justification is provided, the data stated by the EDGE App.

**Examples:** If the climate data changes, *project teams* need to provide supporting documentation to justify the changes in temperature (°C), elevation (m), rainfall (mm/year), latitude (degrees), ASHRAE climate zone, relative humidity (%), or wind speed (m/s). Acceptable climate data sources can be found in *Annex 1: Examples*.



In addition to the points described above, *auditors* also must:

- Assess the working days and occupancy hours of the *building* by comparing them with publicly available data sources (e.g. google maps, official websites), occupancy logs or declaration letters
- Check for inclusions in, and exclusions of activity areas from the actual building
- Confirm alignment between the activity areas reports and the actual use of space.
- The *auditor* must approve any selection of spaces in alignment with the user guide.

**Example:** Occupancy density can be confirmed by number of employees in the payroll, ready-to-use desks, and visitors' logs. In hotels, occupancy rates can be verified with occupancy logs provided by the *building* administrator of these do not exist, declaration letters may be provided.

### New construction: Energy

This section outlines the necessary steps and documentation required for auditing energy consumption in buildings. This includes the collection, verification, and retention of documentation, as well as the specific requirements for different types of buildings and functional spaces. Assess the installation and operation of energy efficiency measures.

- All the measures need to be audited with the respective documentation.
- Proper justification for any measures that the *auditor* believes should be recognized, subject to the *certifier's* review and approval.
- The *auditor* must review technical specifications and performance datasheet of installed equipment.
- The *auditor* shall verify calculations and assumptions used to estimate energy savings.

Table 3 outlines the minimum information needed per energy measure for preliminary certification. *Project teams* must submit both the technical specifications document, which includes required performance data, and the preliminary design requirements, such as blueprints and schematics, to claim a measure.

Table 3: Preliminary documentation required by Energy measure.

Measure	Preliminary Specifications Document	Preliminary Design Requirements
<b>EEM01 - Window-to-Wall Ratio</b>	Calculations for Window-to-Wall Ratio (WWR) per orientations.	Design plans for the facade.
<b>EEM02 - Reflective Roof</b>	<p>The intended roof color must be specified, as well as the targeted SRI if the roof color is not white.</p> <p><i>See Annex 1: Solar Reflectance Index for Roof and walls.</i></p>	Areas the reflective roofs need to be clearly marked and indicated in architectural drawings
<b>EEM03 - Reflective Exterior Wall</b>	<p>The intended wall color must be specified, as well as the targeted SRI if the roof color is not white.</p> <p><i>See Annex 1: Solar Reflectance Index for Roof and walls.</i></p>	Areas with the reflective walls need to be clearly marked and indicated in architectural drawings.

<b>EEM04 - External Shading Devices</b>	N/A	Design documentation needs to show calculations for AASF.
<b>EEM05 - Insulation of Roof</b>	The intended U-value, or construction details, for the roof must be specified.	Areas with roof insulation need to be clearly marked and indicated in architectural drawings
<b>EEM06 - Insulation of Ground/Raised Floor Slab</b>	The intended U-value, or construction details, for the floor slab must be specified.	A likely design guidance to be included in design documentation on how the project can achieve the said U-value for the project.
<b>EEM07 - Green Roof</b>	N/A	This is a design element and cannot be included as an intent to comply. If this is still early in the design phase, project may omit this measure during preliminary certification. Design documentation needs to show calculations for Green Roof
<b>EEM08 - Insulation of Exterior Walls</b>	The intended maximum allowable U-value, or construction details, for the exterior walls must be specified.	A likely design guidance to be included in design documentation on how the project can achieve the said U value for the project.
<b>EEM09 - Efficiency of Glass</b>	Window and glass specs data must be documented and entered in the EDGE App.	N/A
<b>EEM10 - Air Infiltration of Envelope</b>	The intended overall air infiltration through the various building envelope components, as well as the air tightness testing type, must be specified. Include the recommended airtightness strategy including the allowable air infiltration.	N/A
<b>EEM11 - Natural Ventilation</b>	N/A	The intended number of windows and opening size for similar areas, and whether ventilation will be single sided or cross flow, must be included.
<b>EEM12 - Ceiling Fans</b>	The intended number of fans and fan diameter in rooms of the same type must be specified. Include a minimum fan size, type and efficiency, if applicable.	Areas with ceilings need to be clearly marked and indicated in architectural drawings
<b>EEM13 - Cooling System Efficiency</b>	Minimum efficiency, distribution type and system capacity, including storage, may be included in product specification.	Generation, storage and distribution systems type must be identified in the design documentation.
<b>EEM14 - Variable Speed Drives</b>	Project must include in design specifications if pursuing this measure.	N/A
<b>EEM15 - Fresh Air Pre-</b>	Project must include in design specifications if pursuing this measure.	N/A

<b>Conditioning System</b>		
<b>EEM16 - Space Heating System Efficiency</b>	Minimum efficiency, distribution type, and system capacity, including storage must be included in product specification.	Generation, storage and distribution systems type must be identified in the design documentation.
<b>EEM17 - Room Heating Controls with Thermostatic Valves</b>	Project must include in design specifications if pursuing this measure.	Project must include this in design documentation if pursuing this measure.
<b>EEM18 - Domestic Hot Water (DHW) System Efficiency</b>	Minimum efficiency may be included in product specifications. The intended DHW systems, % water usage, corresponding efficiency, and fuel usage must be specified.	The proposed hot water system and fuel type used must be identified in the design documentation.
<b>EEM19 - Domestic Hot Water Preheating System</b>	Specify which systems the developer intends to fit with a heat recovery device to preheat DHW, and the minimum efficiency of the heat recovery devices.	The proposed preheating system must be identified in the design documentation.
<b>EEM20 - Economizers</b>	Specify if HVAC systems include air and/or water economizers.	N/A
<b>EEM21 - Demand Control Ventilation Using CO<sub>2</sub> Sensors</b>	Project must include in design specifications if pursuing this measure. CO <sub>2</sub> sensor description to be indicated in specifications.	The proposed system must be identified in the design documentation.
<b>EEM22 - Efficient Lighting for Internal Areas</b>	The minimum luminous efficacy or maximum lighting power density for internal areas must be specified.	The proposed lighting systems must be identified in the design documentation.
<b>EEM23 - Efficient Lighting for External Areas</b>	The minimum luminous efficacy or maximum lighting power density for external areas must be specified.	The proposed lighting systems and the estimated coverage area for external lighting must be provided.
<b>EEM24 - Lighting Controls</b>	Types of lighting control and technical specifications of controls.	The proposed lighting systems must be identified in the design documentation.
<b>EEM25 - Skylights</b>	A maximum allowable U value, and an acceptable range for SHGC and VT must be specified for skylights. The U value, SHGC & VT entered in EDGE must be the maximum allowed value. Controls required to meet the requirements must be included in specifications.	The skylight must be identified in the design documentation.
<b>EEM26 - Demand Control Ventilation for</b>	Any requirements for sensor specification to be included in design	Coverage area to be identified where CO sensors are to be installed.

<b>Parking Using CO Sensors</b>	specs. (e.g., averaging time and CO level settings).	
<b>EEM27 – Insulation for cold storage envelope</b>	The intended maximum allowable U-value, or construction details, for the cold storage envelope must be specified.	The proposed location of the cold storage areas must be identified in the design documentation.
<b>EEM28 - Efficient Refrigeration for Cold Storage</b>	The project must include a proposed refrigeration system type. Volume may be estimated.	
<b>EEM29 - Efficient Refrigerators and Clothes Washing Machines</b>	The minimum energy rating of both refrigerators and clothes washing machines that will be delivered must be specified.	The proposed location of the refrigerators and clothes washing machines must be identified in the design documentation.
<b>EEM30 - Submeters for Heating and/or Cooling Systems</b>	Provide the metering strategy to meet the measure requirements, including the description of meters and connectivity specifications.	N/A
<b>EEM31 - Smart Meters for Energy</b>	Outline the metering strategy, including meter descriptions and connectivity specifications.	N/A
<b>EEM32 - Power Factor Corrections</b>	The power factor correction devices to be installed must be specified.	N/A
<b>EEM33 - Onsite Renewable Energy</b>	The intended number of solar panels, and average and peak production wattage of the solar panel to be installed must be specified, as well as targeted annual energy production. Calculations of estimated renewable energy must be provided.	N/A

For final certification, documentation must include any updates made to the design stage documents to clearly reflect as-built conditions, refer to *Part 3 – User Guide - Energy Measures* for the full list of document requirements per measure.

### New construction: Water

The *auditor* must assess the documentation of the water efficiency measures.

- **Plumbing and Fixture Specifications:** Manufacturer specifications for faucets, toilets, showers, and irrigation systems.
- **Water Recycling and Reuse Documentation:** Records of rainwater harvesting, greywater reuse, and wastewater treatment systems.
- **Building Plans and Plumbing Layouts:** As-built drawings and schematics detailing water supply lines, metering locations, and water-efficient features.

Documentation for water measures may vary depending on the certification stage. For preliminary certification Table 4 shows the minimum information requirements per water measure for preliminary certification.

*Table 4: Minimum information requirements per water measure for preliminary certification.*

Measure	Preliminary Specifications Requirements	Preliminary Design requirements
<b>WEM01 - Water-Efficient Showerheads</b>	Maximum flow rate for showerheads to be included in specifications	Calculations for maximum flow rate for showerheads to be included in design documentation.
<b>WEM02/03 - Water-Efficient Faucets for Private/Public Bathrooms</b>	Maximum flow rate for faucets to be included in specifications	Calculations for maximum flow rate for faucets to be included in design documentation
<b>WEM04/05 - Efficient Water Closets for Private/Public Bathrooms</b>	Maximum flush rate for water closets to be included in specifications	Calculations for maximum flush rate for water closets to be included in design documentation
<b>WEM06 - Water-Efficient Bidet</b>	Maximum flow rate for bidets to be included in specifications	Calculations for maximum flow rate for bidets to be included in design documentation
<b>WEM08 - Water-Efficient Faucets for Kitchen Sinks</b>	Maximum flow rate for kitchen faucets to be included in specifications	Calculations for maximum flow rate for kitchen faucets to be included in design documentation
<b>WEM09 - Water-Efficient Dishwashers</b>	Maximum water consumption for dishwashers to be included in specifications	As per preliminary specification document
<b>WEM10 - Water Efficient Pre-Rinse Spray Valves for Kitchen</b>	Maximum flow rate for pre-rinse spray valve to be included in specifications	Calculations for pre-rinse spray valve faucets to be included in design documentation
<b>WEM11 - Water-Efficient Washing Machines</b>	Maximum water consumption for washing machines to be included in specifications	As per preliminary specification document
<b>WEM12 - Swimming Pool Covers</b>	Specification of requirements of the pool cover type	Estimated area that will be covered
<b>WEM13 - Water-Efficient Landscape Irrigation System</b>	Specification to include an overview of the type of irrigation system to be included in the design.	Irrigation strategy should be included in the design submission with estimated irrigation calculations

<b>WEM14 - Rainwater Harvesting System</b>	The intended catchment area, tank capacity, and rainwater end-uses must be specified.	Rainwater harvesting strategy including estimated calculations of rainwater capture and storage must be provided.
<b>WEM15 - Waste Water Treatment and Recycling System</b>	The intended water treatment system type, treatment plant technology, and efficiency of recycled water systems must be specified.	Design capacity of gray water treatment and recycling quantity calculations shall be provided.
<b>WEM16 - Condensate Water Recovery</b>	N/A	The strategy around condensate water recovery percentage and recovered water end-uses must be provided. Calculations shall demonstrate the water collected.
<b>WEM17 - Smart Meters for Water</b>	Description of meters and systems to meet requirements must be detailed in the preliminary specifications.	Metering strategy to meet measure requirements is required.

