

- Read the IAQ
 Backgrounder and
 the Background
 Information for
 this checklist.
- 2. Keep the
 Background
 Information and
 make a copy of
 this checklist for
 each ventilation
 unit in your school,
 as well as a
 copy for future
 reference.
- 3. Complete the Checklist.
 - Check the "yes," "no," or "not applicable" box beside each item. (A "no" response requires further attention.)
 - Make comments in the "Notes" section as necessary.
- Return the checklist portion of this document to the IAQ Coordinator.

Ventilation Checklist

Wayne Donaldson

Sahadi Gales Ferry School		-
School.		
Unit Ventilator/AHU No: AHU-2		-
Room or Area: Date Completed:		
Signature:		
7		
1. OUTDOOR AIR INTAKES		
la. Marked locations of all outdoor air intakes on a small floor plan (for example, a fire escape floor plan)		N/A
1b. Ensured that the ventilation system was on and operating in "occupied" mode ■		
ACTIVITY 1: OBSTRUCTIONS		
1c. Ensured that outdoor air intakes are clear of obstructions, debris, clogs, or covers		
ld. Installed corrective devices as necessary (e.g., if snowdrifts or leaves		_
frequently block an intake)		
ACTIVITY 2: POLLUTANT SOURCES		
le. Checked ground-level intakes for pollutant sources (dumpsters, loading docks, and bus-idling areas)	,	٦
 Checked rooftop intakes for pollutant sources (plumbing vents; kitchen, toilet, or laboratory exhaust fans; puddles; and mist from 		_
air-conditioning cooling towers)		
intakes (e.g., relocated dumpster or extended exhaust pipe)		
ACTIVITY 3: AIRFLOW		
1h. Obtained chemical smoke (or a small piece of tissue paper or light plastic)1i. Confirmed that outdoor air is entering the intake appropriately		
2. SYSTEM CLEANLINESS		
ACTIVITY 4: AIR FILTERS		
2a. Replaced filters per maintenance schedule		
2b. Shut off ventilation system fans while replacing filters (prevents dirt from blowing downstream)		
2c. Vacuumed filter areas before installing new filters	0	
2d. Confirmed proper fit of filters to prevent air from bypassing (flowing		
around) the air filter		

2. SYSTEM CLEANLINESS (continued)

	TIVITY 5: DRAIN PANS		
2f.	Ensured that drain pans slant toward the drain (to prevent water from Yes		-
	accumulating)		
	Cleaned drain pans		
2h.	Checked drain pans for mold and mildew		
AC'	TIVITY 6: COILS		
2i.	Ensured that heating and cooling coils are clean		
AC	TIVITY 7: AIR-HANDLING UNITS, UNIT VENTILATORS		
2j.	Ensured that the interior of air-handling unit(s) or unit ventilator		
	(air-mixing chamber and fan blades) is clean		
2k.	Ensured that ducts are clean		
AC	TIVITY 8: MECHANICAL ROOMS		
21.	Checked mechanical room for unsanitary conditions, leaks, and spills		
2m.	. Ensured that mechanical rooms and air-mixing chambers are free of trash,		
	chemical products, and supplies		
3.	CONTROLS FOR OUTDOOR AIR SUPPLY		
	Ensured that air dampers are at least partially open (minimum position)		
3b.	Ensured that minimum position provides adequate outdoor air		_
	for occupants		-
	TIVITY 9: CONTROLS INFORMATION		
3c.	Obtained and reviewed all design inside/outside temperature and humidity		
	requirements, controls specifications, as-built mechanical drawings,		_
	and controls operations manuals (often uniquely designed)		
	CTIVITY 10: CLOCKS, TIMERS, SWITCHES		
	Turned summer-winter switches to the correct position		
	Set time clocks appropriately		
3f.	Ensured that settings fit the actual schedule of building use (including		_
	night/weekend use)		
	CTIVITY 11: CONTROL COMPONENTS		
3g.	Ensured appropriate system pressure by testing line pressure at both the		
21-	occupied (day) setting and the unoccupied (night) setting		
		_	•
3i.	compressor manufacturer's recommendation (for example, when you		
	blow down the tank)		
3j.			
Jj.	level (no leakage or obstructions)		•
	CTIVITY 12: OUTDOOR AIR DAMPERS		_
	Ensured that the outdoor air damper is visible for inspection		
51.	Ensured that the recirculating relief and/or exhaust dampers are visible for inspection		
3 m	n. Ensured that air temperature in the indoor area(s) served by each	_	
J11	outdoor air damper is within the normal operating range		



NOTE: It is necessary to ensure that the damper is operating properly and within the normal range to continue.



3.	CONTROLS FOR OUTDOOR AIR SUPPLY (continued)			
	of shutting off appropriate air handler	. •	No	N/A
	Checked that the outdoor air damper opens (at least partially with no delay) when the air handler is turned on) •		
	If in heating mode, checked that the outdoor air damper goes to its minimum position (without completely closing) when the room thermostat is set to 85°F	🗨	٥	
	If in cooling mode, checked that the outdoor air damper goes to its minimu position (without completely closing) when the room thermostat is set to 60°F and mixed air thermostat is set to 45°F			
3r.	If the outdoor air damper does not move, confirmed the following items: The damper actuator links to the damper shaft, and any linkage set screws or bolts are tight	9		
	 Moving parts are free of impediments (e.g., rust, corrosion) Electrical wire or pneumatic tubing connects to the damper actuator 	🗨		
	The outside air thermostat(s) is functioning properly (e.g., in the right location, calibrated correctly)			٦
Pro	ceed to Activities 13–16 if the damper seems to be operating properly.			
AC	TIVITY 13: FREEZE STATS			
	Disconnected power to controls (for automatic reset only) to test continuity across terminals	ם	۵	•
OR 3t.	a control of the state of the manual reset button (usually			
3u.	Assessed the feasibility of replacing all manual reset freeze-stats with automatic reset freeze-stats			٦
clo	OTE: HVAC systems with water coils need protection from the cold. The freezones the outdoor air damper and disconnect the supply air when tripped. The age is 35°F to 42°F.	e-sta typic	t ma al tri	y p
A	CTIVITY 14: MIXED AIR THERMOSTATS			
	Ensured that the mixed air stat for heating mode is set no higher than 65°F	🗃		
3w	Ensured that the mixed air stat for cooling mode is set no lower than the room thermostat setting	🗨		
	CTIVITY 15: ECONOMIZERS			
3x	Confirmed proper economizer settings based on design specifications or local practices	🗨		-
	OTE: The dry-bulb is typically set at 65°F or lower.			
33	Checked that sensor on the economizer is shielded from direct sunlight	9		1 0
32	Ensured that dampers operate properly (for outside air, return air, exhaust/relief air, and recirculated air), per the design specifications	🗨		17.0
NT.	OTF: Economizers use varying amounts of cool outdoor air to assist with the	e co	oling	

NOTE: Economizers use varying amounts of cool outdoor air to assist with the cooling load of the room or rooms. There are two types of economizers, dry-bulb and enthalpy. Dry-bulb economizers vary the amount of outdoor air based on outdoor temperature, and enthalpy economizers vary the amount of outdoor air based on outdoor temperature and humidity level.

3. CONTROLS FOR OUTDOOR AIR SUPPLY (continued) **ACTIVITY 16: FANS** 3aa. Ensured that all fans (supply fans and associated return or relief fans) that move outside air indoors continuously operate during occupied Yes No N/A hours (even when room thermostat is satisfied)..... NOTE: If fan shuts off when the thermostat is satisfied, adjust control cycle as necessary to ensure sufficient outdoor air supply. 4. AIR DISTRIBUTION **ACTIVITY 17: AIR DISTRIBUTION** 4a. Ensured that supply and return air pathways in the existing ventilation system perform as required..... 4b. Ensured that passive gravity relief ventilation systems and transfer grilles between rooms and corridors are functioning..... NOTE: If ventilation system is closed or blocked to meet current fire codes, consult with a professional engineer for remedies. 4c. Made sure every occupied space has supply of outdoor air (mechanical system or operable windows) 4d. Ensured that supply and return vents are open and unblocked NOTE: If outlets have been blocked intentionally to correct drafts or discomfort, investigate and correct the cause of the discomfort and reopen the vents. 4e. Modified the HVAC system to supply outside air to areas without an outdoor air supply 4f. Modified existing HVAC systems to incorporate any room or zone layout and population changes 4g. Moved all barriers (for example, room dividers, large free-standing blackboards or displays, bookshelves) that could block movement of air in the room, especially those blocking air vents 4h. Ensured that unit ventilators are quiet enough to accommodate classroom activities 4i. Ensured that classrooms are free of uncomfortable drafts produced by air from supply terminals **ACTIVITY 18: PRESSURIZATION IN BUILDINGS** NOTE: To prevent infiltration of outdoor pollutants, the ventilation system is designed to maintain positive pressurization in the building. Therefore, ensure that the system, including any exhaust fans, is operating on the "occupied" cycle when doing this activity. 4j. Ensured that air flows out of the building (using chemical smoke) through windows, doors, or other cracks and holes in exterior wall (for example, floor joints, pipe openings)..... 5. EXHAUST SYSTEMS **ACTIVITY 19: EXHAUST FAN OPERATION** 5a. Checked (using chemical smoke) that air flows into exhaust fan grille(s) \square If fans are running but air is not flowing toward the exhaust intake, check for the following: · Inoperable dampers · Obstructed, leaky, or disconnected ductwork · Undersized or improperly installed fan

Broken fan belt





5. EXHAUST SYSTEMS (continued)

ACTIVITY 20: EXHAUST AIRFLOW

NOTE: Prevent migration of indoor contaminants from areas such as bathrooms, kitched and labs by keeping them under negative pressure (as compared to surrounding spaces,	ens).	,
5b. Checked (using chemical smoke) that air is drawn into the room from adjacent spaces	0	N/A
Stand outside the room with the door slightly open while checking airflow high and low the door opening (see "How to Measure Airflow").	v in	ı
5c. Ensured that air is flowing toward the exhaust intake		
ACTIVITY 21: EXHAUST DUCTWORK 5d. Checked that the exhaust ductwork downstream of the exhaust fan (which is under positive pressure) is sealed and in good condition	ם	
6. QUANTITY OF OUTDOOR AIR		
ACTIVITY 22: OUTDOOR AIR MEASUREMENTS AND CALCULATIONS		
NOTE: Refer to "How to Measure Airflow" for techniques.		
6a. Measured the quantity of outdoor air supplied (22a) to each ventilation unit		
6b. Calculated the number of occupants served (22b) by the ventilation unit		
6c. Divided outdoor air supply (22a) by the number of occupants (22b) to determine the existing quantity of outdoor air supply per person (22c) □		
ACTIVITY 23: ACCEPTABLE LEVELS OF OUTDOOR AIR QUANTITIES 6d. Compared the existing outdoor air per person (22c) to the recommended levels in Table 1	9	
6e. Corrected problems with ventilation units that supplied inadequate quantities of outdoor air to ensure that outdoor air quantities (22c) meet		Г

the recommended levels in Table 1......

NOTES

6. Balancing scheduled for summer 2024



- Read the IAQ
 Backgrounder and the Background Information for this checklist.
- 2. Keep the
 Background
 Information and
 make a copy of
 this checklist for
 each ventilation
 unit in your school,
 as well as a
 copy for future
 reference.
- 3. Complete the Checklist.
 - Check the "yes,"
 "no," or
 "not applicable"
 box beside each
 item. (A "no"
 response
 requires further
 attention.)
 - Make comments in the "Notes" section as necessary.
- Return the checklist portion of this document to the IAQ Coordinator.

