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## 2.2.0 Preface

The **RESET Air Standard** is a continuous monitoring and reporting standard for indoor air quality. The standard defines performance targets and requirements around monitoring performance, installation, and deployment to collect the highest quality data for indoor air quality.

The intent of the **RESET Air Standard** is to:

- Standardize how indoor air quality is measured
   and communicated to provide the highest data quality, including for reporting purposes.
- Promote performance-based systems
   that leverage continuous monitoring, where solutions are active and automated rather than static to achieve optimal air quality in indoor built environments.
- Expedite the communication of requirements for the implementation of healthier indoor environments with a quantitative approach instead of a qualitative approach.
- Establish the roles and relationships between tenants and landlords
   by setting the responsibilities for each party in maintaining healthy indoor air quality.
- Raise public awareness of indoor air quality
   and its impacts on environmental and occupant health, foster education, and promote social equity.

## 2.2.1 Introduction

The **RESET Air Standard for Interiors** is a performance-based standard targeting air quality performance in interior spaces. It monitors, tracks, and communicates the quality of air breathed by the occupants in the built environment.

The standard is used for projects pursuing **RESET** Air **Project Certification** and can be used as a best practice guideline for setting up continuous indoor air quality monitoring.

The RESET Air Standard for Interiors defines the following:

- Performance Targets & Data Analysis
  - Performance targets for multiple IAQ metrics, including PM<sub>2.5</sub>, CO<sub>2</sub>, TVOC, Temperature, and Relative Humidity, along with the logic for how the data should be analyzed when comparing against the performance targets.
- System Requirements for Data Collection
  - The standard requires real-time continuous monitoring, so system requirements describe the necessary software and hardware requirements for data collection.
- Monitor Installation and Deployment
   Requirements regarding how monitors should be installed and where they should be deployed to collect the best data with the best data quality for measuring the air quality breathed by occupants.

# 2.2.1.1 Purpose and Approach

The purpose of the RESET Air Standard for Interiors is to establish guidelines and rules for RESET Air Projects. RESET Air Projects:

- Focuses on data and performance instead of solutions, establishing guidelines around collecting high-quality data while leveraging continuous monitoring of air quality.
- Demonstrate and prove that the interior space has good indoor air quality by showing the performance data via continuous monitoring with IAQ sensors and monitors.
- Are certified and data is continuously audited by a third party in **RESET**.
- Are ready for reporting purposes and automation services.

### The approach of the RESET Air Standard for Interiors is:

- Quantitative
   Certification is performance-based, represented by the data collected via continuous monitoring.
- Non-prescriptive and solutions agnostic
   The standard focuses on high-quality continuous monitoring data collection instead of prescribing mandatory solutions. Instead of being a Design Standard, RESET is a Data Standard.
- Applicable to all Built Environments
   Can be applied to any built environment, including new or existing buildings.

# 2.2.1.2 Typologies and Usage

The RESET Air Standard consists of standards for two typologies:

- RESET Air Standard for Interiors
   Interiors targets and measures the air quality performance of air breathed by the occupants in an interior space. Requires monitors to be installed in the breathing zone.
- RESET Air Standard for Core & Shell
   Core & Shell targets and measures the quality performance of the air being delivered to tenants and public spaces by the building's central mechanical air and HVAC systems. Requires monitors to be installed in the air ducts.

The built environment requires constant maintenance and upkeep. This requires collaboration between what are often disparate parties: the tenant and the landlord. The **RESET Air Standard** helps facilitate communication between the tenant and landlord by identifying their respective areas of responsibility.

**RESET Air Standard for Interiors** decouples tenant data from that of the mechanical system data via **RESET Air Standard for Core & Shell**, allowing for more effective troubleshooting, remediation, and communication efforts.

This document is for the **RESET Air Standard for Interiors**. For **RESET Air Standard for Core & Shell**, please refer to Section 2.4.

# 2.2.2 Performance Targets and Data Analysis

The **RESET Air Standard for Interiors** establishes the requirements for Indoor Air Quality Performance Targets and how it is measured when running the data analysis.

**RESET Air Standard for Interiors** requires the monitoring of the following air quality parameters:

- PM<sub>2.5</sub> (Particulate Matter)
- **-** CO<sub>2</sub>
- TVOC
- Temperature
- Relative Humidity

Additional IAQ parameters can also be optionally reported and logged for the Data Audit.

# 2.2.2.1 Indoor Air Quality Performance Targets

The **RESET Air Standard for Interiors** establishes recommended indoor air quality performance targets for air being breathed by occupants that are tracked through continuous monitoring. Performance targets are established as limits that are used to compare against the daily average of a project over operating hours. For more details on how the data is calculated, please refer to Section 2.2.2.3.

Performance targets are based on industry best practices and international standards. High-performance targets are listed as a reference for projects striving for more rigorous IAQ goals and/or for projects located in regions where ambient outdoor air quality levels typically stay within recommended health limits.

PM2.5 Particulate Matter	CO <sub>2</sub> Carbon Dioxide	TVOC  Total Volatile Organic Compounds	Temperature	Relative Humidity
Acceptable < 35 μg/m <sup>3</sup>	Acceptable < 1000 ppm	Acceptable < 500 μg/m³	Monitored	Monitored
High Performance < 12 µg/m <sup>3</sup>	High Performance < 600 ppm	High Performance < 400 µg/m³	Although there are no requirements for temperature and humidity, both must be monitored given their impact on sensor readings for PM <sub>2.5</sub> and TVOC.	

Projects can also apply to directly apply performance targets from other air quality standards (i.e. WHO's AQG Levels or Interim Targets) for increased rigor via Alternative Pathways (2.2.7.2).