For final certification, documentation must include any updates made to the design stage documents to clearly reflect as-built conditions, refer to *Part 4 – User Guide - Water Measures* for the full list of document requirements per measure.

### New construction: Materials

In the audit process for assessing material consumption in a project, the *auditor* evaluates the efficiency claims of the construction materials, including:

- **Material Specifications:** Review manufacturer specifications for insulation, glazing, flooring, and structural components to ensure alignment with the claimed material selections.
- **Building Plans and Material Layouts:** Analyze as-built drawings and schematics to verify material types, quantities, and installation methods.
- **More Than One Material Entry:** For building elements where multiple materials are selected, report a second predominant material if it covers more than 10% of the subproject area. If the building has more than two materials, the *project team* must provide a narrative and calculations to justify the final selection of reported materials.

For preliminary certification Table 5 shows the minimum information requirements per materials measure.

Table 5: Minimum information required by materials measure during preliminary documentation.

Measure	Preliminary Specifications Document	Preliminary Design Requirements
<b>MEM01 - Bottom Floor Construction</b>	The material must be identified in the specification along with the design thickness and steel content.	Design submission must identify type of material for each building element.
<b>MEM02 - Intermediate Floor Construction</b>		
<b>MEM03 - Floor Finish</b>		
<b>MEM04 - Roof Construction</b>	For projects using customized materials, the maximum embodied carbon should be identified in the specifications.	The thickness of the material for each element must be available. Where applicable, steel content must be specified.
<b>MEM05 - Exterior Walls</b>		
<b>MEM06 - Interior Walls</b>	If the developer intends to re-use existing building materials it must be specified.	If the developer intends to re-use existing building materials it must be specified in plans
<b>MEM07 - Window Frames</b>		
<b>MEM08 - Window Glazing</b>		
<b>MEM09 - Roof Insulation</b>		
<b>MEM10 - Wall Insulation</b>		
<b>MEM11 - Floor Insulation</b>		

For final certification, documentation must include any updates made to the design stage documents to clearly reflect as-built conditions, refer to *Part 5 - User Guide - Material Measures* for the full list of document requirements per measure.

Where custom materials are documented, the *auditor* must ensure that *Part 5 - User Guide - Material Measures, Annex 1: Custom Materials Guidance* has been followed. For re-use existing building materials, evidence of age of the buildings, e.g. from google maps, is required.

### Existing buildings & Retrofit: Energy

For existing buildings, documentation requirements provided in *Part 3 - User Guide - Energy Measures*. However, a few measures may have special considerations for buildings that do not have documentation available. Table 6 shows the documentation allowance for energy measures in existing buildings.



Table 6: Documentation allowance for existing buildings.

Measure	EDGE App Entry	Documentation
<b>EEM05 Insulation of Roof</b>	<p>(1) Projects should identify Roof Material.</p> <p>(2) Projects should measure roof thickness where possible. If thickness measurement is not possible or cannot be determined through as-built drawings, the base case thickness from the identified material in step (1) in 'MEM04 Roof' + 'MEM09 Roof Insulation' should be used. This step only applies if the base case of the assembly corresponds to what is present on-site</p> <p>(3) EEM05 calculator should be used with the thickness as determined in step (2). Default thermal conductivity may be used.</p>	<ul style="list-style-type: none"> <li>▪ Evidence of Roof Material (photographs, as built drawings, etc.)</li> <li>▪ Documentation on how thickness was derived from existing material: through narrative and/or calculations.</li> <li>▪ State in narrative if default conductivity is used. If defaults are not used, provide reasoning and/or evidence of updated thermal conductivity.</li> </ul>
<b>EEM06 Insulation of Floor</b>	<p>(1) Projects should identify Floor Material.</p> <p>(2) Projects should identify floor thickness where possible, e.g. from as-builts drawings. Otherwise, the sum of the base case thicknesses from 'MEM01 Bottom Floor' + 'MEM11 Floor Insulation' should be used. This step only applies if the base case of the assembly corresponds to what is present on-site</p> <p>(3) EEM06 calculator should be used with the thickness as determined in step (2). Default thermal conductivity may be used.</p>	<ul style="list-style-type: none"> <li>▪ Evidence of Floor Material (photographs, as built drawings, etc.)</li> <li>▪ Documentation on how thickness was derived from existing material: through narrative and/or calculations</li> <li>▪ State in narrative if default conductivity is used. If defaults are not used, provide reasoning and or evidence of updated thermal conductivity</li> </ul>
<b>EEM08 Insulation of Walls</b>	<p>(1) Projects should identify Wall Material.</p> <p>(2) Projects should measure wall thickness where possible. If thickness measurement is not possible or cannot be determined through as-builts drawings, the base case thickness from 'MEM05 External Wall' + 'MEM10 Wall Insulation' should be used. This step only applies if the base case of the assembly corresponds to what is present on-site</p> <p>(3) EEM08 calculator should be used with the thickness as determined in step (2). Default thermal conductivity may be used.</p>	<ul style="list-style-type: none"> <li>▪ Evidence of Wall Material (photographs, as built drawings, etc.)</li> <li>▪ Documentation on how thickness was derived from existing material: through narrative and/or calculations</li> <li>▪ State in narrative if default conductivity is used. If defaults are not used, provide reasoning and or evidence of updated thermal conductivity</li> </ul>
<b>EEM09 Efficiency of Glass</b>	<p>Projects should identify if windows is (1) Single Glazed; (2) Double Glazed; or (3) Triple Glazed. If windows identified are:</p> <p>(1) Single Glazed: EDGE App Entry: Base Case Value for U Value, SHGC and VT.</p> <p>(2) Double Glazed: EDGE App Entry: U Value = 3.0 W/m<sup>2</sup>K; SHGC = 0.6; VT; 0.7</p> <p>(3) Triple Glazed: EDGE App Entry: U Value = 1.5 W/m<sup>2</sup>K; SHGC = 0.6; VT = 0.6</p>	<ul style="list-style-type: none"> <li>▪ Provide evidence of glazing type (e.g. Single, Double or Triple glazing). Evidence may include photographs, past receipts, etc.</li> <li>▪ Projects must list the location of all windows and provide evidence of glazing type for each activity area per floor.</li> <li>▪ Calculations made with online tools such as:</li> </ul>



- Calumen | Glass Calculator
- GLASSPRO

**EEM13  
Cooling  
System  
Efficiency**

*Project teams* should identify onsite cooling equipment through nameplate of equipment. Efficiency may be claimed if datasheet is available.  
If equipment is old and/or no information is available, a conservative approach for estimating efficiency must be proposed by the project team and approved by the auditor. For example, an efficiency reduction of 40% from the base case efficiency may qualify as a conservative approach.

- Photographs of existing cooling equipment and nameplate.
- Datasheet matching nameplate equipment.

**EEM16  
Space  
Heating  
System  
Efficiency**

*Project teams* should identify onsite heating equipment through nameplate of equipment. Efficiency may be claimed if datasheet is available.  
If equipment is old and/or no information is available, a conservative approach for estimating efficiency must be proposed by the project team and approved by the auditor. For example, an efficiency reduction of 30% from the base case efficiency may qualify as a conservative approach.

- Photographs of existing heating equipment and nameplate.
- Datasheet matching nameplate equipment.

**EEM22  
Efficient  
Lighting  
for  
Internal  
Areas &  
EEM23  
Efficient  
Lighting  
for  
External  
Areas**

*Project teams may:*  
(1) Provide lighting type for each activity area.  
(e.g. Fluorescent, Compact Fluorescent, LED - strip light, LED flood light, etc.)  
(2) Check if operations and maintenance have spare bulbs (minimum 5% of light fixtures). If so, use data of the spare bulbs  
If Step (2) is not available, projects should use the following entries in lm/W:

Lamp Type	LED	Flourescent / Compact Fluorescent	Halogen
A Bulbs			
A19	80	60	15
A21	80	60	15
R and BR lamps			
R20	65	35	10
BR30	75	45	15
BR40	70	50	15
MR lamps			
MR16	65	-	20
PAR lamps			
PAR20	65	25	15
PAR30 / PAR30 LN	65	50	15
PAR38	65	50	20
Linear Tubes T5/T8			
T5	130	90	-
T8	120	90	-

- List of areas per floor with corresponding lamp type.
- Provide evidence of lamp spare lamp bulbs if they are used for claiming efficient lighting.
- Provide calculations of weighted average lm/W of fixtures.

## Existing buildings & Retrofit: Water

No special documentation requirements or considerations for existing buildings beyond those provided in *Part 4 - User Guide - Water Measures*.

For Core & Shell and social housing, consider special exceptions in *Part 1 Building Certification Guidance*. If auditor buildings implement the minimum required tests detailed in the *Site Visit* section, the project cannot be recommended for certification.

## Existing buildings & Retrofit: Materials

No special documentation requirements or considerations for existing buildings beyond those provided in *Part 5 - User Guide - Material Measures*.

## Existing buildings & Retrofit: Operations

The *auditor* does not have a direct role in the Operations tab. Instead, the *project team* submits documentation through the EDGE App, including:

- Energy bills and meter readings for the reporting period
- Proof of off-site renewable energy purchases and carbon offsets, if applicable, and
- An updated GHG Emissions Mitigation Plan and Roadmap.

The *certifier* verifies compliance with the submitted documentation.

## Site Visit

A site visit is a critical component of the auditing process, it involves an on-site inspection, testing and visual confirmation of the documentation and specifications submitted by the *project team*. The general considerations for before, during and after the site visit are:

### Before the site visit, the auditor shall:

- Become familiar with the layout, services, and features of the building
- Ensure that the *project team* has adhered to EDGE guidelines and criteria
- Confirm with the *project team* for inclusions in, and exclusions from, energy and/or water measures as appropriate
- Have a thorough understanding of the hydraulic system. Once familiar with the system, they should first identify and choose critical points, such as areas with higher and lower pressure. Determine the presence of pressure regulating valve on each floor level and the responsible person for its functioning
- Calculate the minimum sample size number to the *project team* and seek for acknowledgement from the *project team*. See annex 1, for sampling examples.
- Not disclose information about the exact buildings/units that will be audited in advance
- Conduct a (virtual) kick-off meeting with the *project team* before the site visit to inform the involved project team members about any special equipment, tools, and necessary access (keys, cards, etc.) for the upcoming site visit.
- Have concluded all required health and safety (H&S) training for site visits as required by the applicable jurisdiction.

**Important:** A reduced minimum sampling number may be allowed under an extremely rare set of circumstances by IFC, e.g. where the physical integrity of the auditor is compromised. Economic feasibility, time, and resources alone do not justify reduced sampling.

**Notes:** The auditor may suggest the project team to conduct preliminary water tests for the solely purpose of managing expectations during the site visit.

### During the site visit, the auditor shall:

- Collect photographic evidence. Images must be clear, taken from correct angles and focused on the relevant information for the design input/measure being assessed. Photos shall include timestamp and geo-reference information.
- Conduct a walkthrough of the entire building and project boundary to verify that all activity areas have been **correctly included** in the subproject and ensure that the physical conditions of the site match the information submitted in the Edge app for the Subproject. See example in *Design Inputs*
- Walk through the building with a site plan to verify that the exterior, general use, bathrooms, private spaces and roof areas match the assessment safely and with client support, as necessary
- Conduct water flow tests with a minimum duration of 60 seconds, covering at least 90% of specifications including fixture type, height, and pressure system. The results from water tests cannot be omitted.
- Observe additional considerations for the design, energy, water and materials in the subsections below.