Ventilation Checklist

Nar	me: Wayne Donaldson		
Sch	Gales Ferry School		
I In:	it Ventilator/AHU No: AHU-3		
		Ř.	
Roc	om or Area: Date Completed:		
Sign	nature:		1
	OUTDOOR AIR INTAKES		
	Marked locations of all outdoor air intakes on a small floor plan (for example, a fire escape floor plan)	No	N/A
1b.	Ensured that the ventilation system was on and operating in "occupied" mode	۵	
	FIVITY 1: OBSTRUCTIONS Ensured that outdoor air intakes are clear of obstructions, debris, clogs,		
Ic.	or covers		
1d.	Installed corrective devices as necessary (e.g., if snowdrifts or leaves frequently block an intake)		٦
10	TIVITY 2: POLLUTANT SOURCES		
	Checked ground-level intakes for pollutant sources (dumpsters, loading docks, and bus-idling areas)		
1f.	Checked rooftop intakes for pollutant sources (plumbing vents; kitchen, toilet, or laboratory exhaust fans; puddles; and mist from		
	air-conditioning cooling towers)		
lg.	Resolved any problems with pollutant sources located near outdoor air intakes (e.g., relocated dumpster or extended exhaust pipe)		,
AC	TIVITY 3: AIRFLOW		
1h.	Obtained chemical smoke (or a small piece of tissue paper or light plastic)		
li.	Confirmed that outdoor air is entering the intake appropriately		
2.	SYSTEM CLEANLINESS		
	TIVITY 4: AIR FILTERS		
2a.	Replaced filters per maintenance schedule		
2b.	Shut off ventilation system fans while replacing filters (prevents dirt from blowing downstream)		
2c.	Vacuumed filter areas before installing new filters		
2d.	Confirmed proper fit of filters to prevent air from bypassing (flowing around) the air filter	0	
2e.	Confirmed proper installation of filters (correct direction for airflow)		

2. SYSTEM CLEANLINESS (continued)

ACTIVITY 5: DRAIN PANS 2f. Ensured that drain pans slant toward the drain (to prevent water from Yes No N/A accumulating) 2g. Cleaned drain pans 2h. Checked drain pans for mold and mildew ACTIVITY 6: COILS 2i. Ensured that heating and cooling coils are clean ACTIVITY 7: AIR-HANDLING UNITS, UNIT VENTILATORS 2j. Ensured that the interior of air-handling unit(s) or unit ventilator (air-mixing chamber and fan blades) is clean 2k. Ensured that ducts are clean **ACTIVITY 8: MECHANICAL ROOMS** 21. Checked mechanical room for unsanitary conditions, leaks, and spills 2m. Ensured that mechanical rooms and air-mixing chambers are free of trash, chemical products, and supplies 3. CONTROLS FOR OUTDOOR AIR SUPPLY 3a. Ensured that air dampers are at least partially open (minimum position) 3b. Ensured that minimum position provides adequate outdoor air for occupants.... **ACTIVITY 9: CONTROLS INFORMATION** 3c. Obtained and reviewed all design inside/outside temperature and humidity requirements, controls specifications, as-built mechanical drawings, and controls operations manuals (often uniquely designed) ACTIVITY 10: CLOCKS, TIMERS, SWITCHES 3d. Turned summer-winter switches to the correct position 3e. Set time clocks appropriately..... 3f. Ensured that settings fit the actual schedule of building use (including night/weekend use) **ACTIVITY 11: CONTROL COMPONENTS** 3g. Ensured appropriate system pressure by testing line pressure at both the occupied (day) setting and the unoccupied (night) setting 3h. Checked that the line dryer prevents moisture buildup...... 3i. Replaced control system filters at the compressor inlet based on the compressor manufacturer's recommendation (for example, when you blow down the tank)..... 3j. Set the line pressure at each thermostat and damper actuator at the proper level (no leakage or obstructions) **ACTIVITY 12: OUTDOOR AIR DAMPERS** 3k. Ensured that the outdoor air damper is visible for inspection..... 31. Ensured that the recirculating relief and/or exhaust dampers are visible for inspection 3m. Ensured that air temperature in the indoor area(s) served by each outdoor air damper is within the normal operating range



NOTE: It is necessary to ensure that the damper is operating properly and within the normal range to continue.



3.	CONTROLS FOR OUTDOOR AIR SUPPLY (continued)			
3n.	Checked that the outdoor air damper fully closes within a few minutes of shutting off appropriate air handler		No □	N/A □
	. Checked that the outdoor air damper opens (at least partially with no delay) when the air handler is turned on			
	If in heating mode, checked that the outdoor air damper goes to its minimum position (without completely closing) when the room thermostat is set to 85°F	•		٥
	If in cooling mode, checked that the outdoor air damper goes to its minimum position (without completely closing) when the room thermostat is set to 60°F and mixed air thermostat is set to 45°F			
	 If the outdoor air damper does not move, confirmed the following items: The damper actuator links to the damper shaft, and any linkage set screws or bolts are tight			
Pr	oceed to Activities 13–16 if the damper seems to be operating properly.			
3s	CTIVITY 13: FREEZE STATS Disconnected power to controls (for automatic reset only) to test continuity across terminals	. 🗅		•
	. Confirmed (if applicable) that depressing the manual reset button (usually red) trips the freeze stat (clicking sound indicates freeze stat was tripped)	. 0		٥
	Assessed the feasibility of replacing all manual reset freeze-stats with automatic reset freeze-stats	. •		
ci	FOTE: HVAC systems with water coils need protection from the cold. The freeze lose the outdoor air damper and disconnect the supply air when tripped. The $t_{\rm c}$ ange is 35°F to 42°F.	?-sta ypic	it ma al tri	p
A 3	ACTIVITY 14: MIXED AIR THERMOSTATS v. Ensured that the mixed air stat for heating mode is set no higher			
3	than 65°F w. Ensured that the mixed air stat for cooling mode is set no lower than the room thermostat setting			
3	ACTIVITY 15: ECONOMIZERS 3x. Confirmed proper economizer settings based on design specifications or local practices	🗨		1 🗆
1	NOTE: The dry-bulb is typically set at 65°F or lower.			
-	3y. Checked that sensor on the economizer is shielded from direct sunlight 3z. Ensured that dampers operate properly (for outside air, return air, exhaust/relief air, and recirculated air), per the design specifications			_
ı	NOTE: Economizers use varying amounts of cool outdoor air to assist with the load of the room or rooms. There are two types of economizers, dry-bulb and e Dry-bulb economizers vary the amount of outdoor air based on outdoor tempe and enthalpy economizers vary the amount of outdoor air based on outdoor te and humidity level.	e co enthe erati	oling alpy. ıre,	

3. CONTROLS FOR OUTDOOR AIR SUPPLY (continued) **ACTIVITY 16: FANS** 3aa. Ensured that all fans (supply fans and associated return or relief fans) that move outside air indoors continuously operate during occupied Yes No N/A hours (even when room thermostat is satisfied).... NOTE: If fan shuts off when the thermostat is satisfied, adjust control cycle as necessary to ensure sufficient outdoor air supply. 4. AIR DISTRIBUTION **ACTIVITY 17: AIR DISTRIBUTION** 4a. Ensured that supply and return air pathways in the existing ventilation system perform as required..... 4b. Ensured that passive gravity relief ventilation systems and transfer grilles between rooms and corridors are functioning..... NOTE: If ventilation system is closed or blocked to meet current fire codes, consult with a professional engineer for remedies. 4c. Made sure every occupied space has supply of outdoor air (mechanical system or operable windows) 4d. Ensured that supply and return vents are open and unblocked NOTE: If outlets have been blocked intentionally to correct drafts or discomfort, investigate and correct the cause of the discomfort and reopen the vents. 4e. Modified the HVAC system to supply outside air to areas without an outdoor air supply...... 4f. Modified existing HVAC systems to incorporate any room or zone layout and population changes 4g. Moved all barriers (for example, room dividers, large free-standing blackboards or displays, bookshelves) that could block movement of air in the room, especially those blocking air vents 4h. Ensured that unit ventilators are quiet enough to accommodate classroom activities 4i. Ensured that classrooms are free of uncomfortable drafts produced by air from supply terminals **ACTIVITY 18: PRESSURIZATION IN BUILDINGS** NOTE: To prevent infiltration of outdoor pollutants, the ventilation system is designed to maintain positive pressurization in the building. Therefore, ensure that the system, including any exhaust fans, is operating on the "occupied" cycle when doing this activity. 4j. Ensured that air flows out of the building (using chemical smoke) through windows, doors, or other cracks and holes in exterior wall (for example, floor joints, pipe openings)..... 5. EXHAUST SYSTEMS **ACTIVITY 19: EXHAUST FAN OPERATION** 5a. Checked (using chemical smoke) that air flows into exhaust fan grille(s) If fans are running but air is not flowing toward the exhaust intake, check for the following: Inoperable dampers · Obstructed, leaky, or disconnected ductwork · Undersized or improperly installed fan

· Broken fan belt





5. EXHAUST SYSTEMS (continued)

ACTIVITY 20: EXHAUST AIRFLOW

NOTE: Prevent migration of indoor contaminants from areas such as bathrooms and labs by keeping them under negative pressure (as compared to surrounding	s, kita spac	chen: ces).	5,
5b. Checked (using chemical smoke) that air is drawn into the room from adjacent spaces	Yes . □	No	N/A
Stand outside the room with the door slightly open while checking airflow high the door opening (see "How to Measure Airflow").	and i	low i	n
5c. Ensured that air is flowing toward the exhaust intake	. 📵		
ACTIVITY 21: EXHAUST DUCTWORK 5d. Checked that the exhaust ductwork downstream of the exhaust fan (which i under positive pressure) is sealed and in good condition	s 🗖		
6. QUANTITY OF OUTDOOR AIR			
ACTIVITY 22: OUTDOOR AIR MEASUREMENTS AND CALCULATION	NS		
NOTE: Refer to "How to Measure Airflow" for techniques.			
6a. Measured the quantity of outdoor air supplied (22a) to each ventilation unit	🗀		
6b. Calculated the number of occupants served (22b) by the ventilation unit			
6c. Divided outdoor air supply (22a) by the number of occupants (22b) to determine the existing quantity of outdoor air supply per person (22c)			
ACTIVITY 23: ACCEPTABLE LEVELS OF OUTDOOR AIR QUANTIT			
6d. Compared the existing outdoor air per person (22c) to the recommended levels in Table 1		9	
6e. Corrected problems with ventilation units that supplied inadequate quantities of outdoor air to ensure that outdoor air quantities (22c) meet	П	_	

the recommended levels in Table 1.....