# 2.2.2.2 Optional Air Quality Parameters

Alongside the main parameters, additional optional parameters can be added to a project for auditing and verification. Performance targets can be assigned for each parameter.

## Optional Parameters include:

- PM<sub>0.5</sub>, PM<sub>1</sub>, PM<sub>5</sub>, PM<sub>10</sub>
- Ozone
- Formaldehyde
- $-SO_X$
- NO<sub>x</sub> (recommended for the lowest floor in places with a lot of cars)
- CO (recommended in all combustible spaces)
- Radon
- Atmospheric Pressure

Air quality parameters not in the above list can be added upon request.

In addition, there is the option for projects to assign targets for Temperature and Relative Humidity as well. If a Performance Target is set for Temperature and Relative Humidity, a project can receive a certificate for **RESET Air Comfort Certified**.

# 2.2.2.3 Data Interval and Data Analysis Algorithm

To calculate the performance of a project to compare against performance targets, the **RESET Air Standard** uses a multi-tier algorithm to parse the data, summarized as follows:

- 1. The continuous monitoring data collected is expected to have an initial data interval of 5 minutes per data reading, which is then compiled into 30-minute averages for use in project calculations.
- 2. The data analysis algorithm then compiles the 30-minute averages into daily averages, calculated from hours of occupancy, which are assigned per project, and compares them against the performance targets established for the project.

For detailed information about the algorithm, refer to **RESET Air Data Analysis Methodology** (Section 2.9) for more information.

For the purposes of **RESET Air Project Certification**, data must be submitted to **RESET Cloud**, RESET's data analysis platform, via a **RESET Accredited Data Provider**.

To qualify for Certified status for **RESET Air for Interiors**, results from the data analysis must not exceed acceptable limits for a period of 3 consecutive months.

# 2.2.3 System Requirements for Data Collection

The **RESET Air Standard for Interiors** is performancebased with continuous monitoring requirements, therefore, there are minimum system requirements for data collection.

**RESET Air Projects** requires data to be collected by physical IAQ monitors on site, which is then aggregated by the data provider, a software platform.

For certification, summary data must be automatically compiled and sent daily to the **RESET Cloud** for auditing and verification.

The following pages describe the Data Provider requirements and the Monitor requirements for data collection requirements that are necessary for good data quality.

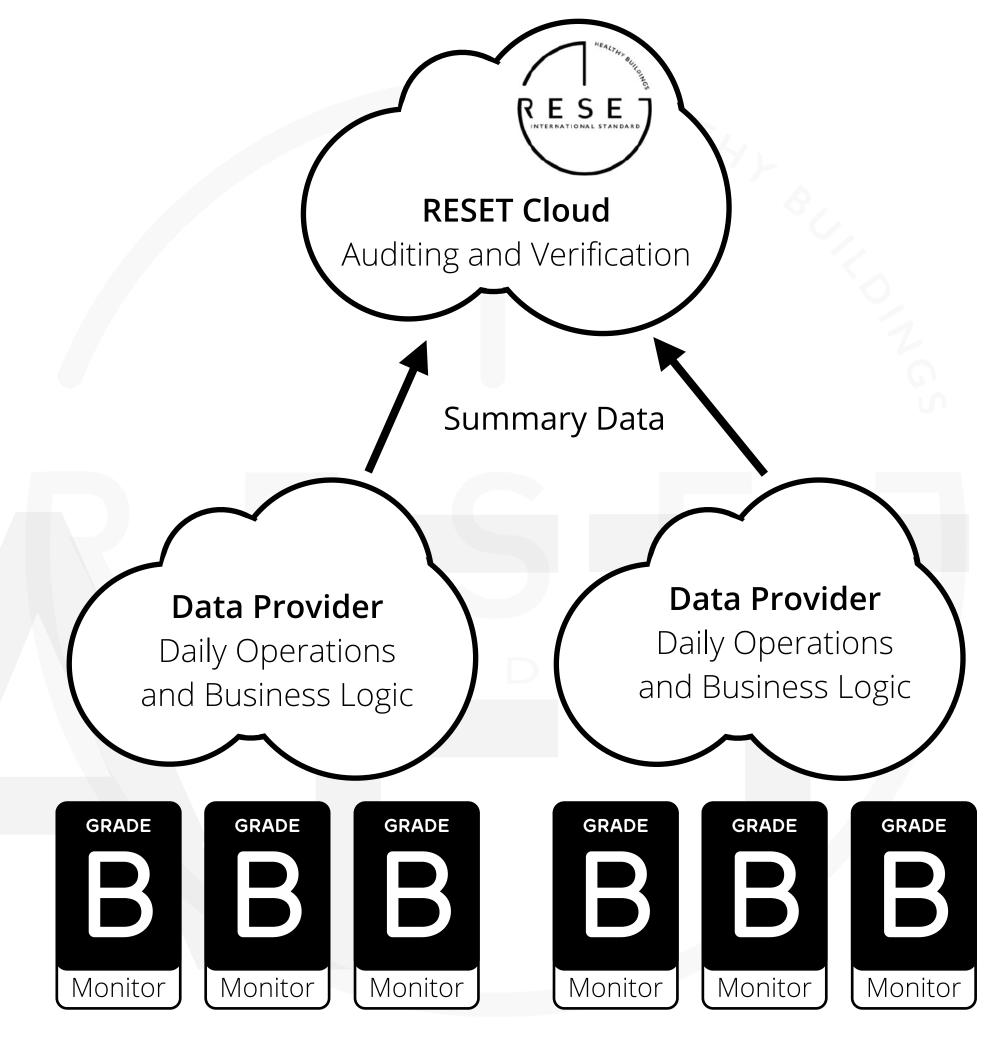


Diagram showing how data is organized for RESET Air Projects.