- Verify that the EDGE Measures claimed are physically present in the building as built and collect additional evidence, such as photographs, measurements, and notes

**Important:** In commercial and industrial buildings all claimed measures must be installed and ready to use. In residential buildings, it may be possible to demonstrate the physical presence of elements required to fulfill the requirements of the measure.

**Example:** In commercial and industrial buildings PV panels must be installed and properly functioning to be accounted for EEM33. In residential, it is possible to verify the physical presence of the panels alongside with purchase orders and quantities that match the claims of the development.

#### After the site visit, the auditor shall:

- Ensure that all collected data is accurately recorded and properly documented
- Compile a detailed report of the site visit, including all observations, findings, and collected data. Additionally, highlight any discrepancies or anomalies identified during the on-site visit
- Classify the findings against the EDGE assessment claims, group photos by design tab sections and individual measures, add labels and annotations to images, use tables to present onsite test records, and
- Upload the site audit evidence to the EDGE App.

#### Design

In addition to the general site visit considerations, the *auditor* must verify that:

- All inputs on the Design tab are building-specific
- The accuracy of the architectural drawings against the actual conditions observed on-site
- The *project boundary* is accessible during the visit
- The certifiable area aligns with the area of the building ready of use. Exclusions of finished areas, or inclusions of unfinished areas must be flagged and corrected by the *project team*
- If the Occupancy Density (m<sup>2</sup>/Person) or Occupancy Rate (%) is not the default, confirm that assumptions are present on site
- The external areas, including but not limited to irrigation, outdoor swimming pools, areas with exterior lighting, and external car parking are correctly accounted for.
- If applicable, the process water is included in by marking it as “yes” and provide a daily use estimate in liters per day using conservative assumptions for liters water per use and average number of uses per day
- The building design includes/excludes AC and/or space heating systems in line with the options selected in the Building HVAC System section
- The fuels used for the AC and/or space heating systems match those installed on-site
- The building latitude and elevation through on-site measurements.

## Energy

In addition to the general site visit and design considerations. The *auditor* must verify that:

- The correct orientation and dimensions of wall and glazing areas are reported in the EEM01 calculator and % Opening of Façade in EEM11, if applicable
- The finish reflectance matches those claimed in measure EEM02 and EEM03. Roof access may be required
- The location, quantity, specifications and capacity of the cooling systems (including cooling towers and condensers) match the technical documentation in EEM13. Additionally, exclusions of cooling systems must be flagged and reported to the *project team*. The same applies for heating systems in EEM16
- If applicable, the intended fuel use of the future domestic hot water systems, as evidenced by the preparations (e.g. the presence of gas pipes, or electric outlets)
- The number of internal and external lighting fixtures matches those declared in the documentation for EEM22 and EEM23
- The existence of skylights covering more than 5% of the aggregate roof area results on EEM25 being claimed. This is mandatory for all projects registered after January 1, 2025
- If EEM29 is claimed, the energy label and quantities of refrigerators and washing machines
- If EEM30 is claimed, confirm that heat meters are installed and working on the audited samples.
- If EEM31 is claimed, confirm that smart meters are installed and working on the audited samples. For Core & Shell subprojects, confirm that the tenancy agreement meets the eligibility criteria in *Part 3 – User Guide – Energy Measures*
- If EEM32 is claimed, confirm that the power correction device(s) are eligible, installed and working on the audited samples
- If EEM33 is claimed, the specifications, quantity, location of the equipment. The on-site energy generation system must be installed, connected and ready to use. Exceptions to the requirement of installation apply only to unoccupied residential units. The project boundary may encompass any nearby renewable energy system that is included in the assessment, provided that the renewable energy consumption is sub-metered, and the renewable systems are owned and dedicated to buildings with the same ownership.
- If EEM34 is claimed, see Special Ruling Requests (SRR) requirements.

## Water

In addition to the general site visit, design and energy considerations. The *auditor* must check the following points:

- The connection to the municipal water supply has been established
- In buildings with multiple apartments using a direct hydraulic system, the *auditor* should first locate and check the pressure by the pumping room. Additionally, consider selecting apartments with different building orientations and evenly distributed across all levels. Report records of all pressure measurements for each audited level
- For homes the *auditor* must be aware of potential losses in the hydraulic system, as these can impact water measurement and must test homes both near and far from the pumping station
- For tenant-based certifications, the *project boundary* must encompass the common water facilities anticipated for use, as determined by their proximity to the nearest restroom.
- When claiming WEM01, WEM02 and WEM08, the *auditor* shall take photographic evidence of the water fixtures and the inner side of the aerators

- When claiming WEM04, confirm that the number, the *auditor* must ensure that the location and characteristics match the technical specifications uploaded by the *project team*
- When claiming WEM09, WEM10 and/or WEM11 are claimed, the *auditor* must ensure that the rated water consumption and quantities of the appliances match those declared in the measure
- When claiming WEM12, the *auditor* must verify that a permanent mechanism for storing the pool cover is installed and functioning during the on-site audit
- When claiming WEM13, the plant species used to estimate irrigation demand must align with those present on site and cover at least 90% of the irrigation area. Alternatively, purchase receipts for sprinkler systems that meet the technical specifications and scope outlined in the measure are acceptable.

## Materials

In addition to the general site visit, design, energy and water considerations. The *auditor* must check the following points:

- Verify the wall thickness near the openings, as it tends to vary depending on the number of floors in the building, especially in high-rise buildings.

If the *auditor* determines whether the subproject meets or exceeds the documentation is acceptable for both the physical presence and documentation in the design tab and all claimed measures, the report shall include a recommendation for certification to the *certifier*. If alternative documentation is provided, the *auditor* must justify its approval in accordance with this document.

## Remote audits

A remote audit is the process of verifying a project's compliance with EDGE certification requirements by having an *auditor's representative* on-site, without the *auditor* being physically present, using digital tools and communication platforms. As a general rule, no individuals are permitted to perform the on-site/remote auditing work other than the *auditor*. However, remote audits may be allowed under any of the following conditions:

- The *building* has undergone an onsite audit **by an auditor** within the past 12 months for over 80% of the auditable quantities, no new measures have been implemented, and the same *auditor* plans to conduct the remote audit
- The certification approach is in line with the latest published guidance provided by IFC. E.g. Tract housing
- Circumstances that may present significant health or physical integrity risks to auditors
- If extraordinary and unforeseen government-imposed restrictions, such as travel bans or lockdowns, or restrictions on movement can be justified, confirmation from IFC is required
- If the *building* is in **areas off limits**, as determined by World Bank Group's travel or country-specific advisory guidance, confirmation from IFC is required.
- Other exceptional circumstances approved on a case-by-case basis by IFC

The economic feasibility of an on-site audit does not in itself justify remote audits.

The remote audit process typically involves:

- **Become familiar with the building.** If relevant, use insights from past site visits or virtually interview staff knowledgeable about the building to confirm as-built drawings and technical specifications.
- **Follow the site visit requirements:** The *auditor* should guide the individual conducting the walkthrough and follow all the procedures outlined **during** in the *Site Visit* section, such as water tests, using hardware and software with live video conferencing capabilities.
- **Additional evidence.** When relevant, additional evidence may be required to ensure that no omissions have been made.

**Important:** The *auditor* is ultimately responsible for ensuring that the person conducting the site inspection is competent, understands their objectives, and gathers the necessary evidence to meet all the considerations of the site visit.

## Special cases

### Special Ruling Requests (SRR)

The *auditor* must ensure that:

- The report meets the minimum requirements for an SRR, as states in *Part 1 – Building Certification Guidance, Non-typical EDGE Projects, Special Ruling Request (SRR)*
- The *project team* used the special ruling request form, which can be downloaded from the EDGE Buildings website.
- IFC approval is obtained before Audit submission
- Any system involved with the SRR is part of the project boundary and are *auditable* through the desktop verification and site visit.
- Specifications and quantities for building elements and technical systems match on-site conditions, with *acceptable* support documentation provided alongside the SRR.
- For SRR involving energy modelling, the geometry of the model reasonably matches with the actual building
- The implementation is completed before recommending for certification.

If any of the items described above is not met, the *auditor* must reject the SRR and request the project team to implement the necessary corrective actions. IFC re-approval is not needed, unless a change in methodology is requested.

**Important:** Previous SRR approvals are nontransferable to other projects. Instead, general rulings will be published as addenda in the [edgebuildings.com](https://edgebuildings.com) website.

### Core & Shell

The *auditor* must carry out an on-site audit in the following spaces:

- Tenant spaces that not covered by a “tenant fit-out guide” with minimum performance requirements for the mandatory measures in energy and water
- Tenant spaces where the *project team* claims improvements beyond the limits stated in *Part 1 – Building Certification Guidance, Annex 2: Core & Shell Measures*
- Common spaces, common amenities, shared services, outdoor, exterior areas and parking.

*If the auditor cannot meet the minimum required tests, the subproject cannot be recommended for certification. However, auditors may skip on-site audit in the following spaces:*

- Tenant spaces that are covered by a “tenant fit-out guide” with minimum performance requirements being claimed for measures in energy and water and the *project team* claims improvements in line with *Part 1 – Building Certification Guidance, Annex 2: Core & Shell Measures*
- Spaces protected by tenancy agreements made before the project registration.



## Partial Buildings

The *auditor* must confirm that the partial building certification complies with the requirements stated in *Part 1 – Building Certification Guidance, Non-Typical EDGE Subprojects, Partial Building Certification*.

The *auditor* must carry out an on-site audit in the following spaces:

- Restrooms, faucets and shower facilities are part of the *project boundary*
- Centrally serviced air conditioning systems, if servicing the *partial building*.

*Auditors* may skip on-site audit in the following spaces:

- If certification is tenant based, common amenities, shared services, outdoor, exterior areas and parking that are not part of the *project boundary* submitted in the design documentation.

## Industrial Buildings

The *auditor* must carry out an on-site audit in the following spaces:

- Spaces reported as unoccupied storage, corridors and other activity areas where “No conditioning required” is assumed by the EDGE App. *Auditor* must confirm that such spaces are not regularly occupied
- All spaces to confirm the existence/absence of skylights covering more than 5% of the aggregate roof area. This is mandatory for all projects registered after January 1, 2025
- Equipment loads assumed for the calculations in the *detailed loads input*. Including equipment count, rating and hours of operation.

## Portfolio and Tract Housing Projects

The steps where the *auditor* must be involved in Portfolio and Tract Housing Projects are:

- **Sample Selection:** The selection of sample buildings to be audited must be at random and free of bias. The use of software tools for random sampling, such as RANDBETWEEN() function in spreadsheets, is required
- **Design/Site Audits:** The auditor performs design/site audits for sample buildings in line with the *Auditor Comments* and *Site Visit* sections of this document. The *auditor* checks that all samples have the same measure selection and flags any significant variation in measure inputs, with exception of EEM01 and results from water flow tests
- **Completion notification (tract housing only):** The *auditor* must only notify the completion of the entire batch of units and keep records of

- Acceptable documentation. The *auditor* is responsible for observing the requirements in *Annex 2: Auditing options for sample or non-sample units*.