NOTES

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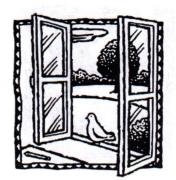
Ventilation Checklist

Wayne Donaldson

Nan				
	ool:Gales Ferry School			_
Uni	t Ventilator/AHU No: AHU-4			_
	om or Area: Date Completed:			1.0
Sign	nature:			
1. (OUTDOOR AIR INTAKES			
la.	Marked locations of all outdoor air intakes on a small floor plan (for	Yes	No	N/A
1h	example, a fire escape floor plan)	•	_	_
10.	mode	•		
ACT	TIVITY 1: OBSTRUCTIONS			
	Ensured that outdoor air intakes are clear of obstructions, debris, clogs,			
	or covers	. 🚇		
1d.	Installed corrective devices as necessary (e.g., if snowdrifts or leaves frequently block an intake)	. 🖭	0	٦
AC	TIVITY 2: POLLUTANT SOURCES			
1e.	Checked ground-level intakes for pollutant sources (dumpsters, loading docks, and bus-idling areas)			٦
1f.	Checked rooftop intakes for pollutant sources (plumbing vents; kitchen, toilet, or laboratory exhaust fans; puddles; and mist from			
	air-conditioning cooling towers)			
lg.	Resolved any problems with pollutant sources located near outdoor air intakes (e.g., relocated dumpster or extended exhaust pipe)	. •		
10	TIVITY 3: AIRFLOW			
	Obtained chemical smoke (or a small piece of tissue paper or light plastic).	. •		
li.	Confirmed that outdoor air is entering the intake appropriately	. 📦		
2.	SYSTEM CLEANLINESS			
	TIVITY 4: AIR FILTERS	_		
	Replaced filters per maintenance schedule	🙍	u	
2b.	Shut off ventilation system fans while replacing filters (prevents dirt from blowing downstream)	😉		
2c.	Vacuumed filter areas before installing new filters			
	Confirmed proper fit of filters to prevent air from bypassing (flowing			
2-	around) the air filter			
26.	Comminded proper instantation of finers (correct direction for antitow)		_	_

2. SYSTEM CLEANLINESS (continued)

A	CTIVITY 5: DRAIN PANS			
2f			No	N/A
2-	accumulating)			
	Checked drain page for mold and mildow			
211	. Checked drain pans for mold and mildew			
A	CTIVITY 6: COILS			
2i.	Ensured that heating and cooling coils are clean			
A	CTIVITY 7: AIR-HANDLING UNITS, UNIT VENTILATORS			
	Ensured that the interior of air-handling unit(s) or unit ventilator			
	(air-mixing chamber and fan blades) is clean			
2k	Ensured that ducts are clean			
AC	CTIVITY 8: MECHANICAL ROOMS			
	Checked mechanical room for unsanitary conditions, leaks, and spills			
2m	n. Ensured that mechanical rooms and air-mixing chambers are free of trash,	•		
	chemical products, and supplies			
2	CONTROL C FOR OUTROOR AIR CUITAN			
	CONTROLS FOR OUTDOOR AIR SUPPLY			
3a.	Ensured that air dampers are at least partially open (minimum position)			
36.	Ensured that minimum position provides adequate outdoor air	_	_	
	for occupants			
AC	CTIVITY 9: CONTROLS INFORMATION			
3c.	Obtained and reviewed all design inside/outside temperature and humidity			
	requirements, controls specifications, as-built mechanical drawings,			
	and controls operations manuals (often uniquely designed)	1		
AC	CTIVITY 10: CLOCKS, TIMERS, SWITCHES			
3d.	Turned summer-winter switches to the correct position			
3e.	Set time clocks appropriately			
3f.	Ensured that settings fit the actual schedule of building use (including			
	night/weekend use)			
AC	CTIVITY 11: CONTROL COMPONENTS			
	Ensured appropriate system pressure by testing line pressure at both the			
	occupied (day) setting and the unoccupied (night) setting	_		
3h.	Checked that the line dryer prevents moisture buildup			
3i.	Replaced control system filters at the compressor inlet based on the			
	compressor manufacturer's recommendation (for example, when you			_
3j.	Set the line pressure at each thermostat and damper actuator at the proper	_		•
3	level (no leakage or obstructions)	ם		
		17 V	-0	_
	TIVITY 12: OUTDOOR AIR DAMPERS			
5K.	Ensured that the outdoor air damper is visible for inspection			
31.	Ensured that the recirculating relief and/or exhaust dampers are visible for inspection			
3m.	Ensured that air temperature in the indoor area(s) served by each			
	outdoor air damper is within the normal operating range	9		



NOTE: It is necessary to ensure that the damper is operating properly and within the normal range to continue.



3. CONTROLS FOR OUTDOOR AIR SUPPLY (continued)		
3n. Checked that the outdoor air damper fully closes within a few minutes of shutting off appropriate air handler	No	N/A
30. Checked that the outdoor air damper opens (at least partially with no delay) when the air handler is turned on		
3p. If in heating mode, checked that the outdoor air damper goes to its minimum position (without completely closing) when the room thermostat is set to 85°F.	۵	
3q. If in cooling mode, checked that the outdoor air damper goes to its minimum position (without completely closing) when the room thermostat is set to 60°F and mixed air thermostat is set to 45°F		
 3r. If the outdoor air damper does not move, confirmed the following items: The damper actuator links to the damper shaft, and any linkage set screws or bolts are tight 		٥
 Moving parts are free of impediments (e.g., rust, corrosion) 		
 Electrical wire or pneumatic tubing connects to the damper actuator 		
• The outside air thermostat(s) is functioning properly (e.g., in the right location, calibrated correctly)		۵
Proceed to Activities 13–16 if the damper seems to be operating properly.		
ACTIVITY 13: FREEZE STATS		
3s. Disconnected power to controls (for automatic reset only) to test continuity across terminals	۵	•
OR		
3t. Confirmed (if applicable) that depressing the manual reset button (usually red) trips the freeze stat (clicking sound indicates freeze stat was tripped)		٦
3u. Assessed the feasibility of replacing all manual reset freeze-stats with automatic reset freeze-stats	٥	٦
NOTE: HVAC systems with water coils need protection from the cold. The freeze-state close the outdoor air damper and disconnect the supply air when tripped. The typical range is 35°F to 42°F.	t may ıl tri _l	v p
ACTIVITY 14: MIXED AIR THERMOSTATS		
3v. Ensured that the mixed air stat for heating mode is set no higher than 65°F		
3w. Ensured that the mixed air stat for cooling mode is set no lower than the room thermostat setting	۵	
DONOMIZEDS		
ACTIVITY 15: ECONOMIZERS 3x. Confirmed proper economizer settings based on design specifications or		
local practices		
NOTE: The dry-bulb is typically set at 65°F or lower.		
3y. Checked that sensor on the economizer is shielded from direct sunlight		ı u
3z. Ensured that dampers operate properly (for outside air, return air, exhaust/relief air, and recirculated air), per the design specifications		
NOTE: Economizers use varying amounts of cool outdoor air to assist with the coo	ling	

NOTE: Economizers use varying amounts of cool outdoor air to assist with the cooling load of the room or rooms. There are two types of economizers, dry-bulb and enthalpy. Dry-bulb economizers vary the amount of outdoor air based on outdoor temperature, and enthalpy economizers vary the amount of outdoor air based on outdoor temperature and humidity level.

3. CONTROLS FOR OUTDOOR AIR SUPPLY (continued) **ACTIVITY 16: FANS** 3aa. Ensured that all fans (supply fans and associated return or relief fans) that move outside air indoors continuously operate during occupied Yes No N/A hours (even when room thermostat is satisfied)..... NOTE: If fan shuts off when the thermostat is satisfied, adjust control cycle as necessary to ensure sufficient outdoor air supply. 4. AIR DISTRIBUTION **ACTIVITY 17: AIR DISTRIBUTION** 4a. Ensured that supply and return air pathways in the existing ventilation system perform as required..... 4b. Ensured that passive gravity relief ventilation systems and transfer grilles between rooms and corridors are functioning..... NOTE: If ventilation system is closed or blocked to meet current fire codes, consult with a professional engineer for remedies. 4c. Made sure every occupied space has supply of outdoor air (mechanical system or operable windows) 4d. Ensured that supply and return vents are open and unblocked NOTE: If outlets have been blocked intentionally to correct drafts or discomfort, investigate and correct the cause of the discomfort and reopen the vents. 4e. Modified the HVAC system to supply outside air to areas without an outdoor air supply...... 4f. Modified existing HVAC systems to incorporate any room or zone layout and population changes 4g. Moved all barriers (for example, room dividers, large free-standing blackboards or displays, bookshelves) that could block movement of air in the room, especially those blocking air vents 4h. Ensured that unit ventilators are quiet enough to accommodate classroom activities 4i. Ensured that classrooms are free of uncomfortable drafts produced by air from supply terminals **ACTIVITY 18: PRESSURIZATION IN BUILDINGS** NOTE: To prevent infiltration of outdoor pollutants, the ventilation system is designed to maintain positive pressurization in the building. Therefore, ensure that the system, including any exhaust fans, is operating on the "occupied" cycle when doing this activity. 4j. Ensured that air flows out of the building (using chemical smoke) through windows, doors, or other cracks and holes in exterior wall (for example, floor joints, pipe openings)..... 5. EXHAUST SYSTEMS **ACTIVITY 19: EXHAUST FAN OPERATION** 5a. Checked (using chemical smoke) that air flows into exhaust fan grille(s) If fans are running but air is not flowing toward the exhaust intake, check for the following: · Inoperable dampers · Obstructed, leaky, or disconnected ductwork · Undersized or improperly installed fan

· Broken fan belt





5. EXHAUST SYSTEMS (continued)

ACTIVITY 20: EXHAUST AIRFLOW

NOTE: Prevent migration of indoor contaminants from areas such as bathrooms, and labs by keeping them under negative pressure (as compared to surrounding s	kite pac	chens ces).	5,
5b. Checked (using chemical smoke) that air is drawn into the room from adjacent spaces	es D	No	N/A
Stand outside the room with the door slightly open while checking airflow high at the door opening (see "How to Measure Airflow").	ıd l	low ii	n
5c. Ensured that air is flowing toward the exhaust intake			
ACTIVITY 21: EXHAUST DUCTWORK 5d. Checked that the exhaust ductwork downstream of the exhaust fan (which is under positive pressure) is sealed and in good condition	ם	0	
6. QUANTITY OF OUTDOOR AIR			
ACTIVITY 22: OUTDOOR AIR MEASUREMENTS AND CALCULATION	IS		
NOTE: Refer to "How to Measure Airflow" for techniques.			
6a. Measured the quantity of outdoor air supplied (22a) to each ventilation unit			
6b. Calculated the number of occupants served (22b) by the ventilation unit		•	- 🗖
6c. Divided outdoor air supply (22a) by the number of occupants (22b) to determine the existing quantity of outdoor air supply per person (22c)			
ACTIVITY 23: ACCEPTABLE LEVELS OF OUTDOOR AIR QUANTITIE	ES		
6d. Compared the existing outdoor air per person (22c) to the recommended levels in Table 1		3	
6e. Corrected problems with ventilation units that supplied inadequate quantities of outdoor air to ensure that outdoor air quantities (22c) meet the recommended levels in Table 1		9	

NOTES

6. Balancing scheduled for summer 2024



- Read the IAQ
 Backgrounder and the Background Information for this checklist.
- 2. Keep the
 Background
 Information and
 make a copy of
 this checklist for
 each ventilation
 unit in your school,
 as well as a
 copy for future
 reference.
- 3. Complete the Checklist.
 - Check the "yes," "no," or "not applicable" box beside each item. (A "no" response requires further attention.)
 - Make comments in the "Notes" section as necessary.
- Return the checklist portion of this document to the IAQ Coordinator.