## 2.2.3.1 Data Provider Requirements

Data Providers are software platforms responsible for collecting and aggregating IAQ data for **RESET Air Projects**. **RESET Accredited Data Providers** fulfill data reporting and data display requirements:

### **Data Reporting**

Projects must use a **RESET Accredited Data Provider** (Section 2.8). Data providers are in charge of collecting continuous monitoring data and transferring it to the **RESET Cloud** for assessment purposes. **RESET Accredited Data Providers** are audited and confirmed able to submit data for the Data Audit.

## **Data Display**

**RESET Air Projects** must provide project occupants with data access to indoor air quality. Project occupants include tenants, employees (full and part-time, as well as maintenance and cleaning staff), guests, and visitors, who at any time occupy the project for more than one hour per day.

Acceptable methods of data access include visual display screens in public, community, or shared work areas, phone apps, web apps, and graphic signage with a web address or QR code that directly connects users to the app or website where the data can be viewed.

To view current available **RESET Accredited Data Providers**, please go to: https://reset.build/directory/dataproviders. For details on **RESET Air Accredited Data Provider**, refer to the **RESET Air Accredited Data Provider Standard** (Section 2.8).

## 2.2.3.2 Monitor Requirements

Projects pursuing **RESET** Air for Interiors require continuous monitoring of regularly occupied spaces. This is achieved by continuously monitoring indoor air quality monitors that are installed in the project space.

The accuracy of air quality monitors is of critical importance to determine how IAQ is impacting occupant health in the built environment. It is also of critical importance to appropriately guide HVAC operations and maintenance.

Market-available monitors range widely in quality, accuracy, and reliability, therefore, RESET Air sets standards for the performance, maintenance, and calibration of IAQ monitors with the RESET Air Accredited Monitor Standard.

For project certification, RESET Air Accredited Monitors are required by default.

To view current available **RESET Air Accredited Monitors**, please go to: https://reset.build/directory/monitors/air. For details on **RESET Air Accredited Monitors**, please refer to the **RESET Air Accredited Monitor Standard** (Section 2.6) for full requirements.

# 2.2.4 Monitor Installation and Deployment

The installation and deployment of indoor air quality monitors can vastly change the results of the data.

Monitor Installation Requirements establishes the rules and requirements around individual monitor installation. This includes height, air flow considerations, and installation methodologies to collect the most relevant data for the space.

Monitor Deployment Requirements establishes the rules and requirements around where and how many monitors are to be deployed in a project space. Monitor Deployment has two main concepts:

- Regularly Occupied Space Types

  Spaces that are regularly occupied. Different space types have different designs for HVAC and material choice, so the deployment of monitors into multiple space types will guarantee a more well-rounded coverage and a more holistic understanding of IAQ in the project space.
- Occupant Coverage
   To measure IAQ for human health, monitors need to be installed in areas where there are occupants. RESET
   Air Standard for Interiors requires that 80% of occupants be covered by IAQ monitoring.

## 2.2.4.1 Monitor Installation Requirements

The installation of indoor air quality monitors can vastly change the results of the data. The following monitor installation requirements are required for projects certifying for **RESET Air for Interiors**:

### Required

- a. Permanently mounted within the breathing zone: the center of the monitor should be between 0.9 1.8 meters (3 6 feet) from the finished floor\*.
- b. Located at least 5 meters (16 feet) away from operable windows. In areas where this is not possible, monitors must be located no closer to windows than half the width of the space, measured linearly from the windows inwards.
- c. Located at least 5 meters (16 feet) away from air filters and fresh-air diffusers. In areas where this is not possible, monitors must be closer to air returns than air diffusers.

#### Recommended

- d. Wall-mounted and centrally located within monitored spaces
- e. Hard-wired to a permanent power source

<sup>\*</sup> Aligns with ASHRAE 62.1

# 2.2.4.2 Monitoring Station Deployment Requirements

The **RESET Air Standard** establishes deployment requirements to make sure a project space can acquire holistic data across all relevant spaces in a project. Each deployment will be called a Monitoring Station.

The following section provides a step-by-step process to determine monitor deployment for a **RESET Air for Interiors** Project.

The steps are as follows:

- 1. Project Boundary
- 2. Regularly Occupied Space Types
- 3. Occupant Coverage Calculation
- 4. Deployment for Regularly Occupied Space Types
- 5. Deployment for Occupant Coverage

# 2.2.4.2 Monitoring Station Deployment Requirements1. Project Boundary (1/2)

Defining the project boundary is the first step to monitoring station deployment. The project boundary establishes the size and boundaries of the project.

## **Drawing the Project Boundary**

For Interiors, the project should be defined by a clear boundary such that the project is physically distinct from other interior spaces within the building. Included in the boundary are spaces associated with the project that support its typical operations.

A project boundary, once defined, must remain consistent for all subsequent calculations. The project boundary will include all spaces and systems within the boundary.