## Data Centers

In data centers, the *auditor* must pay special attention to the following points:

- Become familiar with the concept of PUE Category 2 as defined in the Recommendations for Measuring and Reporting Overall Data Center Efficiency online document
- Ensure that the metering for the IT equipment is located at the Power Distribution Units (PDU) output located in Metering Point A, Figure 4. If measurements are taken from the Uninterrupted Power Supply (UPS), metering point B, an adjustment factor is required to account for the PDU losses. If no documentation is provided, the default PDU losses must be assumed as 3%

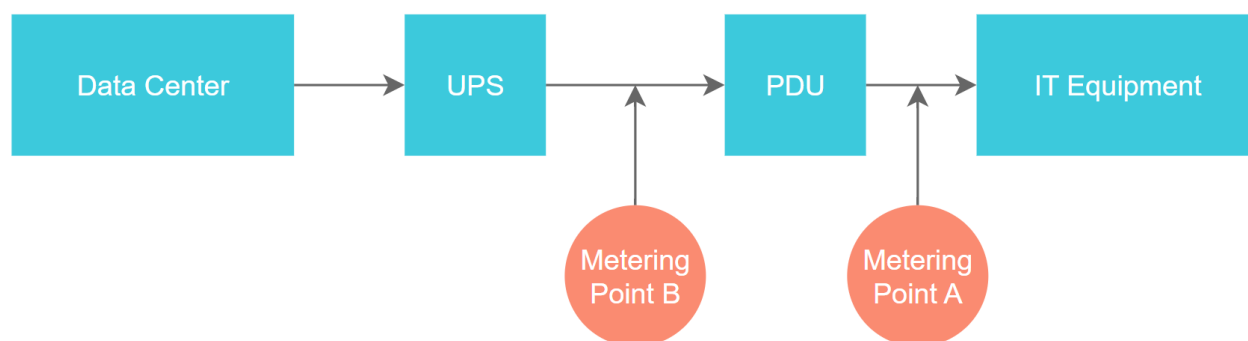


Figure 4: IT equipment energy metering points.

- Ensure that the metering coverage includes at least all IT loads, including the UPS and non-UPS IT equipment, and all infrastructure loads, defined as those required for the proper functioning of the data center, including lighting, security and HVAC infrastructure; as shown in Figure 5.

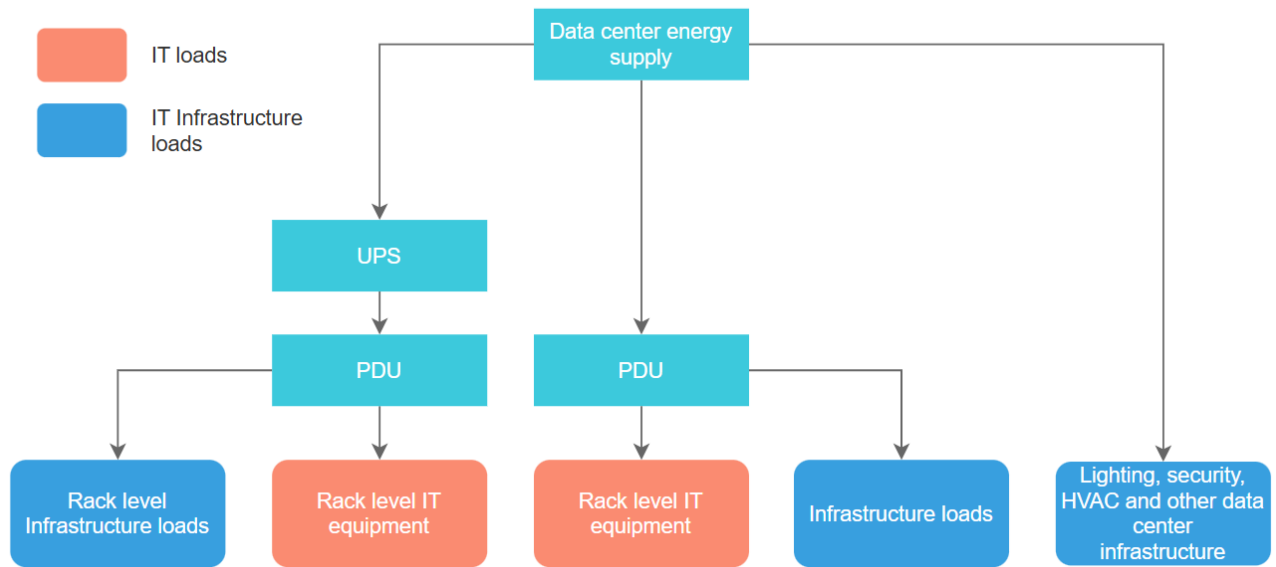


Figure 5: IT equipment and infrastructure loads for data centers.

## Annex 1: Examples

### Project Narrative: Template



#### Project Narrative for EDGE Certification

Located in the heart of Cali, Colombia, **Torre Verde Residencial** rises as a striking example of contemporary urban living, rooted in both innovation and environmental consciousness. Designed as a **high-rise residential tower**, this new construction project redefines skyline living with its 25-story vertical form. As a **Vivienda de Interés Social (VIS)** initiative like you can see in the document **"Formulario único nacional"**, Torre Verde demonstrates that affordability and sustainability can go hand in hand. Purposefully crafted to accommodate a growing urban population without compromising comfort or ecological integrity, the building houses **250 residential units** that range in size and configuration to suit a variety of lifestyles. From compact studios to expansive corner apartments, each home is designed to foster flexibility, light, and natural airflow. More than just a place to live, Torre Verde is a bold architectural statement—one that embraces density, elegance, and social equity in equal measure.

Torre Verde Residencial is more than a building; it is a vertical ecosystem that celebrates Cali's spirit. Its terraces burst with native heliconias and palms, while the rooftop's photovoltaic "halo" merges renewable energy with architectural iconicity.

**Project Boundary:** The area marked in red on the plan with the name "project boundary" indicates that the building and the onsite energy generation systems intended for exclusive use of the building, are part of the physical scope of the certification.

**Pedestrian Realm (Floors 1–3):** A transparent, double-height podium anchors the tower to the street, with a light-filled lobby, co-working spaces, and a suspended gymnasium wrapped in fritted glass. These communal zones dissolve boundaries between interior and exterior, fostering social connectivity.

**Mid-Rise Residences (Floors 4–20):** A rhythmic alternation of compact 1–2-bedroom units and spacious corner apartments, all featuring convertible layouts (60–150 m<sup>2</sup>) that adapt to remote work or multigenerational living. Floor-to-ceiling windows frame city views while operable louvres modulate airflow.

**Sky Villas (Floors 21–25):** Crowned by penthouses with private terraces, these homes extend living spaces outward, offering panoramic vistas of the Andes and immersive garden decks that blur the line between architecture and landscape.

The project aims to achieve EDGE Advanced Certification by implementing sustainable design strategies that reduce energy.

Best regards,  
[Your Name]  
Sustainability Consultant

**Firm of  
EDGE Expert/Project team**

**Consultant**



**Project name**

**Building type**

**Income  
Income  
supporting  
documents**

**Project  
Boundary**

**Requirements:** The *project team* may submit the narrative once the delegation of authority letter is signed by both the *client* and the *project team*.

# Project Narrative: Supporting documents



NATIONAL UNIFIED FORM		PAGE 1
<b>0. GENERAL INFORMATION</b>		
EXCLUSIVE USE FOR URBAN CURATORS - PLANNING OFFICE OR THE ONE THAT DOES SUS VECES	<b>0.1 RESPONSIBLE OFFICE</b>	
	<b>0.2 FILE NUMBER</b> □□□□-□□□□	
	<b>0.3 DEPARTMENT - MUNICIPALITY - DATE</b>	
Please read this form and the instructions contained in the attached Guide carefully before filling it out electronically or by hand in clear print, without corrections and in Arabic numeral format.		
<b>1. IDENTIFICATION OF THE REQUEST</b>		
<b>1.1 TYPE OF PROCEDURE</b>		<b>1.2 OBJECT OF THE PROCEDURE</b>
A. PARCELING LICENSE <input type="checkbox"/> B. URBANIZATION LICENSE <input type="checkbox"/> C. SUBDIVISION LICENSE <input type="checkbox"/> D. CONSTRUCTION LICENSE <input type="checkbox"/> E. RECOGNITION OF THE EXISTENCE OF A BUILDING <input type="checkbox"/> F. OTHER ACTIONS <input type="checkbox"/>		INITIAL <input type="checkbox"/> EXTENSION <input type="checkbox"/> MODIFICATION OF EXISTING LICENSE <input type="checkbox"/> REVALIDATION <input type="checkbox"/>
<b>1.3 URBANIZATION LICENSE MODALITY</b>		<b>1.5 CONSTRUCTION LICENSE MODALITY</b>
a. DEVELOPMENT <input type="checkbox"/> b. SANITATION <input type="checkbox"/> c. REURBANIZATION <input type="checkbox"/>		a. NEW CONSTRUCTION*Indicate in numeral 1.8 the type of sustainable construction measures to be implemented <input type="checkbox"/> b. EXPANSION <input type="checkbox"/> c. ADJUSTMENT <input type="checkbox"/> d. MODIFICATION <input type="checkbox"/> e. RESTORATION <input type="checkbox"/>
<b>1.4 SUBDIVISION LICENSE MODALITY</b>		f. STRUCTURAL REINFORCEMENT <input type="checkbox"/> g. DEMOLITION <input type="checkbox"/> • TOTAL <input type="checkbox"/> • PARTIAL <input type="checkbox"/> h. RECONSTRUCTION <input type="checkbox"/> i. ENCLOSURE <input type="checkbox"/>
a. RURAL SUBDIVISION <input type="checkbox"/> b. URBAN SUBDIVISION <input type="checkbox"/> RELOCATION <input type="checkbox"/>		
<b>1.6 USES</b>		<b>1.7 BUILT AREA</b>
<input type="checkbox"/> Housing <input type="checkbox"/> Commerce and/or Services <input type="checkbox"/> Institutional <input type="checkbox"/> Industrial <input type="checkbox"/> Other, which? _____		<input type="checkbox"/> Equal to or Greater than 2,000 m <sup>2</sup> <input type="checkbox"/> Less than 2,000 m <sup>2</sup> <input type="checkbox"/> Susceptible to reaching or exceeding 2,000 m <sup>2</sup>
<b>1.8 TYPE OF HOUSING</b>		<b>1.9 CULTURAL HERITAGE PROPERTY</b>
<input type="checkbox"/> VIP <input type="checkbox"/> VIS <input type="checkbox"/> No VIS		<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>1.10 SUSTAINABLE CONSTRUCTION REGULATIONS</b>		
<b>1.10.1 DECLARATION ON SUSTAINABLE CONSTRUCTION MEASURES</b>		<b>1.10.2 CLIMATIC ZONING</b>
<input type="checkbox"/> Passive Measures <input type="checkbox"/> Active Measures <input type="checkbox"/> Active Measures and Passive Measures		Please indicate the assigned Climatic Zone according to Annex 2 of Res. 549 of 2015 <input type="checkbox"/> Cold <input type="checkbox"/> Temperate <input type="checkbox"/> Warm dry <input type="checkbox"/> Warm humid Is your property located in a climatic zone different from the one assigned to you? <input type="checkbox"/> Yes <input type="checkbox"/> No Which? _____
<b>2. INFORMATION ABOUT THE PROPERTY</b> (Mark with an X in the corresponding box and fill in the spaces in clear print)		
<b>2.1 ADDRESS OR NOMENCLATURE</b>		<b>PREVIOUS(S)</b>
CURRENT		
<b>2.2 No. REAL ESTATE REGISTRATION</b>		<b>2.3 No. CATASTRAL IDENTIFICATION</b>
<b>2.4 CLASSIFICATION OF THE LAND</b>	<b>2.5 PLAT MAP OF THE LOT</b>	<b>NEIGHBORHOOD OR URBANIZATION</b>
a. URBAN <input type="checkbox"/> b. RURAL <input type="checkbox"/> c. EXPANSION <input type="checkbox"/>	a. Lot Plan <input type="checkbox"/> b. Topographic Plan <input type="checkbox"/> c. Other Which? _____ <input type="checkbox"/>	<b>MUNICIPALITY</b>
		<b>STRATUM</b>
		<b>BLOCK No.</b>
		<b>VILLAGE</b>
		<b>SECTOR</b>
		<b>WARD</b>
		<b>LOT No.</b>

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Project Name

Consultant	
Address	
Address	
Phone	
Fax	
e-mail	
Consultant	
Address	
Address	
Phone	
Fax	
e-mail	

Consultant	
Address	
Address	
Phone	
Fax	
e-mail	
Consultant	
Address	
Address	
Phone	
Fax	
e-mail	

No.	Description	Date
-----	-------------	------

Owner

Project Name

## Boundary

Project number	0001
----------------	------

0001

Date	Issue Date
------	------------

Issue Date

Drawn by	Author
----------	--------

Author

Checked by	Checker
------------	---------

Checker

A105

Scale 1-150

**1 Site**  
1 : 200

**2 Urban Section 1**  
1 : 200

**3 Urban Section 2**  
1 : 200

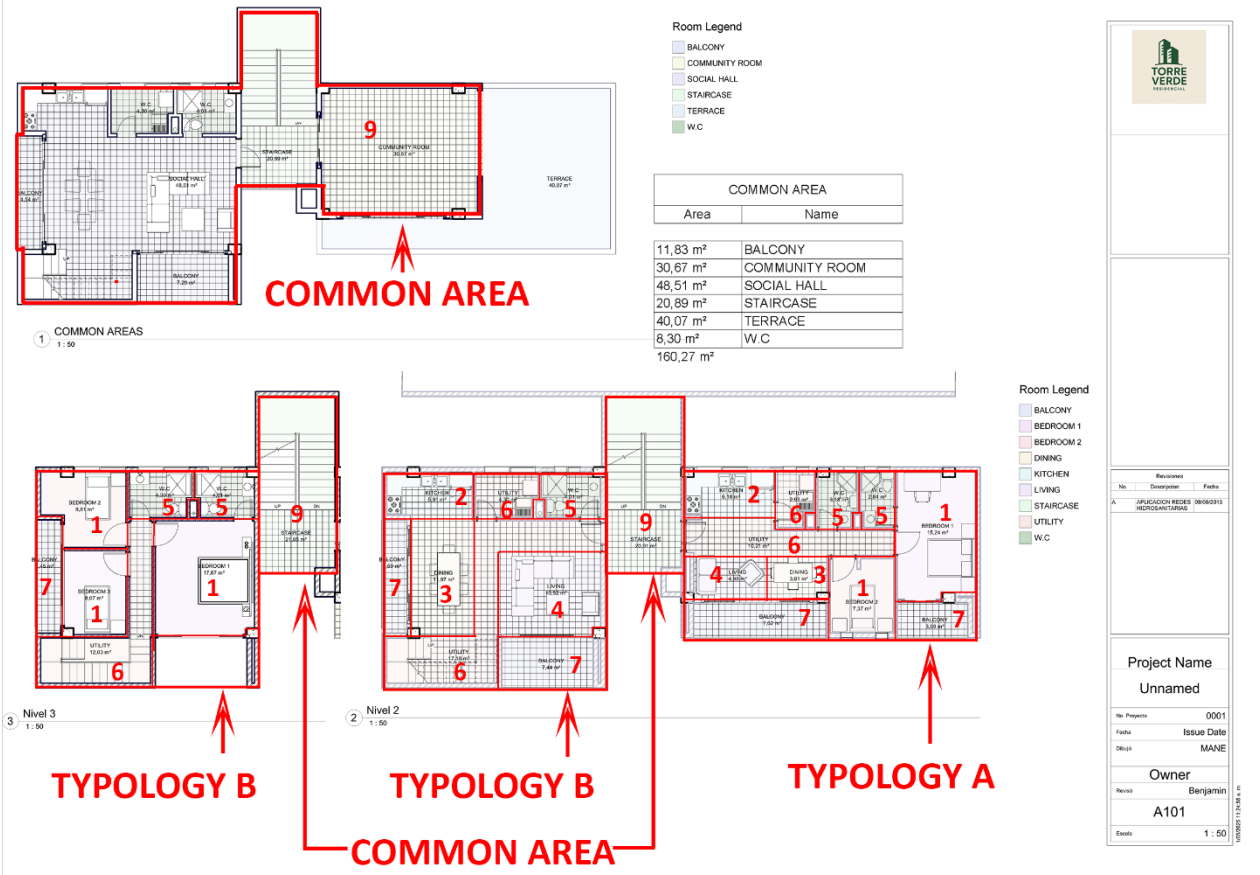
**Legend:**

- Residential
- Common Areas
- Commercial
- Parking

**Owner**  
**Project Name**  
**SITE**

Project number 0001  
Date Issue Date  
Drawn by Author  
Checked by Checker  
A102  
Scale As indicated

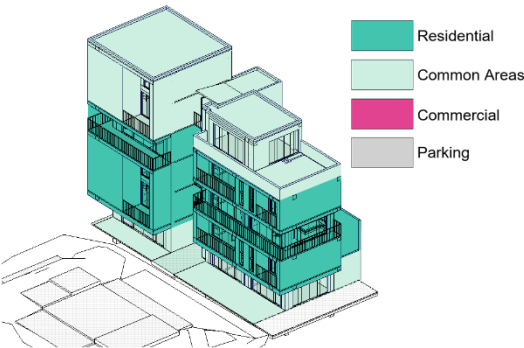
Building Data



**Area of units in homes & apartments:** When multiple typologies are selected, the area per unit must include: the Balcony, Enclosed Garage, Indoor Car Parking, Corridor, Staircase, Lift and Lobby

Multiple Typologies

Multiple Typologies				1	2	3	4	5	6	7	8	9		
Serial No.*	Homes/Apartment Name*	No. of Bedroom* (No.)	Area/Unit* (m²/Unit)	Number of Similar Units* (No.)	Occupancy* (People/Unit)	Bedroom (m²/Unit)	Kitchen (m²/Unit)	Dining (m²/Unit)	Living (m²/Unit)	Toilet (m²/Unit)	Utility (m²/Unit)	Balcony (m²/Unit)	Indoor Car Parking (m²/Unit)	Corridor, Staircase, Lift Lobby (m²/Unit)
Type 1	Standard 3-Bedrox	1	60	20	3	15.00	6.00	6.00	9.00	3.00	1.20	0.60	18.00	1.20
1	Typology A	2	95.05	4	3	22.61	6.18	3.81	4.98	6.02	13.14	11.6	0	26.7
2	Typology B	3	128.26	2	4	34.55	5.91	11.97	13.52	12.32	33.51	16.48	0	26.7

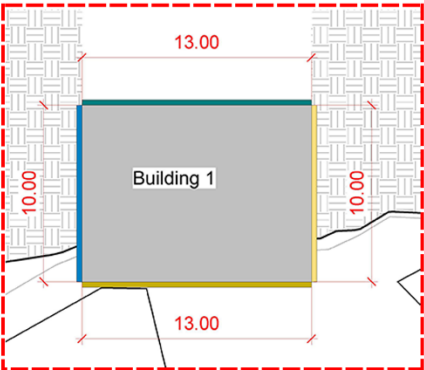




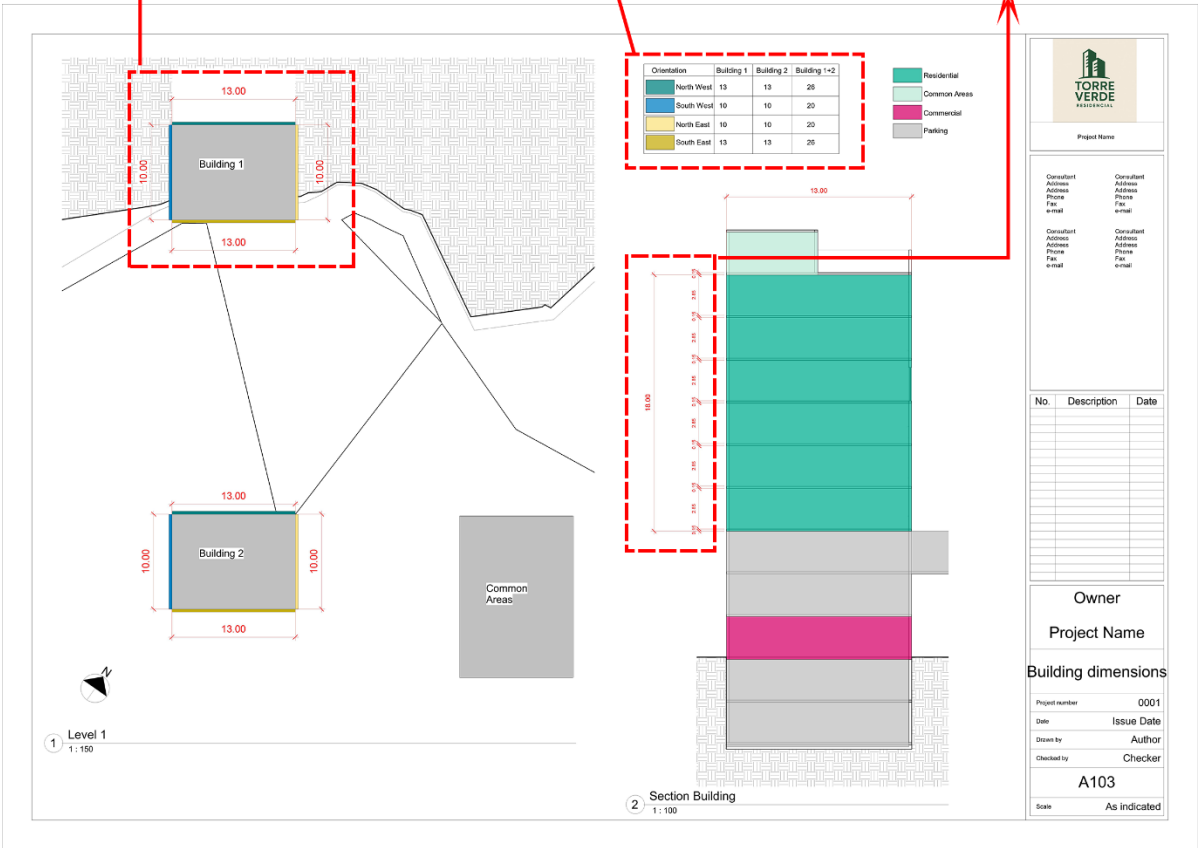
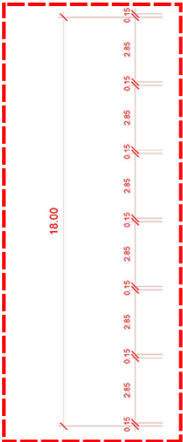
Building Dimensions

Building dimensions  
By Orientations

Orientation	Building 1	Building 2	Building 1+2
North West	13	13	26
South West	10	10	20
North East	10	10	20
South East	13	13	26



Floor to floor  
height



## Climate Data

A non-exhaustive list of acceptable data sources is presented in Table 7.

Table 7: A non-exhaustive list of climate data sources.

Input	Acceptable Data Sources
Elevation (m)	Google Earth, OpenStreetMap
Latitude	Google Earth, OpenStreetMap
Rainfall (mm/year)	Weather-and-climate.com
ASHRAE Climate Zone	ANSI/ASHRAE Addendum to ANSI/ASHRAE Standard 169-2020 - Climatic Data for Building Design Standards
Temperature (Degrees C)	<u>CBE Clima Tool</u>
Relative Humidity (%)	<u>Free weather data visualization tool</u>
Wind Speed (m/sec)	

If CBE Clima tool is used to fill out the monthly temperature values, consider using 1% for the minimum temperature and 99% for the maximum temperature, as highlighted in Figure 6.