Ventilation Checklist

Nat	me: Wayne Donaldson			
	Gales Ferry School		ar ·	
	it Ventilator/AHU No: AHU-5			
Po	om or Area: Date Completed: 1/26/2024			
1				
Sig	mature:		. 8	-
1.	OUTDOOR AIR INTAKES			
la.	Marked recations of an outdoor an intakes on a small from plan (10)		No	N/A
	example, a fire escape floor plan)			
1b.	Ensured that the ventilation system was on and operating in "occupied" mode	D		
	TIVITY 1: OBSTRUCTIONS			
1c.	Ensured that outdoor air intakes are clear of obstructions, debris, clogs, or covers			
1d	Installed corrective devices as necessary (e.g., if snowdrifts or leaves		_	_
1 4.	frequently block an intake)			
AC	TIVITY 2: POLLUTANT SOURCES			
	Checked ground-level intakes for pollutant sources (dumpsters, loading			
	docks, and bus-idling areas)			
1f.	Checked rooftop intakes for pollutant sources (plumbing vents; kitchen, toilet, or laboratory exhaust fans; puddles; and mist from			
	air-conditioning cooling towers)			
1g.	Resolved any problems with pollutant sources located near outdoor air		_	_
	intakes (e.g., relocated dumpster or extended exhaust pipe)			
AC	TIVITY 3: AIRFLOW			
	Obtained chemical smoke (or a small piece of tissue paper or light plastic)			
li.	Confirmed that outdoor air is entering the intake appropriately	3		
2.	SYSTEM CLEANLINESS			
AC	TIVITY 4: AIR FILTERS			
2a.	Replaced filters per maintenance schedule			
2b.	Shut off ventilation system fans while replacing filters (prevents dirt from			
20	blowing downstream)			
	Confirmed proper fit of filters to prevent air from bypassing (flowing	_	_	_
	around) the air filter			
20	Confirmed proper installation of filters (correct direction for airflow)			

2. SYSTEM CLEANLINESS (continued)

ACTIVITY 5: DRAIN PANS 2f. Ensured that drain pans slant toward the drain (to prevent water from Yes No N/A accumulating) 2g. Cleaned drain pans 2h. Checked drain pans for mold and mildew **ACTIVITY 6: COILS** 2i. Ensured that heating and cooling coils are clean **ACTIVITY 7: AIR-HANDLING UNITS, UNIT VENTILATORS** 2j. Ensured that the interior of air-handling unit(s) or unit ventilator (air-mixing chamber and fan blades) is clean 2k. Ensured that ducts are clean **ACTIVITY 8: MECHANICAL ROOMS** 21. Checked mechanical room for unsanitary conditions, leaks, and spills 2m. Ensured that mechanical rooms and air-mixing chambers are free of trash, chemical products, and supplies 3. CONTROLS FOR OUTDOOR AIR SUPPLY 3a. Ensured that air dampers are at least partially open (minimum position) 3b. Ensured that minimum position provides adequate outdoor air for occupants.... **ACTIVITY 9: CONTROLS INFORMATION** 3c. Obtained and reviewed all design inside/outside temperature and humidity requirements, controls specifications, as-built mechanical drawings, and controls operations manuals (often uniquely designed) **ACTIVITY 10: CLOCKS, TIMERS, SWITCHES** 3d. Turned summer-winter switches to the correct position 3e. Set time clocks appropriately..... 3f. Ensured that settings fit the actual schedule of building use (including night/weekend use) **ACTIVITY 11: CONTROL COMPONENTS** 3g. Ensured appropriate system pressure by testing line pressure at both the occupied (day) setting and the unoccupied (night) setting 3h. Checked that the line dryer prevents moisture buildup...... 3i. Replaced control system filters at the compressor inlet based on the compressor manufacturer's recommendation (for example, when you blow down the tank)..... 3j. Set the line pressure at each thermostat and damper actuator at the proper level (no leakage or obstructions) **ACTIVITY 12: OUTDOOR AIR DAMPERS** 3k. Ensured that the outdoor air damper is visible for inspection..... 31. Ensured that the recirculating relief and/or exhaust dampers are visible for inspection 3m. Ensured that air temperature in the indoor area(s) served by each outdoor air damper is within the normal operating range



NOTE: It is necessary to ensure that the damper is operating properly and within the normal range to continue.



3.	CONTROLS FOR OUTDOOR AIR SUPPLY (continued)			
3n.	Checked that the outdoor air damper fully closes within a few minutes of shutting off appropriate air handler		No	N/A
	Checked that the outdoor air damper opens (at least partially with no delay) when the air handler is turned on			
	If in heating mode, checked that the outdoor air damper goes to its minimum position (without completely closing) when the room thermostat is set to 85°F			
	If in cooling mode, checked that the outdoor air damper goes to its minimum position (without completely closing) when the room thermostat is set to 60°F and mixed air thermostat is set to 45°F	Ð	<u> </u>	
3r.	If the outdoor air damper does not move, confirmed the following items: The damper actuator links to the damper shaft, and any linkage set screws or bolts are tight.			
	 Moving parts are free of impediments (e.g., rust, corrosion) Electrical wire or pneumatic tubing connects to the damper actuator 			
	The outside air thermostat(s) is functioning properly (e.g., in the right location, calibrated correctly)			
Pro	oceed to Activities 13–16 if the damper seems to be operating properly.			
AC	CTIVITY 13: FREEZE STATS			
	Disconnected power to controls (for automatic reset only) to test continuity across terminals	ב	٥	•
OR 3t.	Confirmed (if applicable) that depressing the manual reset button (usually red) trips the freeze stat (clicking sound indicates freeze stat was tripped)			٥
3u	Assessed the feasibility of replacing all manual reset freeze-stats with automatic reset freeze-stats			
clo	OTE: HVAC systems with water coils need protection from the cold. The freeze- ose the outdoor air damper and disconnect the supply air when tripped. The typ nge is 35°F to 42°F.	sta	t ma al tri	y p
A	CTIVITY 14: MIXED AIR THERMOSTATS			
	Ensured that the mixed air stat for heating mode is set no higher than 65°F			
3v	v. Ensured that the mixed air stat for cooling mode is set no lower than the room thermostat setting			
Δ	CTIVITY 15: ECONOMIZERS			
32	c. Confirmed proper economizer settings based on design specifications or local practices	•		
	OTE: The dry-bulb is typically set at 65°F or lower.			
3	y. Checked that sensor on the economizer is shielded from direct sunlight	9		1 0
3:	z. Ensured that dampers operate properly (for outside air, return air, exhaust/relief air, and recirculated air), per the design specifications			
N	OTE: Economizers use varying amounts of cool outdoor air to assist with the	coc tha	oling ılpv.	

NOTE: Economizers use varying amounts of cool outdoor air to assist with the cooling load of the room or rooms. There are two types of economizers, dry-bulb and enthalpy. Dry-bulb economizers vary the amount of outdoor air based on outdoor temperature, and enthalpy economizers vary the amount of outdoor air based on outdoor temperature and humidity level.

3. CONTROLS FOR OUTDOOR AIR SUPPLY (continued) ACTIVITY 16: FANS 3aa. Ensured that all fans (supply fans and associated return or relief fans) that move outside air indoors continuously operate during occupied Yes No N/A hours (even when room thermostat is satisfied)..... NOTE: If fan shuts off when the thermostat is satisfied, adjust control cycle as necessary to ensure sufficient outdoor air supply. 4. AIR DISTRIBUTION **ACTIVITY 17: AIR DISTRIBUTION** 4a. Ensured that supply and return air pathways in the existing ventilation system perform as required..... 4b. Ensured that passive gravity relief ventilation systems and transfer grilles between rooms and corridors are functioning..... NOTE: If ventilation system is closed or blocked to meet current fire codes, consult with a professional engineer for remedies. 4c. Made sure every occupied space has supply of outdoor air (mechanical system or operable windows) 4d. Ensured that supply and return vents are open and unblocked NOTE: If outlets have been blocked intentionally to correct drafts or discomfort, investigate and correct the cause of the discomfort and reopen the vents. 4e. Modified the HVAC system to supply outside air to areas without an outdoor air supply...... 4f. Modified existing HVAC systems to incorporate any room or zone layout and population changes 4g. Moved all barriers (for example, room dividers, large free-standing blackboards or displays, bookshelves) that could block movement of air in the room, especially those blocking air vents 4h. Ensured that unit ventilators are quiet enough to accommodate classroom activities 4i. Ensured that classrooms are free of uncomfortable drafts produced by air from supply terminals **ACTIVITY 18: PRESSURIZATION IN BUILDINGS** NOTE: To prevent infiltration of outdoor pollutants, the ventilation system is designed to maintain positive pressurization in the building. Therefore, ensure that the system, including any exhaust fans, is operating on the "occupied" cycle when doing this activity. 4j. Ensured that air flows out of the building (using chemical smoke) through windows, doors, or other cracks and holes in exterior wall (for example, floor joints, pipe openings)..... 5. EXHAUST SYSTEMS **ACTIVITY 19: EXHAUST FAN OPERATION** 5a. Checked (using chemical smoke) that air flows into exhaust fan grille(s) If fans are running but air is not flowing toward the exhaust intake, check for the following: · Inoperable dampers · Obstructed, leaky, or disconnected ductwork · Undersized or improperly installed fan

· Broken fan belt





5. EXHAUST SYSTEMS (continued)

ACTIVITY 20: EXHAUST AIRFLOW

NOTE: Prevent migration of indoor contaminants from areas such as bathrooms, kit and labs by keeping them under negative pressure (as compared to surrounding space)	chens ces).	ς,
5b. Checked (using chemical smoke) that air is drawn into the room from adjacent spaces	No	N/A
Stand outside the room with the door slightly open while checking airflow high and the door opening (see "How to Measure Airflow").	low ii	n
5c. Ensured that air is flowing toward the exhaust intake		
ACTIVITY 21: EXHAUST DUCTWORK 5d. Checked that the exhaust ductwork downstream of the exhaust fan (which is under positive pressure) is sealed and in good condition		
6. QUANTITY OF OUTDOOR AIR		
ACTIVITY 22: OUTDOOR AIR MEASUREMENTS AND CALCULATIONS		
NOTE: Refer to "How to Measure Airflow" for techniques.		
6a. Measured the quantity of outdoor air supplied (22a) to each ventilation unit		
6b. Calculated the number of occupants served (22b) by the ventilation unit under consideration□	9	
6c. Divided outdoor air supply (22a) by the number of occupants (22b) to determine the existing quantity of outdoor air supply per person (22c) □		
ACTIVITY 23: ACCEPTABLE LEVELS OF OUTDOOR AIR QUANTITIES		
6d. Compared the existing outdoor air per person (22c) to the recommended levels in Table 1	•	
6e. Corrected problems with ventilation units that supplied inadequate quantities of outdoor air to ensure that outdoor air quantities (22c) meet the recommended levels in Table 1□	•	

NOTES

6. Balancing scheduled for summer 2024



- Read the IAQ Backgrounder and the Background Information for this checklist.
- 2. Keep the
 Background
 Information and
 make a copy of
 this checklist for
 each ventilation
 unit in your school,
 as well as a
 copy for future
 reference.
- 3. Complete the Checklist.
 - Check the "yes," "no," or "not applicable" box beside each item. (A "no" response requires further attention.)
 - Make comments in the "Notes" section as necessary.
- Return the checklist portion of this document to the IAQ Coordinator.