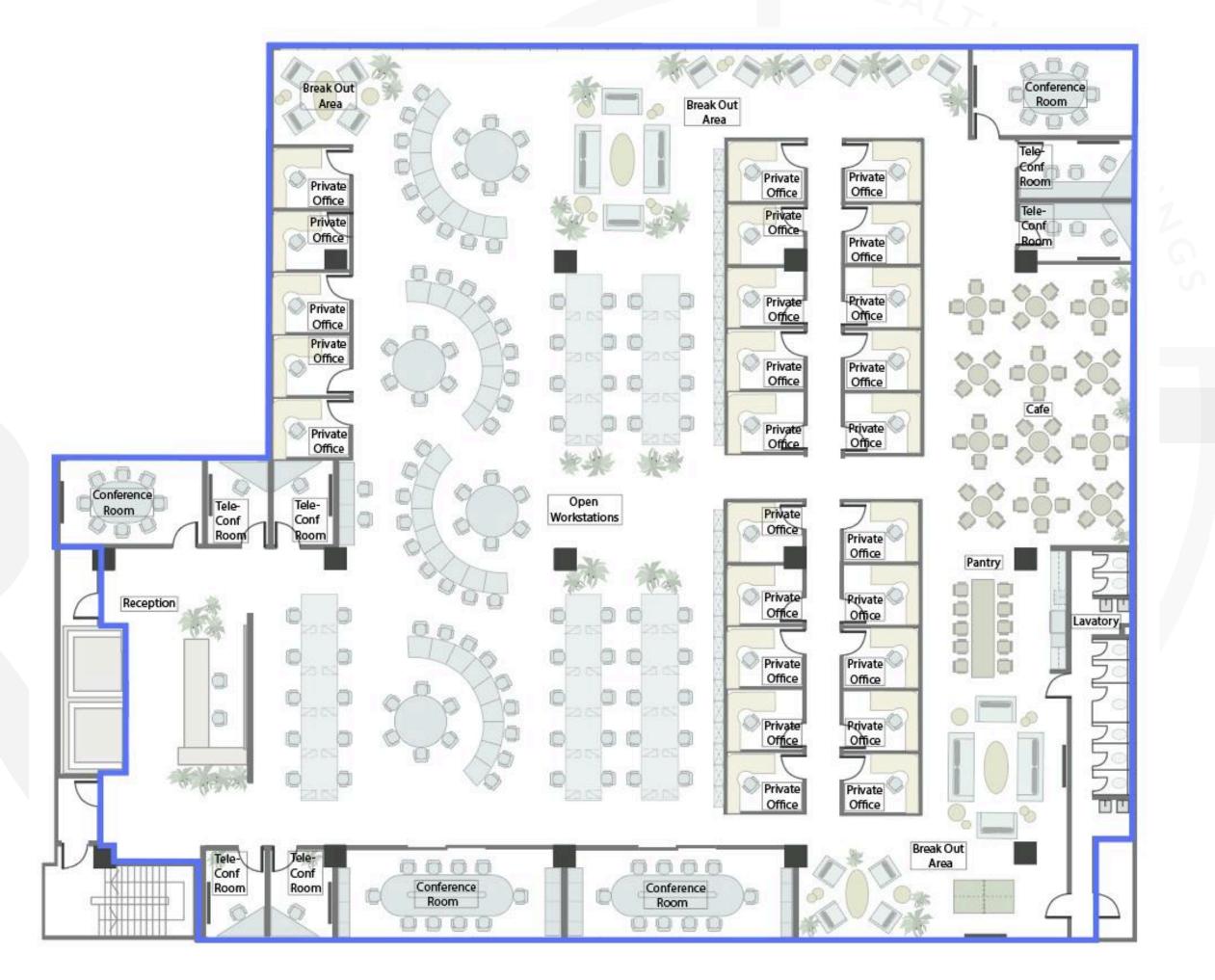
#### For Certification

Project teams must submit a detailed statement that defines and clarifies what is deemed a project boundary for their specific project. The statement must include sufficient information to substantiate the boundary as selected. There is flexibility as to where the project boundary is drawn as long as the narrative describing why the project boundary was drawn like that makes sense.

Refer to RESET Air Certification Process for Interiors (Section 2.3) for full documentation requirements.

# 2.2.4.2 Monitoring Station Deployment Requirements1. Project Boundary (2/2)

Project Boundary drawn with the blue line.



# 2.2.4.2 Monitoring Station Deployment Requirements

# 2. Regularly Occupied Space Types (1/2)

Space types are defined by their use and function. Different space types will have different material selections and HVAC designs and calculations.

When deploying monitors, we want to make sure that we cover all different regularly occupied space types because those are the spaces in a project that occupants will use for a significant period of time. A regularly occupied space is defined as any space that is occupied for more than one (1) hour per day.

Depending on individual project scenarios, transient spaces such as corridors, elevators, stairways, or other non-regularly occupied spaces potentially will not be necessary for inclusion in a project's monitor deployment calculation.

## Defining the Regularly Occupied Space Types

Create an itemized list of regularly occupied space types based on their function within the project boundary

#### For Certification

Due to the complexity, variety, and uniqueness of the functional use of spaces within the built environment, project teams must define and explain and/or defend their inclusion or exclusion of these space types.

