

## Whole Building Pollutant Sources

For each building, information was collected regarding sources that may have potential impact on the building in terms of indoor air quality. These may include sources such as past or current water damage, pesticide application practices, special use spaces, etc.

### Exhibit Contents

1. Outdoor Contaminant Sources
2. Smoking Policy in Building and Areas Where Smoking is Permitted
3. Location of Water Damage – Past and Current Water Damage
4. Frequency of Renovation Practices
5. Office Cleaning Practices – Frequency of Cleaning
6. Office Cleaning Practices – Time of Cleaning
7. Indoor Areas Where Trash is Stored
8. Cleaning Materials Used in Building
9. Cleaning Materials Storage Location
10. Pesticide Application Practices – Frequency of Exterior and Interior Pesticide Applications
11. Pesticide Application Practices – Period of Last Exterior and Interior Pesticide Applications Preceding BASE Study Sampling Week
12. Location of Interior Pesticide Applications
13. Identification of Special Use Areas

**BASE Buildings Pollutant Sources:** Outdoor Contaminant Sources

Outdoor Contaminant Sources	Number of Buildings Reporting <sup>1</sup>
Garbage/Trash Dumpsters	81
Heavy Motor Vehicle Traffic	61
Emergency Generator	66
Power Plants	26
Construction Activities	56
Industrial Stacks	35
Total Number of Buildings Reporting	100
<b>Notes:</b> <sup>1</sup> Number of buildings within column adds up to greater than the total number of buildings because many buildings reported multiple sources of outdoor contaminants.	

Variable Descriptions:

**Outdoor Contaminant Sources** describe contaminant sources in the immediate vicinity of the building.

The following categories apply:

**Garbage/Trash dumpsters** refers to any large refuse container.

**Heavy motor vehicle traffic** refers to heavy traffic occurring during at least part of the day.

**Emergency generator** refers to a self-contained fuel powered electrical generator.

**Power plants** including electricity and steam generation.

**Construction activities** refers to ongoing construction on nearby sites, including new construction, renovation, and demolition.

**Industrial stacks** including stacks from nearby industrial facilities.

**BASE Buildings Pollutant Sources:** Smoking Policy in Building and Areas Where Smoking Is Permitted

Smoking Policy in Building	Number of Buildings Reporting
Smoking Not Permitted	75
Smoking Permitted	25
Total Number of Buildings Reporting Smoking Policy	100

Areas Where Smoking Is Permitted	Number of Buildings Reporting
Permitted in Entire Building	4
Restricted to Private Offices	5
Restricted to Indoor Smoking Areas	14
Restricted to Outdoor Smoking Areas	2
Number of Buildings With Smoking Permitted	25

Variable Descriptions:

**Smoking Permitted** indicates that smoking is allowed in the building or is limited to the surrounding property.

**Smoking Not Permitted** means that smoking is not allowed in any part of the building, nor on the surrounding property.

For buildings that permitted smoking, the following categories apply:

**Permitted in Entire Building** means that smoking is allowed anywhere in the building.

**Restricted to Private Offices** means that smoking is allowed in the building, but only in private offices.

**Restricted to Indoor Smoking Areas** means that smoking is allowed in the building, but only in dedicated smoking areas.

**Restricted to Outdoor Smoking Areas** means that smoking is allowed outside of the building.

**BASE Buildings Pollutant Sources:** Location of Water Damage - Past and Current Water Damage

Location of Water Damage	Number of Buildings Reporting	
	Past Water Damage <sup>1</sup>	Current Water Damage <sup>2</sup>
Basement	28	13
Roof	50	15
Mechanical Rooms	17	3
Occupied Space	71	34
Total Number of Buildings Reporting	85	45

**Notes:**  
<sup>1</sup>Number of buildings based on those buildings reporting past water damage (n=85). Number of buildings within column may add up to greater than the total number of buildings as some buildings indicated more than one location for past water damage.  
<sup>2</sup>Number of buildings based on those buildings reporting current water damage (n=45). Number of buildings within column may add up to greater than the total number of buildings as some buildings indicated more than one location for current water damage.