Ventilation Checklist

Wayne Donaldson

Name:

School: Gales Ferry School			
Unit Ventilator/AHU No: AHU-6			
Room or Area: Date Completed:	2024		
Signature:			_
		19.	
1. OUTDOOR AIR INTAKES			
la. Marked locations of all outdoor air intakes on a small floor plan (for example, a fire escape floor plan)	Yes	No	N/A
Ensured that the ventilation system was on and operating in "occupie mode			٥
ACTIVITY 1: OBSTRUCTIONS			
lc. Ensured that outdoor air intakes are clear of obstructions, debris, clog			٥
ld. Installed corrective devices as necessary (e.g., if snowdrifts or leaves frequently block an intake)			٦
ACTIVITY 2: POLLUTANT SOURCES			
Checked ground-level intakes for pollutant sources (dumpsters, loadin docks, and bus-idling areas)	ng 		
1f. Checked rooftop intakes for pollutant sources (plumbing vents; kitche toilet, or laboratory exhaust fans; puddles; and mist from air-conditioning cooling towers)			
lg. Resolved any problems with pollutant sources located near outdoor at	ir		
intakes (e.g., relocated dumpster or extended exhaust pipe)	S		
ACTIVITY 3: AIRFLOW			
1h. Obtained chemical smoke (or a small piece of tissue paper or light pla 1i. Confirmed that outdoor air is entering the intake appropriately			
2. SYSTEM CLEANLINESS			
ACTIVITY 4: AIR FILTERS			
2a. Replaced filters per maintenance schedule2b. Shut off ventilation system fans while replacing filters (prevents dirt in the content of the cont		0	
blowing downstream)			
2c. Vacuumed filter areas before installing new filters2d. Confirmed proper fit of filters to prevent air from bypassing (flowing			
around) the air filter			0

2. SYSTEM CLEANLINESS (continued)

ACTIVITY 5: DRAIN PANS 2f. Ensured that drain pans slant toward the drain (to prevent water from Yes No N/A accumulating) 2g. Cleaned drain pans 2h. Checked drain pans for mold and mildew **ACTIVITY 6: COILS** 2i. Ensured that heating and cooling coils are clean **ACTIVITY 7: AIR-HANDLING UNITS, UNIT VENTILATORS** 2j. Ensured that the interior of air-handling unit(s) or unit ventilator (air-mixing chamber and fan blades) is clean 2k. Ensured that ducts are clean **ACTIVITY 8: MECHANICAL ROOMS** 21. Checked mechanical room for unsanitary conditions, leaks, and spills 2m. Ensured that mechanical rooms and air-mixing chambers are free of trash, chemical products, and supplies 3. CONTROLS FOR OUTDOOR AIR SUPPLY 3a. Ensured that air dampers are at least partially open (minimum position) 3b. Ensured that minimum position provides adequate outdoor air for occupants..... **ACTIVITY 9: CONTROLS INFORMATION** 3c. Obtained and reviewed all design inside/outside temperature and humidity requirements, controls specifications, as-built mechanical drawings, and controls operations manuals (often uniquely designed)..... **ACTIVITY 10: CLOCKS, TIMERS, SWITCHES** 3e. Set time clocks appropriately..... 3f. Ensured that settings fit the actual schedule of building use (including night/weekend use) **ACTIVITY 11: CONTROL COMPONENTS** 3g. Ensured appropriate system pressure by testing line pressure at both the 3i. Replaced control system filters at the compressor inlet based on the compressor manufacturer's recommendation (for example, when you blow down the tank)...... 3j. Set the line pressure at each thermostat and damper actuator at the proper level (no leakage or obstructions) **ACTIVITY 12: OUTDOOR AIR DAMPERS** 3k. Ensured that the outdoor air damper is visible for inspection 31. Ensured that the recirculating relief and/or exhaust dampers are visible for inspection 3m. Ensured that air temperature in the indoor area(s) served by each outdoor air damper is within the normal operating range



NOTE: It is necessary to ensure that the damper is operating properly and within the normal range to continue.



3.	CONTROLS FOR OUTDOOR AIR SUPPLY (continued)		
3n.	Checked that the outdoor air damper fully closes within a few minutes of shutting off appropriate air handler	No	N/
30.	Checked that the outdoor air damper opens (at least partially with no delay) when the air handler is turned on		
3p.	If in heating mode, checked that the outdoor air damper goes to its minimum position (without completely closing) when the room thermostat is set to 85°F.		
3q.	If in cooling mode, checked that the outdoor air damper goes to its minimum position (without completely closing) when the room thermostat is set		_
3r	to 60°F and mixed air thermostat is set to 45°F		
31.	The damper actuator links to the damper shaft, and any linkage set screws or bolts are tight		
	Moving parts are free of impediments (e.g., rust, corrosion)	0	_
	• Electrical wire or pneumatic tubing connects to the damper actuator		
	The outside air thermostat(s) is functioning properly (e.g., in the right location, calibrated correctly)	0	
Pro	ceed to Activities 13–16 if the damper seems to be operating properly.		
AC	TIVITY 13: FREEZE STATS		
	Disconnected power to controls (for automatic reset only) to test continuity across terminals		9
OR 3t.	Confirmed (if applicable) that depressing the manual reset button (usually red) trips the freeze stat (clicking sound indicates freeze stat was		
	tripped)		
3u.	Assessed the feasibility of replacing all manual reset freeze-stats with automatic reset freeze-stats.		
clos	TE: HVAC systems with water coils need protection from the cold. The freeze-states the outdoor air damper and disconnect the supply air when tripped. The typical ge is 35°F to 42°F.		
AC	TIVITY 14: MIXED AIR THERMOSTATS		
3v.	Ensured that the mixed air stat for heating mode is set no higher than 65°F		
3w.	Ensured that the mixed air stat for cooling mode is set no lower than the room thermostat setting		
AC	TIVITY 15: ECONOMIZERS		
3x.	Confirmed proper economizer settings based on design specifications or local practices	٥	٥
NO	TE: The dry-bulb is typically set at 65°F or lower.		
-	Checked that sensor on the economizer is shielded from direct sunlight		
JL.	exhaust/relief air, and recirculated air), per the design specifications		
NO	TE: Economizers use varying amounts of cool outdoor air to assist with the cool	ing	

NOTE: Economizers use varying amounts of cool outdoor air to assist with the cooling load of the room or rooms. There are two types of economizers, dry-bulb and enthalpy. Dry-bulb economizers vary the amount of outdoor air based on outdoor temperature, and enthalpy economizers vary the amount of outdoor air based on outdoor temperature and humidity level.

3. CONTROLS FOR OUTDOOR AIR SUPPLY (continued) **ACTIVITY 16: FANS** 3aa. Ensured that all fans (supply fans and associated return or relief fans) that move outside air indoors continuously operate during occupied Yes No N/A hours (even when room thermostat is satisfied)..... NOTE: If fan shuts off when the thermostat is satisfied, adjust control cycle as necessary to ensure sufficient outdoor air supply. 4. AIR DISTRIBUTION **ACTIVITY 17: AIR DISTRIBUTION** 4a. Ensured that supply and return air pathways in the existing ventilation system perform as required. 4b. Ensured that passive gravity relief ventilation systems and transfer grilles between rooms and corridors are functioning...... NOTE: If ventilation system is closed or blocked to meet current fire codes, consult with a professional engineer for remedies. 4c. Made sure every occupied space has supply of outdoor air (mechanical system or operable windows) 4d. Ensured that supply and return vents are open and unblocked NOTE: If outlets have been blocked intentionally to correct drafts or discomfort, investigate and correct the cause of the discomfort and reopen the vents. 4e. Modified the HVAC system to supply outside air to areas without an outdoor air supply........ 4f. Modified existing HVAC systems to incorporate any room or zone layout and population changes 4g. Moved all barriers (for example, room dividers, large free-standing blackboards or displays, bookshelves) that could block movement of air in the room, especially those blocking air vents 4h. Ensured that unit ventilators are quiet enough to accommodate classroom activities Ensured that classrooms are free of uncomfortable drafts produced by air from supply terminals ACTIVITY 18: PRESSURIZATION IN BUILDINGS NOTE: To prevent infiltration of outdoor pollutants, the ventilation system is designed to maintain positive pressurization in the building. Therefore, ensure that the system, including any exhaust fans, is operating on the "occupied" cycle when doing this activity. 4j. Ensured that air flows out of the building (using chemical smoke) through windows, doors, or other cracks and holes in exterior wall (for example, 5. EXHAUST SYSTEMS **ACTIVITY 19: EXHAUST FAN OPERATION** 5a. Checked (using chemical smoke) that air flows into exhaust fan grille(s)

If fans are running but air is not flowing toward the exhaust intake, check for the following:

- · Inoperable dampers
- · Obstructed, leaky, or disconnected ductwork
- · Undersized or improperly installed fan
- · Broken fan belt





5. EXHAUST SYSTEMS (continued)

ACTIVITY 20: EXHAUST AIRFLOW

NOTE: Prevent migration of indoor contaminants from areas such as bathrooms, kitchens, and labs by keeping them under negative pressure (as compared to surrounding spaces).

and tabs by keeping them under negative pressure (as compared to surround	uing spuc	es).	
5b. Checked (using chemical smoke) that air is drawn into the room from adjacent spaces		No •	N/A
Stand outside the room with the door slightly open while checking airflow the door opening (see "How to Measure Airflow").	nigh and l	low ii	n
5c. Ensured that air is flowing toward the exhaust intake			
ACTIVITY 21: EXHAUST DUCTWORK			
5d. Checked that the exhaust ductwork downstream of the exhaust fan (wh under positive pressure) is sealed and in good condition			
6. QUANTITY OF OUTDOOR AIR			
ACTIVITY 22: OUTDOOR AIR MEASUREMENTS AND CALCULA	TIONS		
NOTE: Refer to "How to Measure Airflow" for techniques.			
6a. Measured the quantity of outdoor air supplied (22a) to each ventilation unit	□		
6b. Calculated the number of occupants served (22b) by the ventilation un under consideration		9	
6c. Divided outdoor air supply (22a) by the number of occupants (22b) to determine the existing quantity of outdoor air supply per person (22c)			
ACTIVITY 23: ACCEPTABLE LEVELS OF OUTDOOR AIR QUANT	TITIES		
6d. Compared the existing outdoor air per person (22c) to the recommended levels in Table 1	ed	9	
6e. Corrected problems with ventilation units that supplied inadequate quantities of outdoor air to ensure that outdoor air quantities (22c) med			
the recommended levels in Table 1			

NOTES

6. Balancing scheduled for summer 2024



- Read the IAQ
 Backgrounder and
 the Background
 Information for
 this checklist.
- 2. Keep the
 Background
 Information and
 make a copy of
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 future reference.
- 3. Complete the Checklist.
 - Check the "yes," "no," or "not applicable" box beside each item. (A "no" response requires further attention.)
 - Make comments in the "Notes" section as necessary.
- Return the checklist portion of this document to the IAQ Coordinator.

Integrated Pest Management Checklist

N	ame: Wayne Donaldson		
	Chool: Gales Ferry School		
	oom or Area: Building Date Completed: 1/23/2024		_
S	gnature:		
1.	OFFICIAL POLICY STATEMENT	s No	N/A
la.	Developed or located the school's official policy statement for integrated pest management (IPM)	ت ا	
2.	DESIGNATING PEST MANAGEMENT ROLES		
2a.			
	Involved decision makers in the IPM program		
20.	Educated students and staff (the occupants of the building) about IPM and asked them to keep their areas clean and free of clutter		
2d.	Encouraged parents to learn about IPM practices and implement them		
20	at home		
2f.		J	u
	professionals		
3.	SETTING PEST MANAGEMENT OBJECTIVES		
3a.	Set appropriate pest management objectives for school buildings (such as		
	preventing pests from interfering with students' learning environment		
3h	and preserving the integrity of the building structure)		
50.	providing safe playing areas and the best athletic surfaces possible)		
		_	_
	INSPECTING, IDENTIFYING, AND MONITORING		
4a.	Inspected all buildings and grounds for pest evidence, entry points,		
4b.	food, water, and harborage sites		
4c.	Pinpointed the source of any current pest problems		
4d.	Monitored to determine the extent of pest problems and to estimate pest	_	_
	Developed plans to modify habitat (for example, exclusion, repair, and		
	sanitation errorts) to prevent or resolve any pest problems		
4f.	Established a monitoring program that consists of routine inspections to	_	_
	estimate pest population levels and identify evidence of pests and potential habitat		