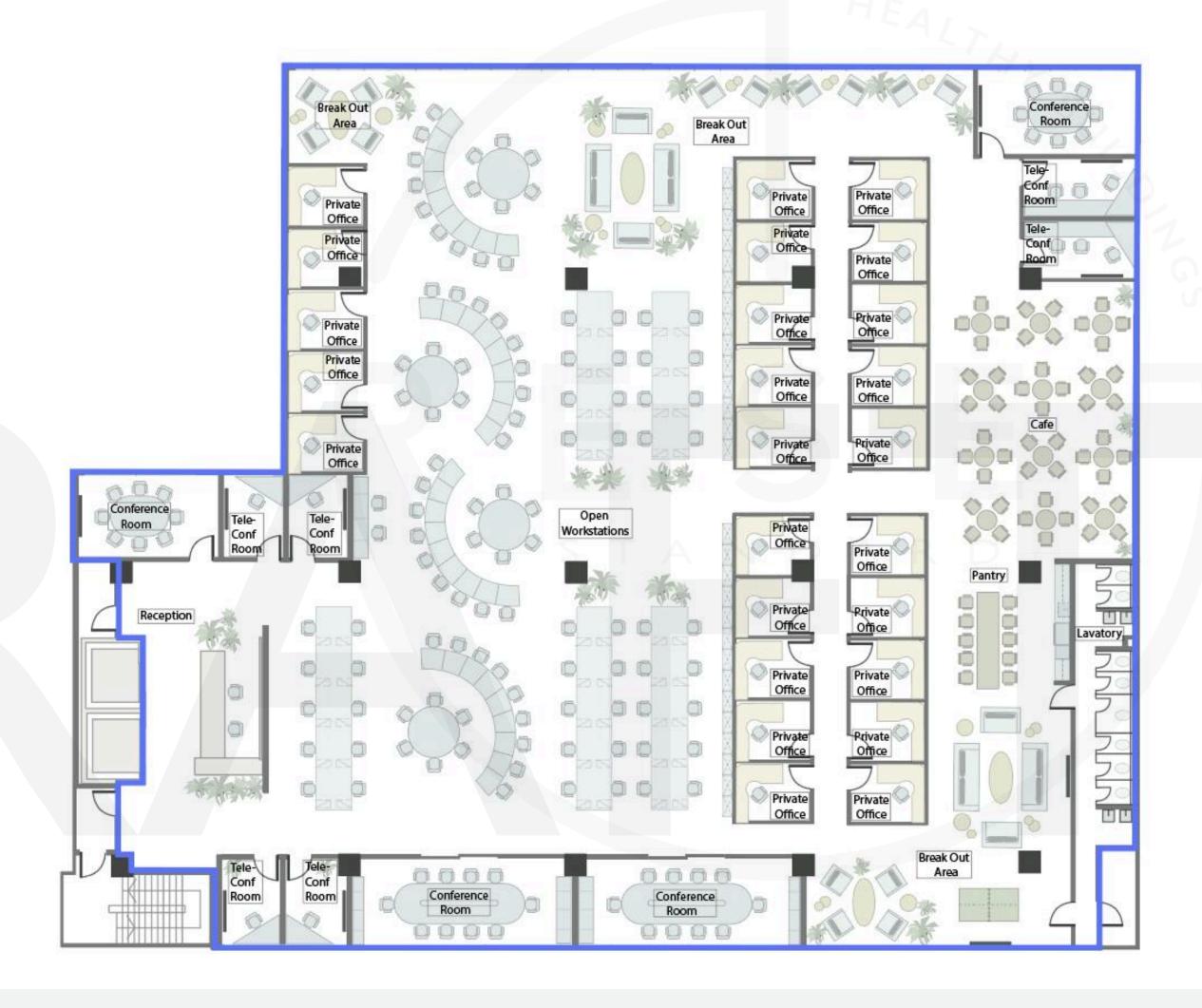
Refer to **RESET Air Certification Process for Interiors** (Section 2.3) for full documentation requirements.

# 2.2.4.2 Monitoring Station Deployment Requirements

## 2. Regularly Occupied Space Types (2/2)

## Space Types

- Reception
- Conference Room
- Tele Conf Room
- Open Workstations
- Private Office
- Cafe
- Break Out Area



# 2.2.4.2 Monitoring Station Deployment Requirements3. Occupant Coverage (1/2)

RESET Air for Interiors requires a minimum occupant coverage of 80%.

Occupants are any individuals, be they employees, visitors, clients, or other users inhabiting a space within the project boundary for more than one hour per day.

### Calculating Occupant Coverage

Determining the total number of occupants within the project boundary and calculating the total number of occupants that need to be covered to reach at least 80%. This requires indicating where the occupants are on the floor plan based on where each occupant spends the majority of their time. The goal is to avoid double counting.

To calculate the 80%, multiply the occupant coverage by 0.8. Calculations for occupants are to be rounded up to the nearest whole number.

#### For Certification

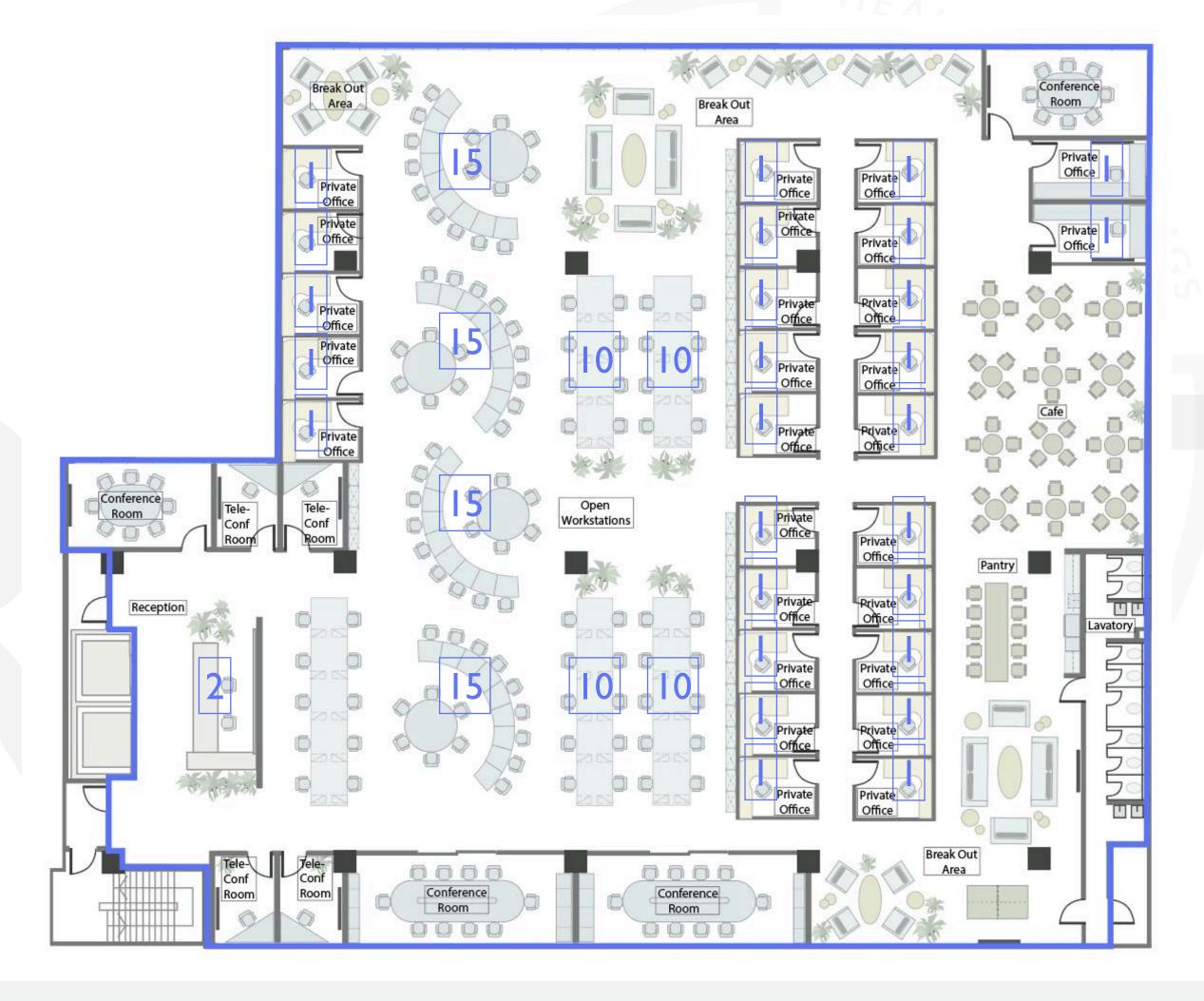
Project teams must define the total number of occupants and the coverage requirement. The submission must include a floor plan with that show where occupants are with calculations for the minimum coverage of 80%.

Refer to RESET Air Certification Process for Interiors (Section 2.3) for full documentation requirements.

# 2.2.4.2 Monitoring Station Deployment Requirements3. Occupant Coverage (2/2)

## Total Occupants = 129

Minimum Requirement of 80%  $0.8 \times 129 = 103.2$ Round up to 104 occupants



# 2.2.4.2 Monitoring Station Deployment Requirements

# 4. Deployment for Regularly Occupied Space Types (1/2)

With the calculations out of the way, it's time to start the deployment of the indoor air quality monitors.

## Monitoring Station Deployment for Regularly Occupied Space Types

There needs to be a monitoring station at each regularly occupied space type. Deploy one (1) monitor in each. For the minimum requirement, if there are multiple spaces of the space type, only one (1) monitor needs to be installed per space type appearing on the project's itemized list of regularly occupied spaces.

#### For Certification

Indoor monitors deployed to each monitoring station must be a **RESET Air Accredited Monitor** (Section 2.6) and must be installed according to **RESET Air for Interiors: Monitor Installation Requirements** (Section 2.2.4.1).

Refer to RESET Air Certification Process for Interiors (Section 2.3) for full documentation requirements

# 2.2.4.2 Monitoring Station Deployment Requirements

## 4. Deployment for Regularly Occupied Space Types (2/2)

## Space Types

- Reception
- Conference Room
- Tele Conf Room
- Open Workstations
- Private Office
- Cafe
- Break Out Area

In this example, monitors needed to cover the requisite space types = 7

= Covers requisite space types



# 2.2.4.2 Monitoring Station Deployment Requirements5. Deployment for Occupant Coverage (1/3)

The last part of deployment is to make sure that there is a minimum of 80% occupant coverage. This means that the monitoring stations cover at least 80% calculation of occupants according to occupant locations as drawn on the floor plans.

## Monitoring Station Deployment for Occupant Coverage

There needs to be monitoring stations covering 80% of occupants. Some monitoring stations have already been deployed due to 4. Deployment for Regularly Occupied Space Types. If 80% occupant coverage is not achieved already, additional monitoring stations need to be added.

Note that one (1) monitor is allowed per 500 square meters (5,382 square feet) of project space. Spaces that exceed 500 square meters (5,382 square feet) require additional monitors in order to ensure complete coverage.

#### For Certification

Monitors deployed to each monitoring station must be a **RESET Air Accredited Monitor** (Section 2.6) and must be installed according to **RESET Air for Interiors: Monitor Installation Requirements** (Section 2.2.5).

Refer to RESET Air Certification Process for Interiors (Section 2.3) for full documentation requirements

# 2.2.4.2 Monitoring Station Deployment Requirements5. Deployment for Occupant Coverage (2/3)

## Monitor Deployment Plan

80% Coverage = 104 total occupants

Ignoring the 500 sqm limitation, monitors currently cover 103 occupants. Minimum coverage needs to cover one more occupant, thus an additional monitor is needed. In this case, we added the additional monitor in a private office.

Total monitors required = 8

= Covers requisite space types

▲ = Additional needed for coverage



# 2.2.4.2 Monitoring Station Deployment Requirements5. Deployment for Occupant Coverage (3/3)

## Monitor Deployment Plan

Since Open Workstations is bigger than the 500 m2 (5,382 square feet) size limit, one (1) additional monitor is deployed to satisfy the range requirement for monitoring.

The red and grey overlay shows the area coverage of the two monitors in the Open Workstations space.

Total monitors required =9

= Covers requisite space types

▲ = Additional needed for coverage



## 2.2.5 Certification Requirements and Process

Projects pursuing the RESET Air Standard for Interiors can be certified via a series of audits, including:

#### 1. Documentation Audit

Project teams submit the documentation detailing the project's information and monitor deployment, defining and defending the inclusion or exclusion of monitoring stations.