Variable Descriptions:

**Past Water Damage** refers to water damage that occurred in the past but no longer existed at the time the building study was conducted.  
**Current Water Damage** refers to water damage that existed at the time the building study was conducted.

For both current and past water damage, the following categories apply:

**Basement** refers to basement water damage or water leaks.  
**Roof** refers to water damage or water leaks occurring at the building roof.  
**Mechanical rooms** refers to water damage or leaks in the building's mechanical spaces.  
**Occupied space** refers to water damage or leaks occurring in occupied areas of the building.

**BASE Buildings Pollutant Sources:** Frequency of Renovation Practices

Frequency of Renovation	Number of Buildings Reporting <sup>1</sup>				
	Painting <sup>2</sup>	Carpeting <sup>3</sup>	Re-roofing <sup>4</sup>	New Furniture <sup>5</sup>	Partition Replacement <sup>6</sup>
Continuous Renovation <sup>7</sup>	35	17	3	29	18
Previously-Completed Renovation <sup>8</sup>	59	61	27	36	56
Total Number of Buildings Reporting Renovation	93	81	33	70	78

Notes:

<sup>1</sup>Some columns may add to greater than the total number of buildings because both continuous and previously-completed renovation projects were reported. Some columns may add to less than the total number of buildings when no response was given for either continuous or previously-completed renovation projects.

<sup>2</sup>Summary is based on those buildings reporting painting renovations (n=93).

<sup>3</sup>Summary is based on those buildings reporting carpeting renovations (n=81).

<sup>4</sup>Summary is based on those buildings reporting re-roofing renovations (n=33).

<sup>5</sup>Summary is based on those buildings reporting installation of new furniture (n=70).

<sup>6</sup>Summary is based on those buildings reporting partition replacement (n=78).

<sup>7</sup>Continuous renovation cycle means that some part of the building is always undergoing this particular renovation.

<sup>8</sup>Previously-completed renovation means renovation occurred in the building during the 12-month period prior to the study week.

Variable Descriptions:

**Continuous Renovation** cycle means that some part of the building is always undergoing this particular renovation.

**Previously-Completed Renovation** means renovation occurred in the building during the 12-month period prior to the study week.

Renovation activities included the following categories:

**Painting** refers to building interior surfaces that undergo painting.

**Carpeting** refers to installation of permanent wall-to-wall carpet installation.

**Re-roofing** refers to installation of new roofing materials or roof repair.

**New furniture** refers to the installation of new furniture.

**Partition replacement** refers to the installation of new partitions or the relocation of existing partitions.

**BASE Buildings Pollutant Sources:** Frequency of Office Cleaning Practices

Frequency of Cleaning	Number of Buildings Reporting			
	Office Cleaning	Dry Mopping <sup>1</sup>	Wet Mopping	Vacuumping <sup>1</sup>
None	0	20	0	0
As Needed	4	4	3	3
Daily	89	70	86	78
Weekly	4	3	8	16
Bi-Weekly	1	0	1	1
Monthly	1	0	2	1
Semi-Quarterly	0	0	0	0
Quarterly	0	0	0	0
Semi-Annually	0	0	0	0
Annually	1	0	0	0
Total Number of Buildings Reporting	100	97	100	99

Notes:  
<sup>1</sup>Number of buildings within column add up to less than the total number of buildings as some buildings did not report the frequency of dry mopping or vacuumping.

Variable Descriptions:

**Office Cleaning** refers to the frequency that typical office cleaning occurs such as straightening, dusting, and general tidying of office space.  
**Dry Mopping** refers to the frequency of dry mopping consisting of wiping down hard floor surfaces without using any cleaning agents or water.  
**Wet Mopping** refers to the frequency of wet mopping consisting of wiping down hard floor surfaces using water and possibly a cleaning agent.  
**Vacuumping** refers to the frequency of vacuumping.