	SETTING ACTION THRESHOLDS				
ā.	Evaluated all available data obtained through inspecting, identifying, and monitoring	N	o I	N/A	4
b.	Determined how many pests the school buildings, grounds, and	-			
	occupants can tolerate				
Sc.	Set action thresholds	_	ı	_	
6.	PREVENTIVE STRATEGIES				
[N]	DOOR SITES				
6a.	Implemented appropriate strategies to prevent pests from inhabiting the following	ng a	area	as:	
	- Enternance				
	Clarence arms			0	
	C		ם ב	0	
	T lear mooms		ב	0	
	04:		5		
	C. Cf.1		_		
	D. d. seems				
	T 1 and serving areas		_		
	- itte-size plumbing		5		1
					1
	Maintenance areas Other		12		
0	UTDOOR SITES	ino	ar	eas:	
6h	to prevent nests from illiabiling the folion	1115			ב
					2
				. (
				(
	Teaching gardens or greenhouses Loading docks	1		[
				- 1	
	Dumpsters Areas with ornamental shrubs and trees	9			
	Areas with ornamental shrubs and trees Other				
	7. PESTICIDE USE AND STORAGE				
•	7a. Explored alternative pest management methods before concluding that			1	
	7b. Ensured that pest management professionals integrate 22.)	
	7c. Identified the least toxic, target-specific chemical (a) formulation) that is the most effective to address the pest problem,		_	ב	
				-	_
	7d. Reviewed and followed all label listitudions on personal and followed all		C		
	how to properly apply and handle these chemicals to apply 7e. Used spot-treatment (or bait, crack, and crevice applications) to apply 7e. Used spot-treatment coscible and only treated the obviously infested				
	7e. Used spot-treatment (or bait, crack, and crevice appropriate pesticides whenever possible and only treated the obviously infested		[
	plants in the area				
	7f. Used protective clothing or equipment which applying protections that are				
	7f. Used protective clothing or equipment which applying properties of Placed all pesticides in tamper-resistant bait boxes or locations that are inaccessible to children and non-target species				





7. PESTICIDE USE AND STORAGE (cont.)

7h.	runway of the box	Yes . •	No	N/A
7i.	Applied pesticides when occupants were not present or in areas where they would not be exposed to the chemicals	. 🗨		
7j.	Ensured that school occupants (students and staff) are notified of upcoming pesticide applications through posted notices and/or letters	. 🖲		
7k.	Ensured that parents are notified of upcoming pesticide applications through letters	. •		
71.	Kept copies of current pesticide labels and information on pesticides easily accessible	. 🗆		
	Stored pesticides off site or in areas that are locked and accessible only to designated personnel	. 🗆		
7n.	Ensured that storage areas are adequately ventilated and are located away from areas prone to flooding or where spills or leaks may contaminate the environment			
70.	Ensured that flammable liquids are stored away from ignition sources		0	
	Ensured that pesticides are stored in their original containers and all lids are securely fastened			
7q.	Ensured that air in the storage space cannot mix with the air in the central ventilation system			
8.	EVALUATING RESULTS AND RECORD KEEPING			
8a.	Ensured that accurate, up-to-date records of IPM practices and a pest			
Sh	management log for each property are kept			
	Ensured that pesticide records necessary to meet all state, local, and school board requirements are maintained			
00.	Ensured that each log book contains the following items: Copy of the pest management plan	a		
	Service schedules for maintenance of buildings and grounds			
	Current EPA-registered labels			
	Current Material Safety Data Sheets (MSDS) for each pesticide project Pest surveillance data sheets			
	Pest surveillance data sheets Diagram noting the location of pest activity, traps, and bait stations			

NOTES



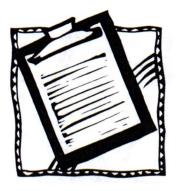
- Read the IAQ
 Backgrounder and
 the Background
 Information for
 this checklist.
- 2. Keep the
 Background
 Information and
 make a copy of
 the checklist for
 future reference.
- 3. Complete the Checklist.
 - Check the "yes," "no," or "not applicable" box beside each item. (A "no" response requires further attention.)
 - Make comments in the "Notes" section as necessary.
- Return the checklist portion of this document to the IAQ Coordinator.

Waste Management Checklist

Name:	Wayne Donaldson		
School:	Gales Ferry School		
	Building	D + C - 1+-1	1/25/2024
Room or	Area:	Date Completed:	
Signature			

1.	WASTE MANAGEMENT	/es	No	N/A
la.	Ensured that waste containers are appropriate for use (for example, food waste containers should have lids)			
1b.	Ensured that waste containers are lined			
1c.	Ensured that waste from art, science, vocational classes, etc., are handled separately			
ld.	Labeled recycling bins clearly			
le.	Ensured number of bins and dumpsters is adequate			
1 f.	Ensured appropriate location of dumpsters (i.e., away from air intakes, doors, and operable windows in relation to prevailing winds)			
lg.	Ensured waste containers are emptied regularly			
1h.	Ensured appropriate waste removal schedule			
li.	Ensured waste is stored in a well-ventilated room			
lj.	Ensured any exhaust fans in the room are operating properly			9
1k.	Checked waste storage areas for odors, contaminants, or signs of vermin			

NOTES



- Read the IAQ
 Backgrounder and
 the Background
 Information for
 this checklist.
- Keep the Background Information and make a copy of the checklist for future reference.
- Complete the Checklist.
 - Check the "yes," "no," or "not applicable" box beside each item. (A "no" response requires further attention.)
 - Make comments in the "Notes" section as necessary.
- Return the checklist portion of this document to the IAQ Coordinator.

Walkthrough Inspection Checklist

Name:	Wayne Donaldson		
School:	Gales Ferry School		
Room or	Building	Date Completed:	1/26/2024
Signature	01	Zane completion	
C			

1.	GROUND LEVEL	Vac	No	N/A
1a.	Ensured that ventilation units operate properly			
	Ensured there are no obstructions blocking air intakes			
	Checked for nests and droppings near outdoor air intakes	🖲		
	Determined that dumpsters are located away from doors, windows, and outdoor air intakes	🖭		
le.	Checked potential sources of air contaminants near the building (chimneys, stacks, industrial plants, exhaust from nearby buildings)	🖻		
1f.	and the state of t			
	Minimized pesticide application	🖭		
1h.	Ensured that there is proper drainage away from the building (including roof downspouts)	🖭		٦
li.	Ensured that sprinklers spray away from the building and outdoor air intakes			•
1j.	Ensured that walk-off mats are used at exterior entrances and that			
	they are cleaned regularly	🖢		
2.	ROOF			
Whi	ile on the roof, consider inspecting the HVAC units (use the Ventilation Chec	klist).	
2a. 2b. 2c. 2d. 2e. 2f.	Ensured that the roof is in good condition Checked for evidence of water ponding Checked that ventilation units operate properly (air flows in) Ensured that exhaust fans operate properly (air flows out) Ensured that air intakes remain open, even at minimum setting Checked for nests and droppings near outdoor air intakes Ensured that air from plumbing stacks and exhaust outlets flows away			
	from outdoor air intakes	. 🖲		
3.	ATTIC			
3a. 3b.	Checked for evidence of roof and plumbing leaks	. •	0	
4.	GENERAL CONSIDERATIONS			
ła.	Ensured that temperature and humidity are maintained within acceptable ranges	(a)		
lb.	Ensured that no obstructions exist in supply and exhaust vents	. •		
ld.	Checked for signs of mold and mildew growth			

4. (GENERAL CONSIDERATIONS (continued)	s N	lo	N/A
4e.	Checked for signs of water damage			
4f.	Checked for evidence of pests and obvious food sources			
4g.	Noted and reviewed all concerns from school occupants			
5.	BATHROOMS AND GENERAL PLUMBING			
	Ensured that bathrooms and restrooms have operating exhaust fans			
	Water is poured down floor drains once per week (approx. 1 quart of water)			
	Water is poured into sinks at least once per week (about 2 cups of water)	9		
	Toilets are flushed at least once per week			
6.	MAINTENANCE SUPPLIES			
6a.	Ensured that chemicals are used only with adequate ventilation and when			-
	building is unoccupied	7		
6b.	Ensured that vents in chemical and trash storage areas are operating			
	properly			
6c.	Ensured that portable fuel containers are properly closed	2	_	_
6d.	Ensured that power equipment, like snowblowers and lawn mowers, have been serviced and maintained according to manufacturers' guidelines			
7.	COMBUSTION APPLIANCES			
70	Checked for combustion gas and fuel odors			
7h.	Ensured that combustion appliances have flues or exhaust hoods			
70.	Checked for leaks, disconnections, and deterioration			
7d.	Ensured there is no soot on inside or outside of flue components			
/ U.	Ensured there is no soot on mode of substances			
	OTHER			
8a.	Checked for peeling and flaking paint (if the building was built before 1980, this could be a lead hazard)			
01	Determined date of last radon test			
86.	Determined date of fast radon test	_	_	_

NOTES

6a. Cleaning chemicals are used when occupied to sanitize high touch surfaces during Flu season and to clean lunch tables and kitchen equipment. Chemicals are also used to clean bodily fluid spills when needed.



- Read the IAQ
 Backgrounder and the Background Information for this checklist.
- 2. Keep the
 Background
 Information and
 make a copy of
 the checklist for
 future reference.
- 3. Complete the Checklist.
 - Check the "yes,"
 "no," or
 "not applicable"
 box beside each
 item. (A "no"
 response requires
 further attention.)
 - Make comments in the "Notes" section as necessary.
- Return the checklist portion of this document to the IAQ Coordinator.

Building and Grounds Maintenance Checklist

Name: Wayne Donaldson			7 3 3 7
School: Gales Ferry Sch	ool		3.5
Room or Area: Building	Date Completed:	1/24/2024	
Signature:		La Carte La	

1.	BUILDING MAINTENANCE SUPPLIES	Yes	No	N/A
	Developed appropriate procedures and stocked supplies for spill control Reviewed supply labels			
	Ensured that air from chemical and trash storage areas vents to the outdoors			
1d.	Stored chemical products and supplies in sealed, clearly labeled			
	Researched and selected the safest products available			
1f.	Ensured that supplies are being used according to manufacturers' instructions			
lg.	Ensured that chemicals, chemical-containing wastes, and containers are disposed of according to manufacturers' instructions		. ,	
	Substituted less- or non-hazardous materials (where possible)			
li.	Scheduled work involving odorous or hazardous chemicals for periods when the school is unoccupied	. 🚡		
lj.	Ventilated affected areas during and after the use of odorous or hazardous chemicals			
2	GROUNDS MAINTENANCE SUPPLIES			
2a.	Stored grounds maintenance supplies in appropriate area(s)			
20.	Ensured that supplies are used and stored according to manufacturers' instructions	. 9		
2c.	Established and followed procedures to minimize exposure to fumes from supplies			
2d.	Reviewed and followed manufacturers' guidelines for maintenance			
2e.	Replaced portable gas cans with low-emission cans			
2f.	Stored chemical products and supplies in sealed, clearly-labeled containers			
2g.	Ensured that chemicals, chemical-containing wastes, and containers are disposed of according to manufacturers' instructions			
	disposed of according to manufacturers instructions			
3.	DUST CONTROL			
3a.	Installed and maintained barrier mats for entrances			
	Used high efficiency vacuum bags			
3c.	Used proper dusting techniques			
3d.	Wrapped feather dusters with a dust cloth			
se.	Cleaned air return grilles and air supply vents			

4.	FLOOR CLEANING Yes	No	N/A	
4b.	Established and followed schedule for vacuuming and mopping floors	00		
4c.	Performed restorative maintenance (as necessary)			
5.	DRAIN TRAPS			
5a.	Poured water down floor drains once per week (about 1 quart of water)			المسال المسال
	Ran water in sinks at least once per week (about 2 cups of water)			
50.	Trushed toffets offee each week (it not used regularly)			
	MOISTURE, LEAKS, AND SPILLS			
6a.	Checked for moldy odors			
6b.	Inspected ceiling tiles, floors, and walls for leaks or discoloration (may indicate periodic leaks)			
6c.	Checked areas where moisture is commonly generated (e.g., kitchens,			
(1	locker rooms, and bathrooms)			
	condensate			
6e.	Checked that indoor surfaces of exterior walls and cold water pipes are			
6f	free of condensate	_	_	
01.	Indoor areas near known roof or wall leaks			
	Walls around leaky or broken windows			
	Floors and ceilings under plumbing			
	Duct interiors near humidifiers, cooling coils, and outdoor air intakes	_	_	
7.	COMBUSTION APPLIANCES			
7a	Checked for odors from combustion appliances			
7b	Checked appliances for backdrafting (using chemical smoke)			
7c	Inspected exhaust components for leaks, disconnections, or deterioration			
7d	Inspected flue components for corrosion and soot			
8.	PEST CONTROL			
	. Completed the Integrated Pest Management Checklist			
ou				

NOTES



- Read the IAQ
 Backgrounder and the Background Information for this checklist.
- 2. Keep the
 Background
 Information and
 make a copy of
 this checklist for
 each ventilation
 unit in your school,
 as well as a
 copy for future
 reference.
- 3. Complete the Checklist.
 - Check the "yes," "no," or "not applicable" box beside each item. (A "no" response requires further attention.)
 - Make comments in the "Notes" section as necessary.
- Return the checklist portion of this document to the IAQ Coordinator.

Ventilation Checklist

N	Name: Wayne Donaldson	1		
S	Gales Ferry School			
ι	Init Ventilator/AHU No: AHU-7			
1	Room or Area: Date Completed: 1/26/2024			
S	ignature:			
1.	OUTDOOR AIR INTAKES			
	. Marked locations of all outdoor air intakes on a small floor plan (for example, a fire escape floor plan)	Yes	No	N/A
16.	Ensured that the ventilation system was on and operating in "occupied" mode			
	CTIVITY 1: OBSTRUCTIONS			
	Ensured that outdoor air intakes are clear of obstructions, debris, clogs, or covers			
ld.	Installed corrective devices as necessary (e.g., if snowdrifts or leaves frequently block an intake)			
AC	CTIVITY 2: POLLUTANT SOURCES			
le.	Checked ground-level intakes for pollutant sources (dumpsters, loading docks, and bus-idling areas)			
1f.	toilet, or laboratory exhaust fans: puddles: and mist from			J
lg.	Resolved any problems with pollutant sources located peer cut leave.			
	makes (e.g., relocated dumpster or extended exhaust pipe)			
	TIVITY 3: AIRFLOW			
li.	Obtained chemical smoke (or a small piece of tissue paper or light plastic) Confirmed that outdoor air is entering the intake appropriately			
2.	SYSTEM CLEANLINESS			
ACT	TIVITY 4: AIR FILTERS			
2a.	Replaced filters per maintenance schedule			
20.	Shut off ventilation system fans while replacing filters (prevents dirt from blowing downstream)			
2d. (Confirmed proper fit of filters to prevent air from hyposping (G.,)		<u> </u>	
	around) the air filter		_	

2. SYSTEM CLEANLINESS (continued)

	IIVII I 5: DRAIN PANS				
2f.	Ensured that drain pans slant toward the drain (to prevent water from accumulating)	Yes	No	N/A	١
2~	Cleaned drain pans		0	0	
2g.	Checked drain pans for mold and mildew				
211.	Checked drain pans for more and inner			_	
	TIVITY 6: COILS				
2i.	Ensured that heating and cooling coils are clean				
AC	TIVITY 7: AIR-HANDLING UNITS, UNIT VENTILATORS				
2j.	Ensured that the interior of air-handling unit(s) or unit ventilator				
2	(air-mixing chamber and fan blades) is clean	🖢			
2k.	Ensured that ducts are clean				
AC	TIVITY 8: MECHANICAL ROOMS				
21.	Checked mechanical room for unsanitary conditions, leaks, and spills				
2m.	Ensured that mechanical rooms and air-mixing chambers are free of trash,			_	
	chemical products, and supplies	💁			
2	CONTROLS FOR OUTDOOR AIR SUPPLY				
		•			
3a.	Ensured that air dampers are at least partially open (minimum position)	=	_	_	
3b.	Ensured that minimum position provides adequate outdoor air for occupants		0		
	for occupants				
AC	CTIVITY 9: CONTROLS INFORMATION				
3c.	Obtained and reviewed all design inside/outside temperature and humidity				
	requirements controls specifications, as-built mechanical drawings,				
	and controls operations manuals (often uniquely designed)	_	_		
AC	CTIVITY 10: CLOCKS, TIMERS, SWITCHES				
24	Turned summer-winter switches to the correct position	ם		_	
20	Set time clocks appropriately	u			l
3f.	Ensured that settings fit the actual schedule of building use (including				1
	night/weekend use)		_	_	
4	CTIVITY 11: CONTROL COMPONENTS				
3g	Ensured appropriate system pressure by testing line pressure at both the		_		
	occupied (day) setting and the unoccupied (night) setting	<u>u</u>			
3h	Checked that the line dryer prevents moisture buildup	_	_	•	
3i	Replaced control system filters at the compressor inlet based on the				
	compressor manufacturer's recommendation (for example, when you blow down the tank)	🗅		9	
2:	Set the line pressure at each thermostat and damper actuator at the prope	r			
3)	level (no leakage or obstructions)	🗆		1	
	CTIVITY 12: OUTDOOR AIR DAMPERS				
A 21	k. Ensured that the outdoor air damper is visible for inspection	T		3	
31	Enough that the recirculating relief and/or exhaust dampers are visible				
	for inspection	E) (
3	m. Ensured that air temperature in the indoor area(s) served by each			1 6	7
	outdoor air damper is within the normal operating range			- '	,
λ	IOTE: It is necessary to ensure that the damper is operating properly and w	ithin	the n	orma	l



NOTE: It is necessary to ensure that the damper is operating properly and within the normal range to continue.



3.	CONTROLS FOR OUTDOOR AIR SUPPLY (continued)		
	of shutting off appropriate air handler	No	N/
	Checked that the outdoor air damper opens (at least partially with no delay) when the air handler is turned on		
3p.	If in heating mode, checked that the outdoor air damper goes to its minimum position (without completely closing) when the room thermostat is set to 85°F		
3q.	If in cooling mode, checked that the outdoor air damper goes to its minimum position (without completely closing) when the room thermostat is set to 60°F and mixed air thermostat is set to 45°F	_	
3r.	If the outdoor air damper does not move, confirmed the following items: • The damper actuator links to the damper shaft, and any linkage set	4, 6-	_
	 Moving parts are free of impediments (e.g., rust, corrosion) Electrical wire or pneumatic tubing connects to the damper actuator The outside air thermostat(s) is functioning properly (e.g., in the right location, calibrated correctly) 		
Pro	location, calibrated correctly)		
	TIVITY 13: FREEZE STATS		
	Disconnected power to controls (for automatic reset only) to test continuity across terminals		
OR		_	9
3t.	Confirmed (if applicable) that depressing the manual reset button (usually red) trips the freeze stat (clicking sound indicates freeze stat was tripped)		
3u.	Assessed the feasibility of replacing all manual reset freeze-stats with automatic reset freeze-stats		
Cios	TE: HVAC systems with water coils need protection from the cold. The freeze-stat e the outdoor air damper and disconnect the supply air when tripped. The typical ge is 35°F to 42°F.	may l trip	
AC.	FIVITY 14: MIXED AIR THERMOSTATS		
	Ensured that the mixed air stat for heating mode is set no higher than 65°F		
3w.	Ensured that the mixed air stat for cooling mode is set no lower than the room thermostat setting	0	0
ACT	TIVITY 15: ECONOMIZERS		
3x.	Confirmed proper economizer settings based on design specifications or local practices		
NOT	E: The dry-bulb is typically set at 65°F or lower.	u	
3y. (3z.]	Checked that sensor on the economizer is shielded from direct sunlight		
NOT	exhaust/relief air, and recirculated air), per the design specifications		
	E: Economizers use varying amounts of cool outdoor air to assist with the cooling of the room or rooms. There are two types of economizers, dry-bulb and enthalpy bulb economizers vary the amount of outdoor air based on outdoor temperature,	g	

and enthalpy economizers vary the amount of outdoor air based on outdoor temperature and humidity level.

3. CONTROLS FOR OUTDOOR AIR SUPPLY (continued) **ACTIVITY 16: FANS** 3aa. Ensured that all fans (supply fans and associated return or relief fans) that move outside air indoors continuously operate during occupied Yes No N/A hours (even when room thermostat is satisfied)..... NOTE: If fan shuts off when the thermostat is satisfied, adjust control cycle as necessary to ensure sufficient outdoor air supply. 4. AIR DISTRIBUTION **ACTIVITY 17: AIR DISTRIBUTION** 4a. Ensured that supply and return air pathways in the existing ventilation system perform as required..... 4b. Ensured that passive gravity relief ventilation systems and transfer grilles between rooms and corridors are functioning...... NOTE: If ventilation system is closed or blocked to meet current fire codes, consult with a professional engineer for remedies. 4c. Made sure every occupied space has supply of outdoor air (mechanical system or operable windows) 4d. Ensured that supply and return vents are open and unblocked NOTE: If outlets have been blocked intentionally to correct drafts or discomfort, investigate and correct the cause of the discomfort and reopen the vents. 4e. Modified the HVAC system to supply outside air to areas without an outdoor air supply...... 4f. Modified existing HVAC systems to incorporate any room or zone layout and population changes 4g. Moved all barriers (for example, room dividers, large free-standing blackboards or displays, bookshelves) that could block movement of air in the room, especially those blocking air vents 4h. Ensured that unit ventilators are quiet enough to accommodate classroom activities 4i. Ensured that classrooms are free of uncomfortable drafts produced by air from supply terminals ACTIVITY 18: PRESSURIZATION IN BUILDINGS NOTE: To prevent infiltration of outdoor pollutants, the ventilation system is designed to maintain positive pressurization in the building. Therefore, ensure that the system, including any exhaust fans, is operating on the "occupied" cycle when doing this activity. 4j. Ensured that air flows out of the building (using chemical smoke) through windows, doors, or other cracks and holes in exterior wall (for example, floor joints, pipe openings)....... 5. EXHAUST SYSTEMS ACTIVITY 19: EXHAUST FAN OPERATION 5a. Checked (using chemical smoke) that air flows into exhaust fan grille(s) If fans are running but air is not flowing toward the exhaust intake, check for the following: · Inoperable dampers Obstructed, leaky, or disconnected ductwork Undersized or improperly installed fan

· Broken fan belt



5. EXHAUST SYSTEMS (continued)

ACTIVITY 20: EXHAUST AIRFLOW

NOTE: Prevent migration of indoor contaminants from areas such as bathrooms, kitchens, and labs by keeping them under negative pressure (as compared to surrounding spaces). 5b. Checked (using chemical smoke) that air is drawn into the room from Yes No N/A adjacent spaces Stand outside the room with the door slightly open while checking airflow high and low in the door opening (see "How to Measure Airflow"). 5c. Ensured that air is flowing toward the exhaust intake **ACTIVITY 21: EXHAUST DUCTWORK** 5d. Checked that the exhaust ductwork downstream of the exhaust fan (which is under positive pressure) is sealed and in good condition..... 6. QUANTITY OF OUTDOOR AIR ACTIVITY 22: OUTDOOR AIR MEASUREMENTS AND CALCULATIONS NOTE: Refer to "How to Measure Airflow" for techniques. 6a. Measured the quantity of outdoor air supplied (22a) to each ventilation unit 6b. Calculated the number of occupants served (22b) by the ventilation unit under consideration..... 6c. Divided outdoor air supply (22a) by the number of occupants (22b) to determine the existing quantity of outdoor air supply per person (22c) ACTIVITY 23: ACCEPTABLE LEVELS OF OUTDOOR AIR QUANTITIES

6d. Compared the existing outdoor air per person (22c) to the recommended levels in Table 1.....