#### 2. Site Audit

A review of the physical project space to confirm that all monitors are installed according to the Documentation Audit with all monitoring stations active and submitting data to the **RESET Cloud**.

#### 3. Data Audit

The Data Audit consists of a daily review of performance data sent to the **RESET Cloud** for compliance with the Standard and eventual certification. The Data Audit must be maintained for project certification.

By following the requirements in the RESET Air Standard for Interiors and completing the above audits, a project can achieve the following project statuses, including:

- RESET Air Pre-Accredited (after completing the Documentation Audit)
- RESET Air Accredited (after completing the Site and Data Audit)
- RESET Air Certified (after passing the performance targets for 3 consecutive months)

This document provides information about the targets and requirements for the RESET Air Standard for Interiors. For the certification process, please refer to the RESET Air Certification Process for Interiors (Section 2.3) for more information.

# 2.2.6 Trust & Transparency Score

The Transparency & Trust Score, also known as the TT Score, is a method to incentivize additional trust and transparency above and beyond the basic requirements of accreditation and certification.

The **RESET Air Project TT Score** does not affect the accreditation and is used to incentivize projects to go above and beyond the base requirements. It also plays a big role in **Alternative Pathways**.

The **RESET Air Project TT Score** will be updated once a year. Historical scoring methodologies will always be available for viewing (once 2024 is released, the 2023 score will still be available for viewing).

Details about the **RESET Air Project TT Score** can be found on the **RESET Website**: <a href="https://reset.build/programs/projects/air/tts">https://reset.build/programs/projects/air/tts</a>

The RESET Air Project TT Score will be displayed in the RESET Projects Directory: <a href="https://reset.build/directory/projects">https://reset.build/directory/projects</a>

# 2.2.7 Alternative Pathways

Alternative Pathways are alternative ways in which a project can achieve accreditation or certification. It is designed to provide more flexibility around implementation.

Depending on the Alternative Pathway, it can limit the project status to Accredited or affect the Trust & Transparency Score.

The following pages will showcase Alternative Pathways that are available to projects and what limitations or affect they might have on the Project Status and Trust & Transparency Score. Each Alternative Pathway will include:

- Alternative Pathway title and what part of the standard the alternative pathway is for
- Default Requirement of the original pathway
- Alternative Pathway requirement
- How to access the alternative pathway (upon request + case-by-case basis)

### **Applying for New Alternative Pathways**

To request an Alternative Pathway, an official way to apply is available with the following requirements:

- All Alternative Pathways must be backed by data
- All Alternative Pathways must provide a Case Study, which will include reasoning as to why it will work, the actual implementation used, the data collected, and a conclusion.
- The Alternative Pathway will be used in at least one pilot project.
- New Alternative Pathways will be reviewed and considered on a case-by-case basis.

# 2.2.7.1 Alternative Pathways Typology: Residential

## Alternative Pathway for 2.2.1.2 Typologies and Usage

By default, all RESET Air Projects will use the RESET Air for Interiors Standard.

An alternative Pathway is available for Residential projects in place of Interiors. Residential is different from Interiors with three large changes:

- 1. There are no occupant % calculations.
- 2. All regularly occupied bedrooms or sleeping areas must have a monitoring station.
- 3. A CO alarm must be installed within 5 meters of each bedroom or sleeping area.

This alternative pathway can be accessed upon request and will be reviewed on a case-by-case basis.

# 2.2.7.2 Alternative Pathways Definable Performance Targets

## Alternative Pathway for 2.2.2.1 Indoor Air Quality Performance Targets

By default, the **RESET Air Standard for Interiors** uses the recommended performance targets when establishing the threshold for indoor air quality.

An alternative pathway is available for projects to establish their own targets. The change in targets is often due to the different circumstances or situations in the spaces. This alternative pathway will:

- affect the project's Trust & Transparency Score, positively or negatively depending on the new target.
- Require the alternative Performance Targets to be made public.

This alternative pathway can be accessed upon request and will be reviewed on a case-by-case basis. The alternative pathway can be applied to any of the performance targets, including  $PM_{2.5}$ ,  $CO_2$ , and TVOC.

An explanation for why the changes were made with the necessary data to back up the decision will be required. In the scenario that a project is making the Performance Targets stricter, no additional information needs to be provided. If making the Performance Targets looser, then it requires one of the following:

- A data comparison of how the space performs when unoccupied vs. occupied.
- For TVOC, a spot test that lists out what chemicals are in the air during occupancy.

# 2.2.7.3 Alternative Pathways Using Non-Accredited Monitors

### Alternative Pathway for 2.2.3.2 Monitor Requirements

By default, indoor IAQ monitors being used for project certification must be RESET Air Accredited Monitors.

An alternative pathway is available for using non-accredited monitors. This alternative pathway will:

- limit the project to RESET Air Accredited status (cannot achieve RESET Air Certified status)
- affect the project's Trust & Transparency Score.

This alternative pathway can be accessed upon request and will be reviewed on a case-by-case basis.

Non-accredited monitors must still be able to connect with a **RESET Accredited Data Provider** for submitting data to the **RESET Cloud** for the Data Audit.

# 2.2.7.4 Alternative Pathways Additional Monitor Installation Options

## Alternative Pathway for 2.2.4.1 Monitor Installation Requirements

By default, monitors must be installed in the breathing zone.

An alternative pathway is available for installation on the ceiling instead of the breathing zone. This alternative pathway will:

- affect the project's Trust & Transparency Score.