The following frequency categories apply:

**None** refers to no cleaning practices that take place in the building.  
**As needed** refers to a cleaning schedule where cleaning occurs only when deemed necessary.  
**Daily** refers to a cleaning schedule where cleaning occurs each day.  
**Weekly** refers to a cleaning schedule where cleaning occurs once per week.  
**Bi-weekly** refers to a cleaning schedule where cleaning occurs twice a month.  
**Monthly** refers to a cleaning schedule where cleaning occurs once per month.  
**Semi-Quarterly** refers to a cleaning schedule where cleaning occurs twice every three months.  
**Quarterly** refers to a cleaning schedule where cleaning occurs every three months.  
**Semi-annually** refers to a cleaning schedule where cleaning occurs every six months.  
**Annually** refers to a cleaning schedule where cleaning occurs once a year.

**BASE Buildings Pollutant Sources:** Time of Office Cleaning Practices

Time of Cleaning	Number of Buildings Reporting			
	Office Cleaning <sup>1</sup>	Dry Mopping <sup>2</sup>	Wet Mopping <sup>3</sup>	Vacuuming <sup>4</sup>
Occupied Hours	21	17	24	19
Evenings	87	66	87	87
Weekends	8	11	9	9
Total Number of Buildings Reporting	100	77	100	100

Notes:

<sup>1</sup> Number of buildings within column may add up to greater than the total number of buildings as some buildings reported office cleaning during multiple periods.

<sup>2</sup> Number of buildings based on those buildings that reported dry mopping (n=77). Number of buildings within column may add up to greater than the total number of buildings as some buildings reported dry mopping during multiple periods.

<sup>3</sup> Number of buildings within column may add up to greater than the total number of buildings as some buildings reported wet mopping during multiple periods.

<sup>4</sup> Number of buildings within column may add up to greater than the total number of buildings as some buildings reported vacuuming during multiple periods.

Variable Descriptions:

**Office Cleaning** describes the time period when typical office cleaning activities occur. Office cleaning refers to general straightening, dusting, and general tidying of office space.

**Dry Mopping** describes the time period when dry mopping activities occur. Dry mopping refers to wiping down hard floor surfaces without using any cleaning agents or water.

**Wet Mopping** describes the time period when wet mopping activities occur. Wet mopping refers to wiping down hard floor surfaces using water and possibly a cleaning agent.

**Vacuuming** describes the time period when vacuuming activities occur.

The following time periods apply:

**Occupied Hours** refers to the hours during a typical work day that the building is occupied by employees and visitors. Generally 9 a.m. to 5 p.m.

**Evenings** refers to the hours during a typical work day that the building is not occupied by employees and visitors. Generally occurs after 5 p.m.

**Weekends** refers to Saturdays and Sundays.

**BASE Buildings Pollutant Sources:** Indoor Areas Where Trash Is Stored

Indoor Areas Where Trash Is Stored	Number of Buildings Reporting <sup>1</sup>
Stored in Occupied Space	1
Stored in Stairwell	0
Stored in Freight Elevator Lobby	5
Stored on Loading Dock	27
Total Number of Buildings Reporting	33

Notes:  
<sup>1</sup>Number of buildings based on those buildings reporting indoor trash storage (n=33).

Variable Descriptions:

**Indoor Areas Where Trash is Stored** refers to the location where trash is stored until it is disposed of and does not include the temporary placement of trash during collection.

The following locations apply:

**Occupied Space** indicates that trash is stored in occupied areas of the building.  
**Stairwell** indicates that trash is stored in the building stairwells.  
**Freight Elevator Lobby** indicates that trash is stored in the freight elevator lobby.  
**Loading Dock** indicates that trash is stored at the building loading dock.