### Descriptive statistics

month	mean (°C)	std (°C)	min (°C)	1% (°C)	25% (°C)	50% (°C)	75% (°C)	99% (°C)	max (°C)
Jan	17.94	4.13	10.8	11.94	14.6	16.7	20.8	28	29
Feb	18.08	4.01	10.9	11.67	14.8	17.15	21	29	30
Mar	17.98	4.16	11.3	12.4	14.6	16.9	20.5	29	30
Apr	18.32	3.97	11.6	12.72	15	17.4	21	28.16	30.2
May	18.28	4.07	11.9	12.79	14.7	17.8	21	29	30
Jun	18.23	4.35	11.5	12.04	14.4	17	21	28	29
Jul	18.21	4.8	10.6	12	14.1	17	21.92	29	30
Aug	18.42	4.88	12.1	12.4	14.2	17.15	21.3	29	31
Sep	18.38	4.57	11.2	11.84	14.3	17.7	22	29	31
Oct	18.03	3.37	12.4	13.2	15.28	17.2	20.4	25.91	28.4
Nov	18.03	3.94	11.9	12.32	14.9	16.9	20.82	27.4	28.4
Dec	17.77	4	11.1	12.4	14.6	16.6	20.4	28.23	30
Year	18.14	4.21	10.6	12.2	14.7	17	21	28.74	31

Figure 6: CBE Clima Tool outdoor monthly temperatures example.

Solar Reflectance Index for Roof and walls

Table 8: Sources of Solar Reflectance Index (SRI) Data

Element	Acceptable Data Sources
Roofs	<u>CRRC Roof Directory</u>
Walls	<u>CRRC Wall Directory</u>

# Design Inputs

In Figure 7, the hatched area indicates "Inventory Control," which is assumed as regularly occupied and thus must be classified as air conditioning **required** (regardless of whether A/C is being provided). The non-hatched area represents "Receiving and Shipping," which is considered unoccupied, and air conditioning **is not required**

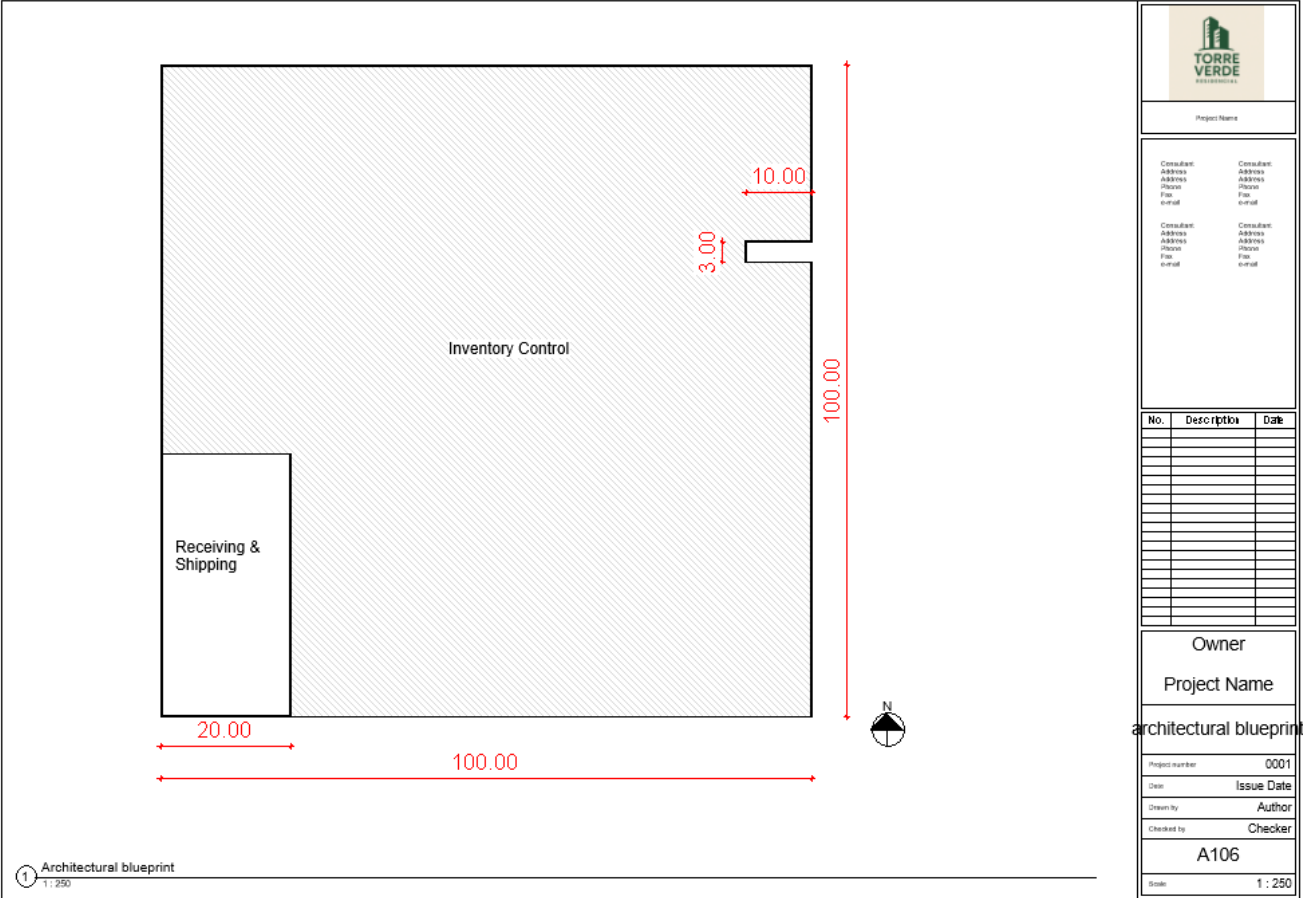


Figure 7: Example architectural blueprint.

Table 9 presents the correct and incorrect statements frequently made during tasks in the design tab.

Table 9: Correct and incorrect statements in the design tab.

Design aspect	Correct statement	Incorrect statement
Activity areas	Both Hatched and non-hatched areas must be included as they are part of the GIA.	Only hatched areas included, as the storage can be considered external space
WWR	For walls, the building envelope is considered, i.e. this means the walls surrounding the hatched space and for the windows, account for the window areas in the building envelope that have a direct view of the exterior without any obstruction, except for double skin facades.	Consider the WWR of the external wall that make up the GIA, regardless of conditioning requirements.

<b>Aggregate Roof Area</b>	<p>The <i>project team</i> must enter the roof over the hatched and non-hatched area to conservatively represent the heat transfer between indoor and outdoor environments, and to properly account for embodied carbon of the roof.</p> <p>Overhangs may be excluded from the <i>Aggregate Roof Area</i> calculations.</p>	Only account for only the roof over the hatched area, as it is thermally conditioned.
<b>Building lengths</b>	<p>The <i>project team</i> must enter 100 m and be 100% exposed to outside air in the southern orientation. The % of exposed to outside air is used to account for neighboring structures outside the GIA. In this case, the storage area is part of the GIA and does not count as a reduction in the % exposed to outside air.</p> <p>The <i>project team</i> may enter 100 m in the length of eastern orientation. This is allowed because the EEM01 calculator overwrites the wall areas assumptions for the base and improved case. The building lengths are then only used for estimating the perimeter of the foundation.</p>	<p>The <i>project team</i> can only enter 110m, 80% exposed to outside air in Southern orientation.</p> <p>The <i>project team</i> can only enter 103 m in the length of eastern orientation.</p>
<b>Thermal conditioning requirements</b>	<p>To meet the definition of <i>building</i>, thermal conditioning must be required in at least one of the activity areas. Hence, the “Inventory Control” area must be set as “No conditioning provided”.</p> <p>Note: Subprojects without any heating or cooling energy demand are not eligible for certification.</p>	The “Inventory Control” area is almost never occupied, as such, it is ok to set both areas as “No conditioning required”.