This alternative pathway can be accessed upon request and is reviewed on a case-by-case basis and requires a Proof of Air Uniformity test. To extend the monitor range, the proof of uniformity test must adhere to the following:

- In the monitor station location requesting a ceiling install, place a temporary monitor in the ceiling where you plan to install the monitor and one in the breathing zone directly below it for 7 days.
- Using 30-minute averages, the two points are not permitted to have a deviation of more than 10%.

# 2.2.7.5 Alternative Pathways Alternative Occupancy Coverage

Alternative Pathway for 2.2.4.2 Monitoring Station Deployment Requirements - 3. Occupant Coverage

By default, occupant coverage is expected to be at least 80% by default.

An alternative pathway is available for lowering or increasing the percentage of occupant coverage. This alternative pathway will:

 affect the project's Trust & Transparency Score, positively or negatively depending on the new percentage target.

This alternative pathway can be accessed upon request and will be reviewed on a case-by-case basis. If lowering the percentage target, there will need to be sufficient explanation and reasoning for why this alternative pathway is needed for this project. If increasing the percentage target, no additional explanation is needed.

# 2.2.7.6 Alternative Pathways Extended Monitor Range

Alternative Pathway for 2.2.4.2 Monitoring Station Deployment Requirements - 5. Deployment for Occupant Coverage

By default, one (1) monitor is allowed a maximum coverage area of 500 square meters (5,382 square feet) of project space.

An alternative pathway is available to extend the monitor range over 500 square meters. This alternative pathway will:

- affect the project's Trust & Transparency Score.

This alternative pathway can be accessed upon request and is reviewed on a case-by-case basis and requires a Proof of Air Uniformity test. To extend the monitor range, the proof of uniformity test must adhere to the following:

- In the open space subject to the proof of uniformity test, identify three (3) sampling points furthest away from each other and place a temporary monitor in the breathing zone for 7 days.
- Using 30-minute averages, the three (3) sampling points are not permitted to have a deviation of more than 10%.

# 2.2.8 Glossary (1/4)

The following glossary provides additional context or description related to terms, vocabulary, and air quality parameters.

#### **ASHRAE**

American Society of Heating, Refrigerating, and Air-Conditioning Engineers <u>www.ashrae.org</u>

#### carbon dioxide

Carbon Dioxide (CO<sub>2</sub>) concentration has a direct impact on productivity and comfort. Elevated CO<sub>2</sub> levels lead to drowsiness, dizziness, and cognitive dysfunction.

#### carbon monoxide

Carbon monoxide (CO), is an odorless, colorless, and toxic gas that results from combustion. Called "the silent killer", levels of CO can build up quickly in improperly ventilated spaces and linger long after infiltration has occurred. High levels of CO can cause dizziness, confusion, unconsciousness, and death.

## 2.2.8 Glossary (2/4)

#### monitor

A device designed to hold individual sensors within it for the purposes of monitoring. A monitor typically consists of an outer housing in order to protect the sensors employed inside. Monitors may also be designed to include electrical ports, wiring, and/or cabling for connection to electrical sources, including but not limited to, wifi, ethernet, LED screens, visual display screens, and other vendor-specific features. In order to be utilized in a **RESET Air Project**, a monitor must be a **RESET Air Accredited Monitor**.

#### occupant

Occupants are any individuals, be they employees, visitors, clients, or other users inhabiting a space within the project boundary for more than one hour per day.

## occupied space

An enclosed space intended for human activities, excluding those spaces that are intended primarily for other purposes, such as storage rooms and equipment rooms, and that are occupied only occasionally and for short periods of time (ASHRAE 62.1–2010).

#### PM2.5

Particulate matter 2.5 (PM2.5) refers to particles with a diameter of 2.5 µm or less. Exposure to high concentrations of PM2.5 can cause diseases in the respiratory and cardiovascular systems.

# 2.2.8 Glossary (3/4)

## project boundary

The project boundary for the project is used to determine the scope and the price for certification. The boundary should include the entire space the tenant/owner/lease holder is responsible for under a rental/leasing contract, legal sales agreement, or other similar property arrangement. The project team must define the boundary in a clear and distinct manner to communicate how the space is physically separate from other spaces within the building.

## proof of uniformity tests

A method for extending monitor installation options or extending the monitor range above 500 square meters.

#### regularly occupied space

An area where one or more individuals normally spend time (more than one hour per person per day on average) seated or standing as they work, study, or perform other focused activities inside a building. The one-hour timeframe is continuous and should be based on the time a typical occupant uses the space. For spaces that are not used daily, the one-hour timeframe should be based on the time a typical occupant spends in the space when it is in use. (USGBC LEEDv4)

# 2.2.8 Glossary (4/4)

#### sensors

Individual technology is uniquely developed for the detection of specific air pollutants. A wide variety of sensor technology exists. Some examples include Tapered Element Oscillating Microbalance (TEOM), Beta Attenuation Mass (BAM), Non-dispersive Infrared Gas Detectors (NDIR), Photoionisation Detection (PID), etc.

#### space types

Space types are those areas within a project boundary that are defined based on their function. For example, a conference room, irrespective of size, serves the function of a space where a group of people convenes. Varying sizes of conference rooms, for the purpose of **RESET Air**, do not necessarily require individual itemization on a project's space type list. The space type methodology is meant to ensure that a cross-section of unique space types based on their function is represented in the monitor deployment plan.

#### TVOC

Volatile organic compounds (VOCs) are organic compounds that easily become vapors or gases. Common VOCs include formaldehyde, benzene, toluene, and styrene. Long-term exposure to VOCs can cause damage to the liver, kidneys, and central nervous system. Total volatile organic compound is the summation of all VOCs in the air.

# End of RESET Air STANDARD

for Commercial Interiors