**BASE Buildings Pollutant Sources:** Cleaning Materials Used in Building

Cleaning Materials Used in Building	Number of Buildings Reporting
Window Cleaner	84
Furniture Cleaner	60
Floor Wax	60
Bathroom Cleaner	93
Bleach	33
Liquid Soap	77
Carpet Cleaner	73
Total Number of Buildings Reporting	100

Variable Descriptions:

**Cleaning Materials Used in Building** describes the types of cleaning materials used in the building.

The following cleaning materials apply:

**Window Cleaner** refers to a cleaning material designed for use specifically on windows and glass.

**Furniture Cleaner** refers to a cleaning material designed for use specifically on furniture.

**Floor Wax** refers to a cleaning material designed to polish and protect the flooring.

**Bathroom Cleaner** refers to a cleaning material designed for use specifically in bathrooms.

**Bleach** refers to a cleaning compound labeled a "bleach" (containing sodium hypochlorite).

**Liquid Soap** refers to a mild cleaning material.

**Carpet Cleaner** refers to a cleaning material designed for use specifically on carpets.

**BASE Buildings Pollutant Sources:** Cleaning Materials Storage Location

Cleaning Materials Storage Location	Number of Buildings Reporting <sup>1</sup>
Occupied Space	4
Janitorial Closet	87
Storage Room	61
Total Number of Buildings Reporting	100

Notes:  
<sup>1</sup>Number of buildings within column may add up to greater than the total number of buildings if some buildings reported more than one cleaning material storage location.

Variable Descriptions:

**Cleaning Materials Storage Location** defines the location in the building where cleaning materials are stored.

The following storage locations apply:

**Occupied Space** means that cleaning materials are stored in the occupied areas of the building.

**Janitorial Closet** means that cleaning materials are stored in a janitorial closet.

**Storage Room** means that cleaning materials are stored in a large storage room.

**BASE Buildings Pollutant Sources:** Pesticide Application Practices - Frequency of Exterior and Interior Pesticide Applications

Frequency of Application	Number of Buildings Reporting	
	Exterior Pesticide Application <sup>1</sup>	Interior Pesticide Application <sup>2</sup>
None	33	17
As Needed	33	31
Daily	1	0
Weekly	3	3
Bi-Weekly	0	2
Monthly	11	34
Semi-Quarterly	2	2
Quarterly	5	5
Semi-Annually	3	2
Annually	7	0
Total Number of Buildings Reporting	100	96

Notes:

<sup>1</sup>Number of buildings within column may add up to less than the total number of buildings as some buildings did not report the frequency of interior or exterior pesticide application.

<sup>2</sup> Number of buildings based on those buildings that reported interior pesticide application (n=96)

Variable Descriptions:

**Exterior Pesticide Application** refer to buildings that apply pesticides around the exterior of the building.  
**Interior Pesticide Application** refer to buildings that apply pesticides inside the building.

The following categories apply:

**None** means that pesticides of any kind are not used.  
**As Needed** refers to a pesticide application schedule where application occurs only when deemed necessary.  
**Daily** refers to a pesticide application schedule where application occurs each day.  
**Weekly** refers to a pesticide application schedule where application occurs on a weekly cycle.  
**Bi-weekly** refers to a pesticide application schedule where application occurs twice a month.  
**Monthly** refers to a pesticide application schedule where application occurs on a monthly schedule.  
**Semi-Quarterly** refers to a pesticide application schedule where application occurs twice every three months.  
**Quarterly** refers to a pesticide application schedule where application occurs every three months.  
**Semi-annually** refers to a pesticide application schedule where application occurs every six months.  
**Annually** refers to a pesticide application schedule where application occurs once a year.