## Audit Sampling

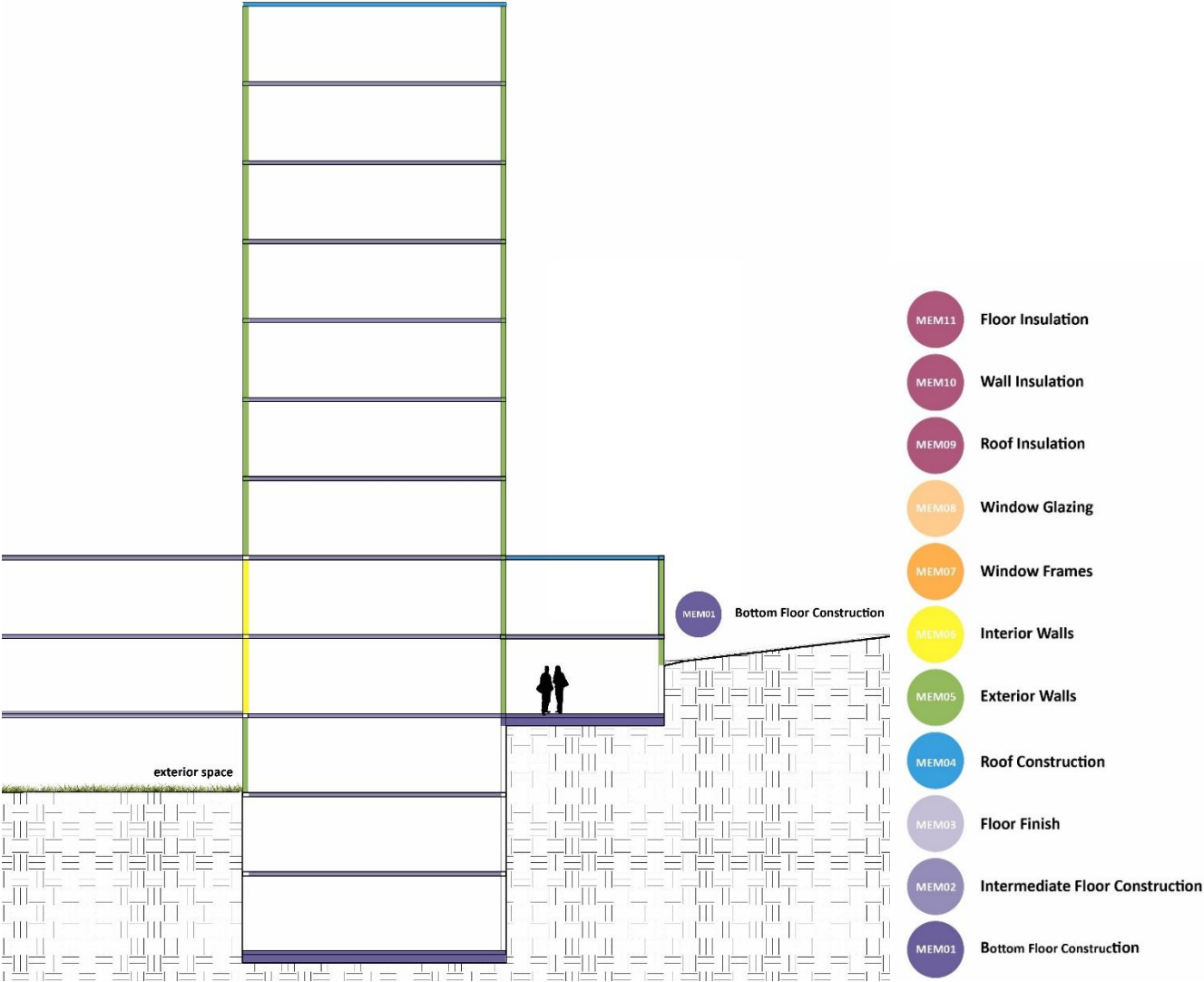
Table 10: Sampling examples

Sampling		
Typology	Sampling size	Example
<b>Homes and Apartments</b>	(square root of the number of units) +1, for each unit typology	An apartment subproject with 3 different unit typologies built during the same phase. There are 160 units per typology distributed in 5 towers. The sampling size is $(\sqrt{160} + 1) = 14$ per typology, i.e. $14 \times 3 = 42$ in total, distributed across all towers and all levels of the individual tower
<b>Hotels, Resorts, Serviced Apartments</b>	(square root of the number of rooms) +1, for each type	A hotel subproject with multiple room types. There are 8 room types in 80 rooms (10 rooms per type). The total sampling size is $(\sqrt{10} + 1) \times 4 = 32$ , distributed across all levels and room types
<b>Healthcare</b>	(square root of the number of rooms) +1, for each type	A public hospital subproject with 8 room types in 80 rooms (10 rooms per type). The total sampling size is $(\sqrt{10} + 1) \times 4 = 32$ , distributed across all levels and room types
<b>Retail, Industry, Office, Education</b>	40% of similar areas for a project	A building has a 1.000m <sup>2</sup> of close offices, 200m <sup>2</sup> corridor, 80m <sup>2</sup> bathrooms and <b>one</b> 50m <sup>2</sup> lobby. The sampling must include the corridor and office spaces that make up for at-least 40% of the area, distributed across all levels. Additionally, the entire lobby is required.
<b>Mixed Use</b>	Each use type to follow the respective rules from above	A combination of the rules listed above
<b>Multiple buildings</b>	(square root of the number of buildings) +1	Only applicable when <b>part 1 Grouping Multiple Buildings into One Subproject</b> is followed and project multiplier equals to one. Then apply rules above.

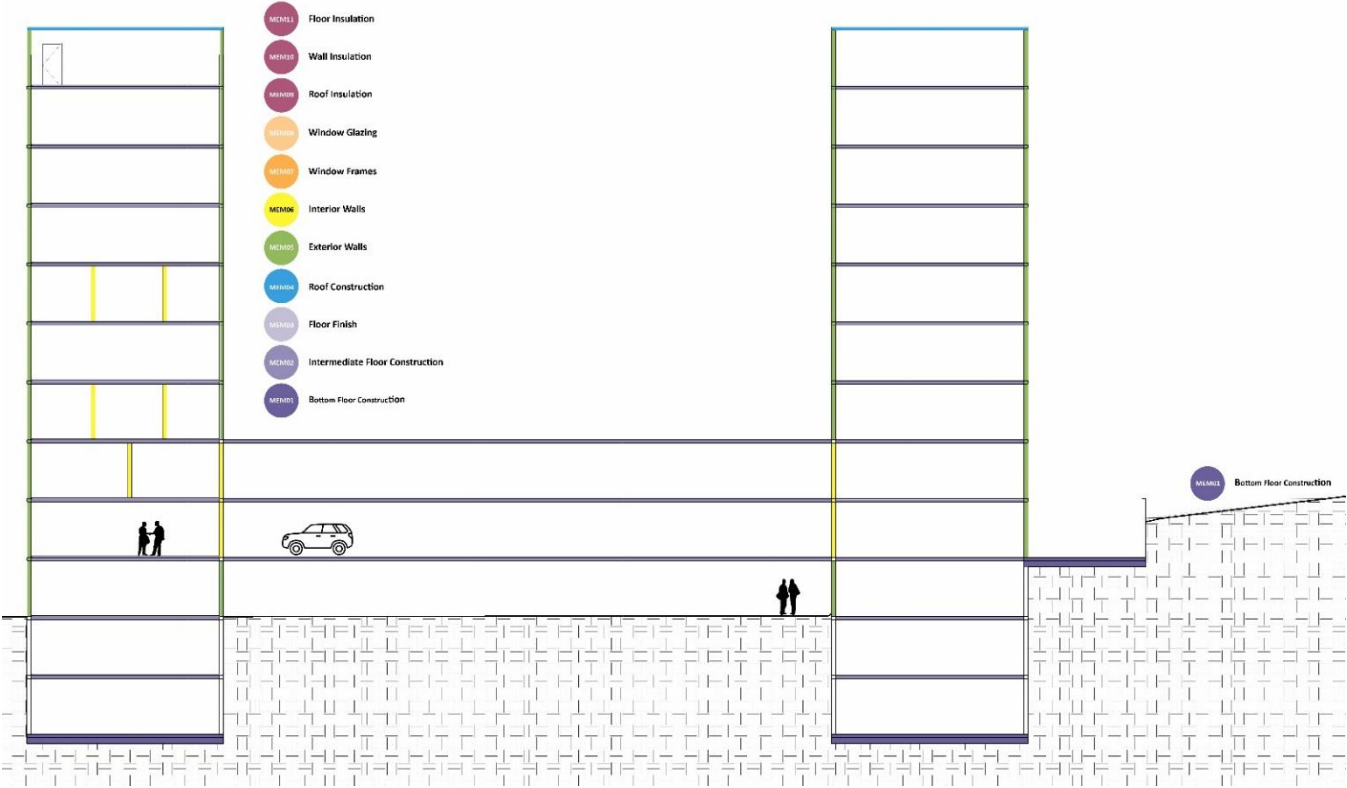
# Annex 2: Building elements classification

The following diagrams illustrate how building elements are classified in the EDGE App.