6e. Corrected problems with ventilation units that supplied inadequate quantities of outdoor air to ensure that outdoor air quantities (22c) meet the recommended levels in Table 1......

NOTES

6. Balancing scheduled for summer 2024



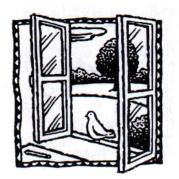
- Read the IAQ
 Backgrounder and the Background Information for this checklist.
- 2. Keep the
 Background
 Information and
 make a copy of
 this checklist for
 each ventilation
 unit in your school,
 as well as a
 copy for future
 reference.
- Complete the Checklist.
 - Check the "yes,"
 "no," or
 "not applicable"
 box beside each
 item. (A "no"
 response
 requires further
 attention.)
 - Make comments in the "Notes" section as necessary.
- Return the checklist portion of this document to the IAQ Coordinator.

Ventilation Checklist

Name: Wayne Donaldson			
School: Gales Ferry School			
Unit Ventilator/AHU No: AHU-1			-
	/26/2024		
	33		
1. OUTDOOR AIR INTAKES			
la. Marked locations of all outdoor air intakes on a small floor plan example, a fire escape floor plan)		No	N/A
Ensured that the ventilation system was on and operating in "occurrence mode	cunied"		٥
ACTIVITY 1: OBSTRUCTIONS			
lc. Ensured that outdoor air intakes are clear of obstructions, debris or covers			
Installed corrective devices as necessary (e.g., if snowdrifts or le frequently block an intake)	oria.		_
ACTIVITY 2: POLLUTANT SOURCES			
 Checked ground-level intakes for pollutant sources (dumpsters, 1 docks, and bus-idling areas) 			
toilet, or laboratory exhaust fans; puddles; and miet from	itchen,		_
lg. Resolved any problems with pollutant sources legated account.			
intakes (e.g., relocated dumpster or extended exhaust pipe)		٥	
ACTIVITY 3: AIRFLOW			
1h. Obtained chemical smoke (or a small piece of tissue paper or light1i. Confirmed that outdoor air is entering the intake appropriately	t plastic) 🖢		
2. SYSTEM CLEANLINESS			
ACTIVITY 4: AIR FILTERS			
Replaced filters per maintenance schedule			
2c. Vacuumed filter areas before installing new filters			
2d. Confirmed proper fit of filters to prevent air from bypassing (flow around) the air filter	Two.	ם	_
and a little is (correct direction for airflo	ow)		

2. SYSTEM CLEANLINESS (continued)

AC	TIVITY 5: DRAIN PANS		
2f.	Ensured that drain pans slant toward the drain (to prevent water from accumulating)	No 🗆	N/A
2-	Cleaned drain pans	٥	
	Checked drain pans for mold and mildew	٥	_
Zn.	Checked drain pails for filoid and fillidew	_	_
AC	TIVITY 6: COILS		
2i.	Ensured that heating and cooling coils are clean		
10	TIVITY 7: AIR-HANDLING UNITS, UNIT VENTILATORS		
21	Ensured that the interior of air-handling unit(s) or unit ventilator		
- j.	(air-mixing chamber and fan blades) is clean		
2k.	Ensured that ducts are clean		
10	TIVITY 8: MECHANICAL ROOMS		
	Checked mechanical room for unsanitary conditions, leaks, and spills		
21.	Ensured that mechanical rooms and air-mixing chambers are free of trash,		
2111	chemical products, and supplies		
_	CONTROL O FOR OUTDOOR AIR SUIPPLY		
	CONTROLS FOR OUTDOOR AIR SUPPLY		
3a.	Ensured that air dampers are at least partially open (minimum position)		J
3b.	Ensured that minimum position provides adequate outdoor air		
	for occupants	_	_
A	CTIVITY 9: CONTROLS INFORMATION		
3c	Obtained and reviewed all design inside outside temperature and humidity		
	requirements controls specifications, as-built mechanical drawings,		
	and controls operations manuals (often uniquely designed)	_	_
4	CTIVITY 10: CLOCKS, TIMERS, SWITCHES		
3 d	Turned summer-winter switches to the correct position) 0	
20	Set time clocks appropriately		
3 f	Ensured that settings fit the actual schedule of building use (including		
	night/weekend use)		_
Λ	CTIVITY 11: CONTROL COMPONENTS		
30	France depreparate system pressure by testing line pressure at both the		
	occupied (day) setting and the unoccupied (night) setting] _	
31	Checked that the line dryer prevents moisture buildup	J _	
3	Replaced control system filters at the compressor inlet based on the		
	compressor manufacturer's recommendation (for example, when you	ם כ	9
	blow down the tank)	2 1 2	
3	j. Set the line pressure at each thermostat and damper actuator at the proper level (no leakage or obstructions)) [9
A	k. Ensured that the outdoor air damper is visible for inspection		ם כ
3	k. Ensured that the outdoor air damper is visible for inspection. I. Ensured that the recirculating relief and/or exhaust dampers are visible		
3	for inspection		ם כ
3	Franced that air temperature in the indoor area(s) served by each		
3	outdoor air damper is within the normal operating range		ט ע
,	NOTE: It is necessary to ensure that the damper is operating properly and within		ormal



NOTE: It is necessary to ensure that the damper is operating properly and within the normal range to continue.



3.	COI	NTRO	LS F	OR C	DUTD	OOR A	AIR S	SUPPLY	(continued)
						100			

	of shutting off appropriate air handler	s No	N/A
	30. Checked that the outdoor air damper opens (at least partially with no delay) when the air handler is turned on		
	3p. If in heating mode, checked that the outdoor air damper goes to its minimum position (without completely closing) when the room thermostat is set to 85°F		
	3q. If in cooling mode, checked that the outdoor air damper goes to its minimum position (without completely closing) when the room thermostat is set to 60°F and mixed air thermostat is set to 45°F	•	
	 3r. If the outdoor air damper does not move, confirmed the following items: The damper actuator links to the damper shaft, and any linkage set screws or bolts are tight 		
	 Moving parts are free of impediments (e.g., rust, corrosion) Electrical wire or pneumatic tubing connects to the damper actuator The outside air thermostat(s) is functioning properly (e.g., in the right 	0	
	location, calibrated correctly)		
	Proceed to Activities 13–16 if the damper seems to be operating properly.		
	ACTIVITY 13: FREEZE STATS		
	3s. Disconnected power to controls (for automatic reset only) to test continuity across terminals		•
	3t. Confirmed (if applicable) that depressing the manual reset button (usually red) trips the freeze stat (clicking sound indicates freeze stat was tripped)		
	3u. Assessed the feasibility of replacing all manual reset freeze-stats with automatic reset freeze-stats		
-	NOTE: HVAC systems with water coils need protection from the cold. The freeze-state close the outdoor air damper and disconnect the supply air when tripped. The typical range is 35°F to 42°F.	may l trip	
	ACTIVITY 14: MIXED AIR THERMOSTATS		
	3v. Ensured that the mixed air stat for heating mode is set no higher		
	than 65°F		
	than the room thermostat setting		
1	ACTIVITY 15: ECONOMIZERS		
3	3x. Confirmed proper economizer settings based on design specifications or local practices		
1	NOTE: The dry-bulb is typically set at 65°F or lower.		_
3	By. Checked that sensor on the economizer is shielded from direct sunlight		
	Bz. Ensured that dampers operate properly (for outside air, return air, exhaust/relief air, and recirculated air), per the design specifications		
La	NOTE: Economizers use varying amounts of cool outdoor air to assist with the cooling oad of the room or rooms. There are two types of economizers, dry-bulb and enthalpy Dry-bulb economizers vary the amount of outdoor air based on outdoor temperature, and enthalpy economizers vary the amount of outdoor air based on outdoor temperature, and humidity level.	v.	

3. CONTROLS FOR OUTDOOR AIR SUPPLY (continued) **ACTIVITY 16: FANS** 3aa. Ensured that all fans (supply fans and associated return or relief fans) Yes No N/A that move outside air indoors continuously operate during occupied hours (even when room thermostat is satisfied)..... NOTE: If fan shuts off when the thermostat is satisfied, adjust control cycle as necessary to ensure sufficient outdoor air supply. 4. AIR DISTRIBUTION **ACTIVITY 17: AIR DISTRIBUTION** 4a. Ensured that supply and return air pathways in the existing ventilation system perform as required..... 4b. Ensured that passive gravity relief ventilation systems and transfer grilles between rooms and corridors are functioning NOTE: If ventilation system is closed or blocked to meet current fire codes, consult with a professional engineer for remedies. 4c. Made sure every occupied space has supply of outdoor air (mechanical system or operable windows) 4d. Ensured that supply and return vents are open and unblocked NOTE: If outlets have been blocked intentionally to correct drafts or discomfort, investigate and correct the cause of the discomfort and reopen the vents. 4e. Modified the HVAC system to supply outside air to areas without an outdoor air supply Modified existing HVAC systems to incorporate any room or zone layout and population changes 4g. Moved all barriers (for example, room dividers, large free-standing blackboards or displays, bookshelves) that could block movement of air in the room, especially those blocking air vents 4h. Ensured that unit ventilators are quiet enough to accommodate classroom activities Ensured that classrooms are free of uncomfortable drafts produced by air from supply terminals ACTIVITY 18: PRESSURIZATION IN BUILDINGS NOTE: To prevent infiltration of outdoor pollutants, the ventilation system is designed to maintain positive pressurization in the building. Therefore, ensure that the system, including any exhaust fans, is operating on the "occupied" cycle when doing this activity. 4j. Ensured that air flows out of the building (using chemical smoke) through windows, doors, or other cracks and holes in exterior wall (for example, floor joints, pipe openings)...... 5. EXHAUST SYSTEMS ACTIVITY 19: EXHAUST FAN OPERATION 5a. Checked (using chemical smoke) that air flows into exhaust fan grille(s) \square If fans are running but air is not flowing toward the exhaust intake, check for the following: · Inoperable dampers · Obstructed, leaky, or disconnected ductwork

· Undersized or improperly installed fan

· Broken fan belt



5. EXHAUST SYSTEMS (continued)

ACTIVITY 20: EXHAUST AIRFLOW

NOTE: Prevent migration of indoor contaminants from areas such as bathrooms, and labs by keeping them under negative pressure (as compared to surrounding sp			5,
5b. Checked (using chemical smoke) that air is drawn into the room from adjacent spaces		No •	N/A
Stand outside the room with the door slightly open while checking airflow high an the door opening (see "How to Measure Airflow").	d le	ow ii	1
5c. Ensured that air is flowing toward the exhaust intake	ì		
ACTIVITY 21: EXHAUST DUCTWORK 5d. Checked that the exhaust ductwork downstream of the exhaust fan (which is under positive pressure) is sealed and in good condition)		a
6. QUANTITY OF OUTDOOR AIR			
ACTIVITY 22: OUTDOOR AIR MEASUREMENTS AND CALCULATIONS	5		
NOTE: Refer to "How to Measure Airflow" for techniques.			
6a. Measured the quantity of outdoor air supplied (22a) to each ventilation unit	1		
6b. Calculated the number of occupants served (22b) by the ventilation unit under consideration		•	
6c. Divided outdoor air supply (22a) by the number of occupants (22b) to determine the existing quantity of outdoor air supply per person (22c)			
ACTIVITY 23: ACCEPTABLE LEVELS OF OUTDOOR AIR QUANTITIES			
6d. Compared the existing outdoor air per person (22c) to the recommended levels in Table 1		•	
6e. Corrected problems with ventilation units that supplied inadequate quantities of outdoor air to ensure that outdoor air quantities (22c) meet the recommended levels in Table 1		•	

NOTES

6. Balancing scheduled for summer 2024