**BASE Buildings Pollutant Sources:** Pesticide Application Practices - Period of Last Exterior and Interior Pesticide Applications Preceding BASE Study Sampling Week

Pesticide Application Practices, Days Since Application Before Study Week	Number of Buildings Reporting	
	Exterior Pesticide Application <sup>1</sup>	Interior Pesticide Application <sup>2</sup>
0-10	12	13
11-25	8	23
26-50	8	16
51-100	8	8
101-200	9	6
201-500	11	2
501-1,000	1	3
>1,000	1	1
<b>Total Number of Buildings Reporting</b>	<b>58</b>	<b>72</b>

**Notes:**  
<sup>1</sup>Number of buildings based on those buildings reporting a date for last exterior pesticide application (n=58). Note that some buildings reported no exterior pesticide application, and some buildings reporting exterior pesticide application may not have indicated specific dates of the last application.  
<sup>2</sup>Number of buildings based on those buildings reporting a date for last interior pesticide application (n=72). Note that some buildings reported no interior pesticide application, and some buildings reporting interior pesticide application may not have indicated specific dates of the last application.

**Variable Descriptions:**

**Exterior Pesticide Application** lists the number of days prior to the building study that exterior pesticides were applied.

**Interior Pesticide Application** lists the number of days prior to the building study that interior pesticides were applied.

**BASE Buildings Pollutant Sources:** Location of Interior Pesticide Applications

Location of Interior Pesticide Applications	<sup>1</sup> Number of Buildings Reporting
Occupied Space	65
Storage Area	42
Mechanical Room	38
Total Number of Buildings Reporting	100

Notes:  
<sup>1</sup> Number of buildings within column adds up to greater than the total number of buildings as some buildings reported more than one interior pesticide application location.

Variable Descriptions:

**Location of Interior Pesticide Applications** refers to the location inside the building where pesticides are applied.

The following locations apply:

**Occupied Space** means that pesticides are applied in occupied areas of the building.

**Storage Area** means that pesticides are applied in building storage areas.

**Mechanical Room** means that pesticides are applied in building mechanical rooms.

**BASE Buildings Pollutant Sources:** Identification of Special Use Areas

Special Use Area Characteristics	Number of Buildings Reporting											
	Smoking Lounge <sup>2</sup>	Kitchenette	Parking Garage	Vending	Laboratory	Print Shop	Graphic Arts	Commercial Kitchen	Loading Dock	Restroom	Computer Room	Conference Room
Buildings Having At Least One Of The Specific Type Of Special Use Area Shown <sup>1</sup>	21	93	37	90	34	53	25	47	73	100	75	87
Dedicated Ventilation Serves At Least One Of These Special Use Areas	0	0	8	0	3	5	0	14	3	2	11	20
Exhaust Fan Serves At Least One Of These Special Use Areas	15	8	20	11	25	18	8	37	13	95	8	20

Notes:

<sup>1</sup> For each special use space category, these values represent the number of buildings reporting at least one special use space.

<sup>2</sup> As an example, the number of buildings that reported having at least one smoking lounge is 21. None of these 21 buildings had at least one smoking lounge equipped with a dedicated ventilation system. Further, 15 of the 21 buildings had at least one smoking lounge that was equipped with an exhaust fan. Similar logic applies to other special use areas shown.

Variable Descriptions:

Building special use spaces were categorized as follows:

**Smoking Lounge** is any specially designated area such as restrooms or lounges, where smoking is permitted. Does not include private offices.

**Kitchenette** is any area that includes a microwave oven, a refrigerator, and a sink with running water.

**Parking Garage** includes areas used for parking of automobiles.

**Vending Area** is any space where food and a microwave oven are available.

**Laboratory** includes areas used to complete scientific experiments or tests.

**Print Shop** refers to areas where large volumes of documents are printed and collated.

**Graphic Arts** refers to areas where graphic arts are implemented.

**Commercial Kitchen** is any space where food is prepared for sale.

**Loading Dock** refers to an area where vehicles load and unload goods into and out of the building.

**Restroom** is a room or suite of rooms providing personal facilities such as toilets and sinks.

**Conference Room** is a room where people gather for meetings.

**Computer Room** is a room that houses multiple pieces of computer equipment.

**Dedicated Ventilation Serves Special Use Area** means that the area is served by a ventilation system equipped with both supply and return/exhaust that is specifically designed for that space.

**Exhaust Fan Serves Special Use Area** means that the space is served by a dedicated exhaust fan.