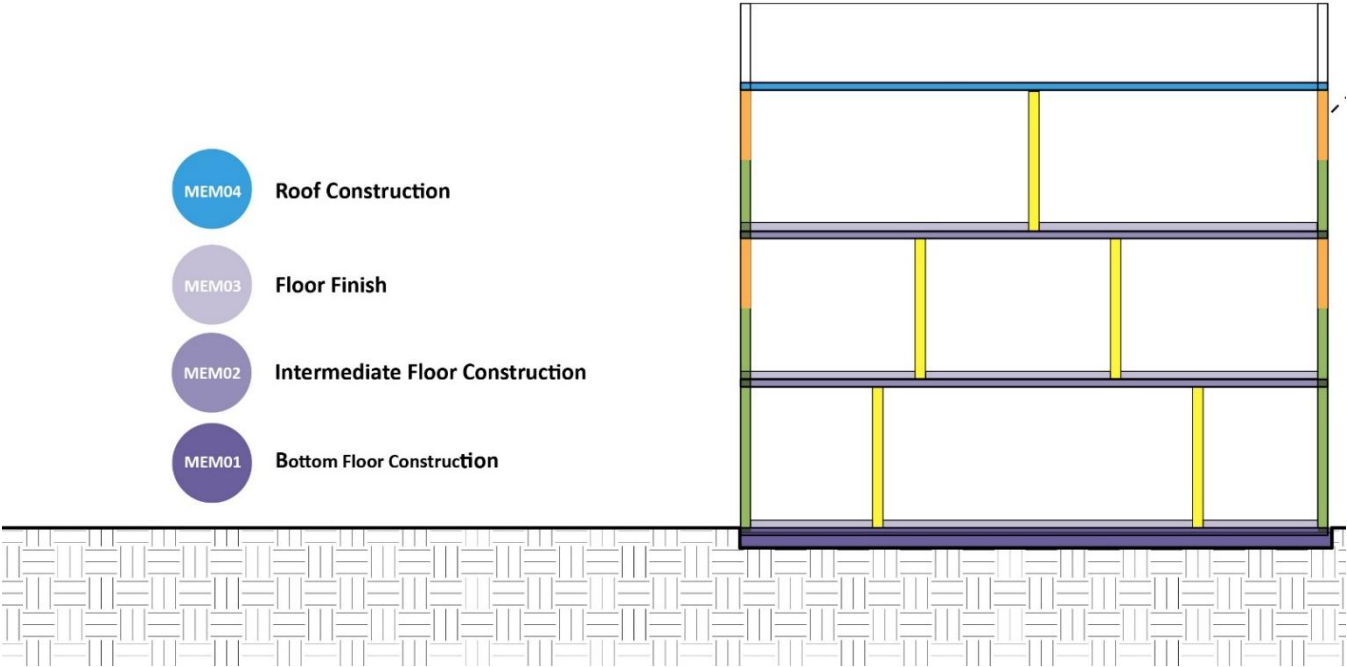
## MEM01 Bottom Floor Construction



MEM02 Intermediate Floor Construction

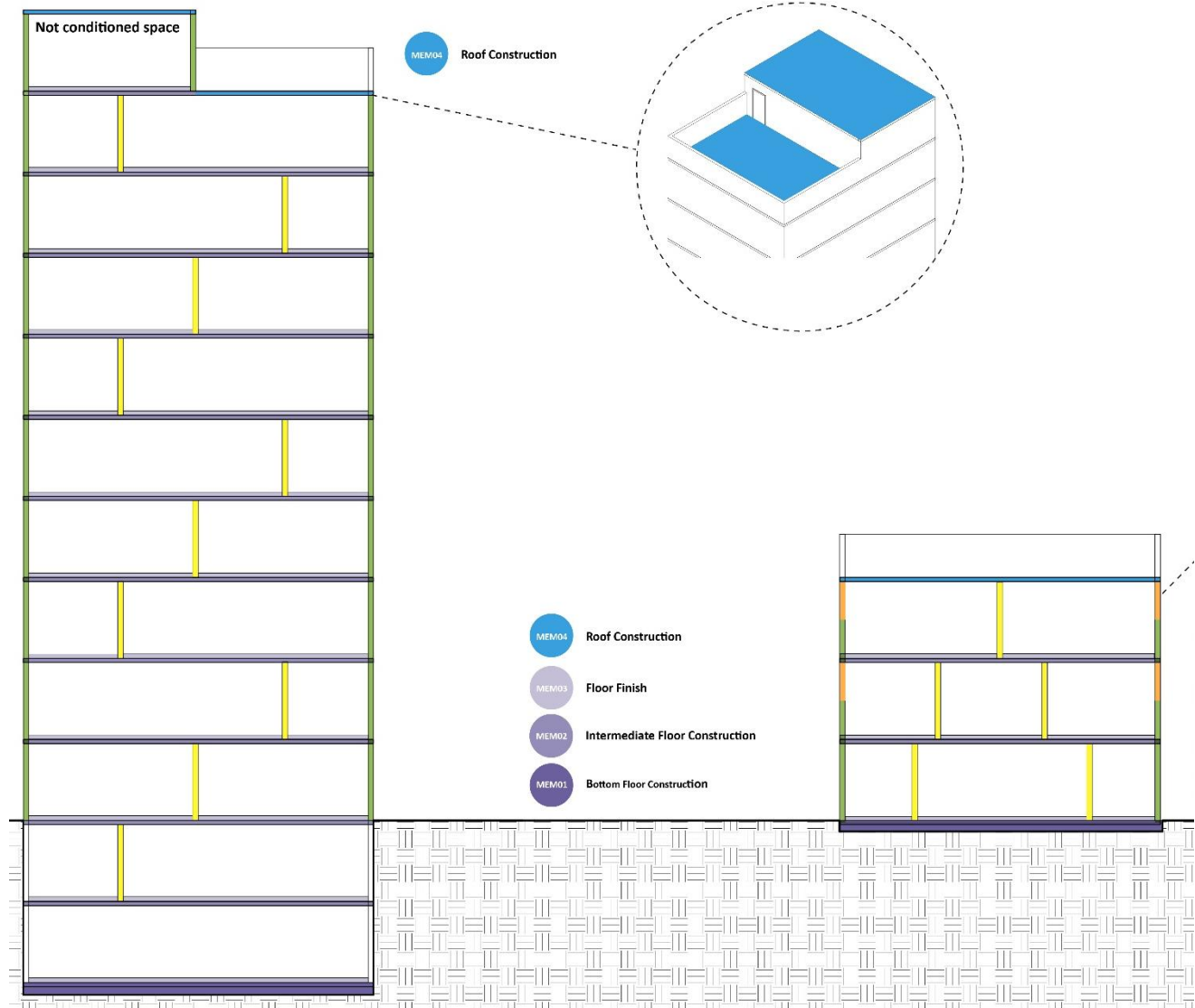


MEM03 Floor Finish

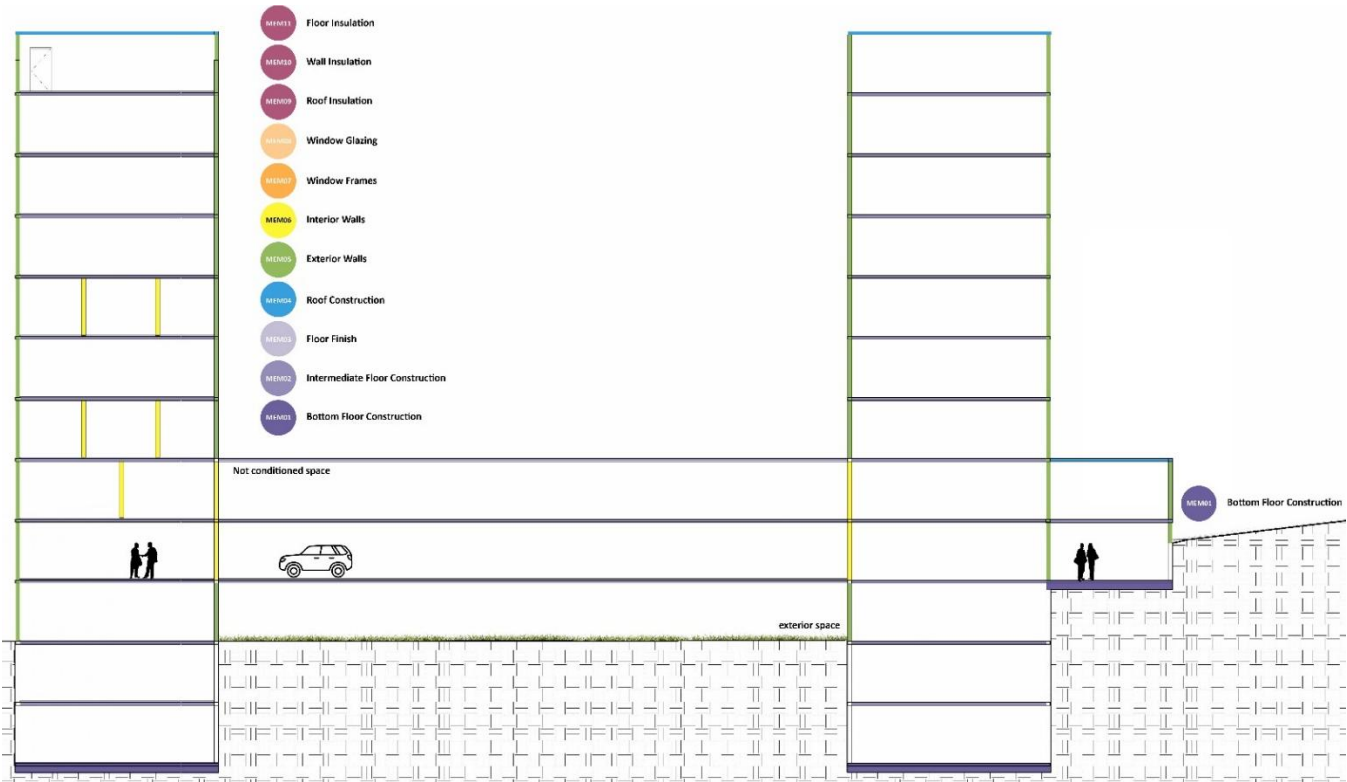




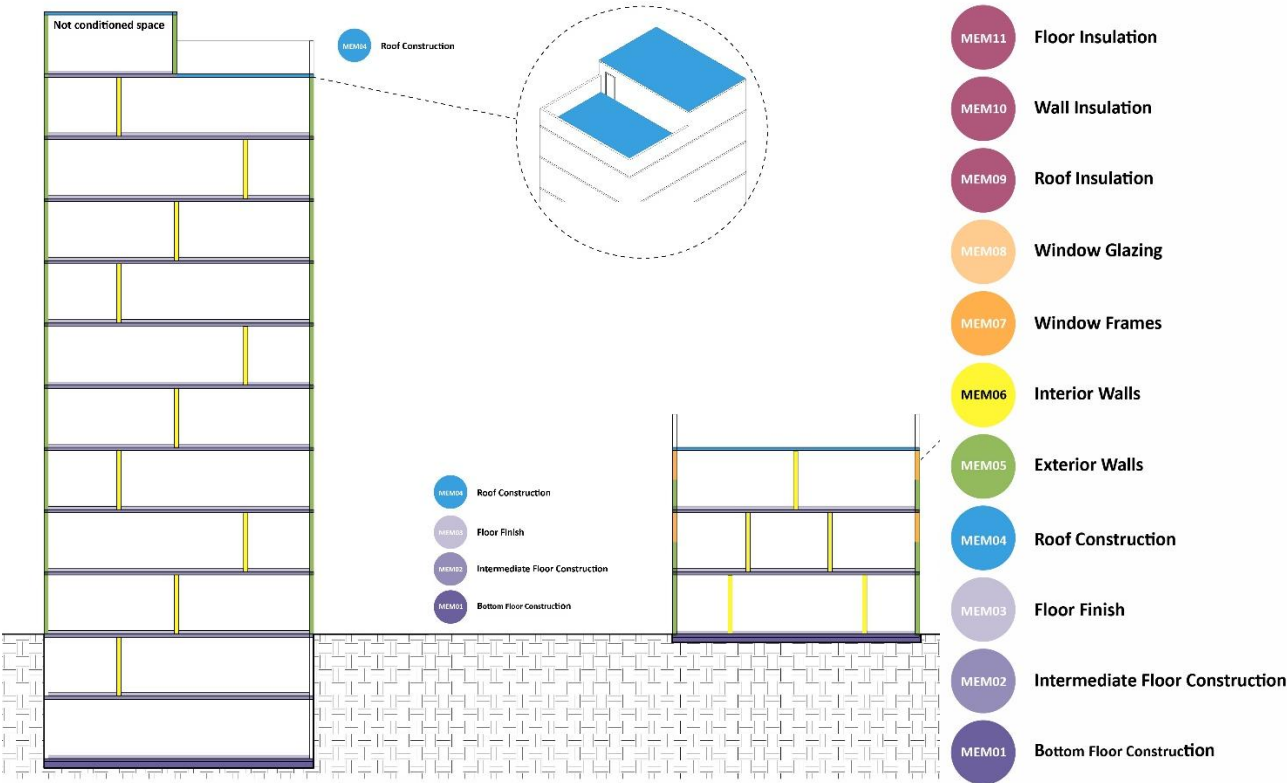
MEM04 Roof Construction



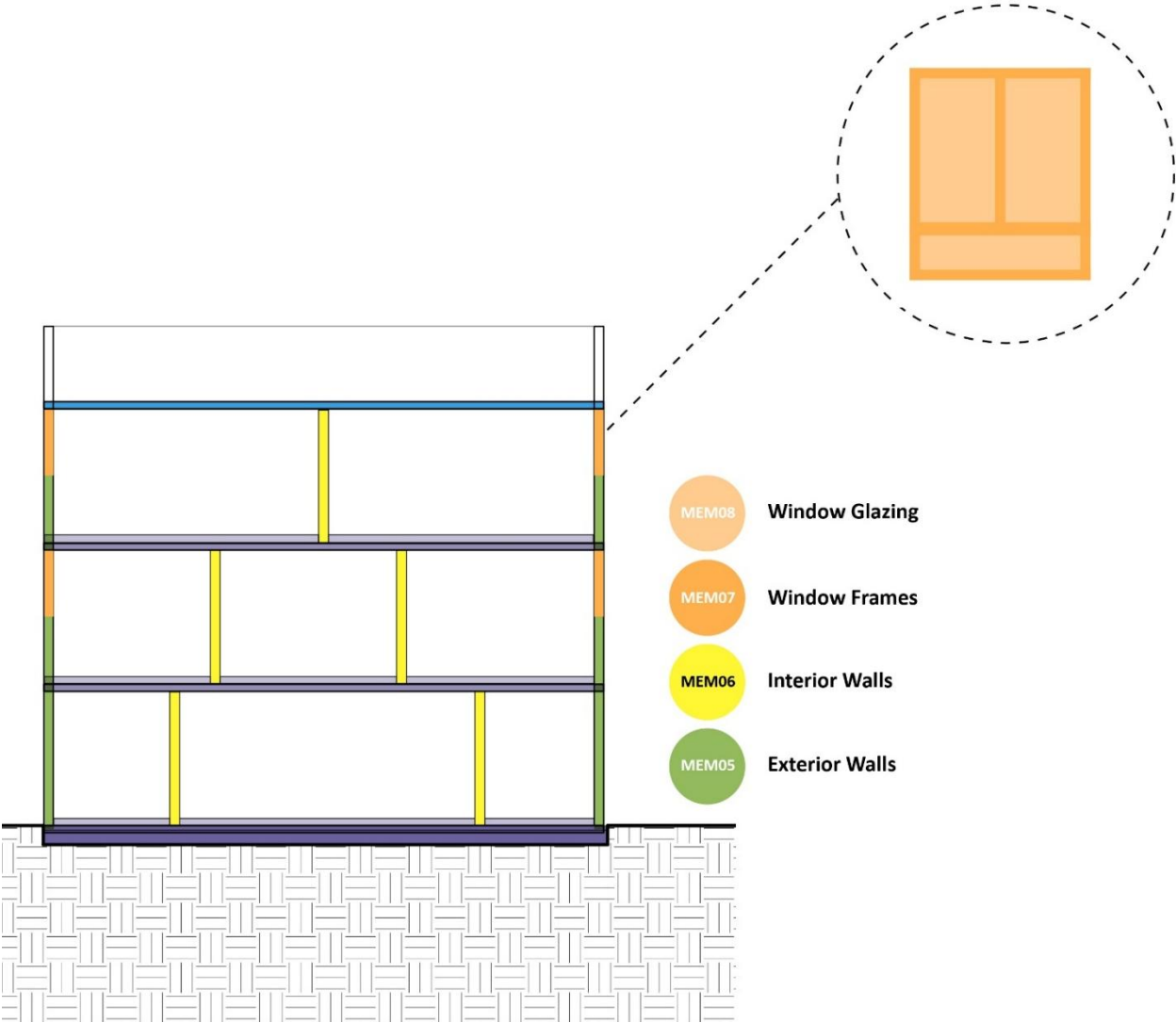
MEM05 Exterior Walls



MEM06 Interior Walls



MEM07 Window Frames and MEM08 Window Glazing



## Changes log

Date	Version	Changes
<b>May - 06 - 2025</b>	0.1	Daft for Stakeholder Comment
<b>June - 30 - 2025</b>	1.0	Official Publication