



# LEED 2009 for Schools New Construction and Major Renovation

## IEQ CREDIT 1: OUTDOOR AIR DELIVERY MONITORING

All fields and uploads are required unless otherwise noted.

### ALL OPTIONS

This static sample form has been modified for offline access. All sections of the form are visible. Sample forms are for reference only.

Select all that apply to the project building:

- ☐ The project building is mechanically ventilated, in part or in whole.
- ☐ The project building is naturally ventilated, in part or in whole.

### MECHANICAL VENTILATION

Select all that apply to the project building:

- ☐ Project building contains densely occupied spaces.
- ☐ Project building contains non-densely occupied spaces.

*Note: Densely occupied spaces are those with a design occupant density of 25 people or more per 1000 sf.*

### DENSELY OCCUPIED SPACES

A floor plan or drawing that highlights the location of CO<sub>2</sub> sensors is required to document compliance. The floor plan below is a linked submittal. (If no document is present, you may upload one now.)

**Upload L-1.** Provide representative floor plan(s) for the project building.

Select one of the following:

- ☐ The floor plan above highlights the location of CO<sub>2</sub> sensors.
- ☐ A different document is better suited to satisfy the requirement.

**Upload IEQc1-2.** Provide a floor plan that highlights the location of CO<sub>2</sub> sensors.

**Table IEQc1-1.** Densely Occupied Spaces

Space ID or Description <sup>1</sup>	Space Type	CO <sub>2</sub> Sensors Installed	Height of CO <sub>2</sub> Monitor Above the Floor <sup>2</sup> (ft)	Design Value (CO <sub>2</sub> ppm)
		<input type="checkbox"/>		

- 1 Must correspond with uploaded floor plans.  
 2 Must be equal to or greater than 3 and equal to or less than 6 feet.

- ☐ The CO<sub>2</sub> sensors are programmed to generate an alarm (either from the building automation system to the building operator, or as a visual or audible alert to the building occupants) when the conditions vary by 10% or more from the design value.

## NON-DENSELY OCCUPIED SPACES

**Upload IEQc1-1.** Provide a controls drawing sample showing the outdoor air flow measurement devices that serve non-densely occupied spaces.

Complete Table IEQc1-1 for all mechanical ventilation systems where 20% or more of the design supply airflow serves non-densely-occupied spaces.

**Table IEQc1-2.** Outdoor Air Ventilation Rate

AHU	Zone	Outdoor Airflow Measurement Device Present?	Accuracy of Outdoor Airflow Measurement Device (%) <sup>1</sup>	Design Value (CO <sub>2</sub> ppm)
		<input type="checkbox"/>		

<sup>1</sup> Must be within 15% (plus or minus) of the design minimum outdoor airflow rate

- ☐ The monitoring equipment is programmed to generate an alarm (either from the building automation system to the building operator, or as a visual or audible alert to the building occupants) when the conditions vary by 10% or more from the design value.

## NATURAL VENTILATION

A floor plan or drawing that highlights the location and size of naturally ventilated zones and associated windows, as well as location of CO<sub>2</sub> sensors is required to document compliance. The floor plan below is a linked submittal. (If no document is present, you may upload one now.)

**Upload L-1.** Provide representative floor plan(s) for the project building.

Select one of the following:

- ☐ The floor plan above highlights the location and size of naturally ventilated zones and associated windows, as well as the location of CO<sub>2</sub> sensors.
- ☐ A different document is better suited to satisfy the requirement.

**Upload IEQc1-3.** Provide a floor plan that highlights the location and size of naturally ventilated zones and associated windows, as well as the locations of CO<sub>2</sub> sensors.

**Table IEQc1-3.** Naturally Ventilated Spaces

Space ID or Description <sup>1</sup>	CO <sub>2</sub> Sensors Installed <sup>2</sup>	Height of CO <sub>2</sub> Monitor Above the Floor (ft) <sup>3</sup>	Design Value (CO <sub>2</sub> ppm)
	<input type="checkbox"/>		

<sup>1</sup> Must correspond with uploaded floor plans.

<sup>2</sup> One CO<sub>2</sub> sensor may be used to monitor multiple spaces if the natural ventilation design uses passive stacks or other means to induce airflow through those spaces equally and simultaneously without intervention by building occupants.

<sup>3</sup> Must be equal to or greater than 3 and equal to or less than 6 feet.

- ☐ The CO<sub>2</sub> sensors are programmed to generate an alarm (either from the building automation system to the building operator, or as a visual or audible alert to the building occupants) when the conditions vary by 10% or more from the design value.

## ADDITIONAL DETAILS

- ☐ Special circumstances preclude documentation of credit compliance with the submittal requirements outlined in this form.

### SPECIAL CIRCUMSTANCES

Describe the circumstances limiting the project team's ability to provide the submittals required in this form. Be sure to reference what additional documentation has been provided, if any. Non-standard documentation will be considered upon its merits.

**Upload IEQc1-SC.** Provide any additional documentation that supports the claim to special circumstances. (Optional)

- ☐ The project team is using an alternative compliance approach in lieu of standard submittal paths.

## ALTERNATIVE COMPLIANCE PATH

Describe the alternative compliance path used by the project team. Include justification that this path meets the credit intent and requirements. Be sure to reference what additional documentation has been provided, if any. Non-standard documentation will be considered upon its merits.

**Upload IEQc1-ACP.** Provide any additional documents that support the alternative compliance path approach. (Optional)

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## SUMMARY

IEQ Credit 1: Outdoor Air Delivery Monitoring Points Documented: