

VENTILATION SYSTEM OVERVIEW

This template has been developed to support school districts in sharing information on ventilation systems at the school level. This includes information on how systems meet requirements for regular inspection and maintenance, and additional mitigations that have been put in place to promote student and staff safety throughout the pandemic.

School District:	72 - Campbell River
School Name:	School Board Office
REQUIREMENT: Regular inspection and maintenance of HVAC systems	Yes/No: Yes
	Date of last inspection: 2022-01-12
	Date of next inspection: 2022-03-17
	Date and type of most recent maintenance: January 2022 – change filters and visual inspection of all air handlers
RECOMMENDATION: Increase supply of outside air	Yes/No: No
	Detail: During school days, air supply system activates at 02:45 and deactivates at 22:00. On Saturdays, air supply system activates at 06:00 and deactivates at 12:30. Increasing outside air supply can also be increased by lowering CO2 set points and/or disabling occupancy sensors. These changes will increase wear & tear on equipment and increase utility costs.
RECOMMENDATION: Upgrade filtration, including installing MERV-13 filters, where possible	Yes/No: No
	Detail (Including filter grade): Direction received to replace MERV-10 filters with MERV-13 as existing stock is used. 100% complete. Frequency of filter changes increased from twice per year (MERV-10) to three times per year (MERV-13). Ongoing monitoring of air flow in place. Mitigation measures available as per Ministry of Education and Public Health Guidelines. Generally, due to increased filter pressure drop, increasing filter efficiency can reduce air flow, impact occupant's thermal comfort, increase carbon dioxide [CO2] levels, etc. The professional opinion of an HVAC engineer is strongly recommended before attempting to upgrade any air filters. More efficient filters cause a higher pressure drop and will have an impact on Indoor Environmental Quality [IEQ] that may be beyond the capacity of building air handling units to compensate.
	Yes/No: No

RECOMMENDATION: Use other air cleaning or treatment technologies	Detail: Engineering study required to quantify effectiveness of other technologies that might be feasible for ventilation system
RECOMMENDATION: Manage energy use and air distribution through building automation control systems	Yes/No: Yes
	Detail: Periodic re-commissioning of building automation control systems is best practice and mandatory when hardware/software become obsolete.
Other Relevant Information:	Duct cleaning done on a 4 year cycle. Next scheduled date is 2025. According to Provincial COVID-19 Communicable Disease Guidelines for K-12 Settings, updated August 23,2021: At the time, there is no evidence that a building's ventilation systems, in good operating condition, would contribute to the spread of the virus. Good indoor air ventilation alone cannot protect people from exposure to COVID-19, however, it may reduce risk when used in addition to other preventive measures.
District Contact for any Questions:	Name:
	Phone Number:
	Email: maintenance@sd72.bc.ca

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School District:	72 - Campbell River
School Name:	Cedar Elementary
REQUIREMENT: Regular inspection and maintenance of HVAC systems	Yes/No: Yes
	Date of last inspection: 2022-01-10
	Date of next inspection: 2022-03-14
	Date and type of most recent maintenance: January 2022. Change filters and visual inspection of all air handlers
RECOMMENDATION: Increase supply of outside air	Yes/No: No
	Detail: During school days, air supply units activate at 05:30. During school days, air supply units deactivate at 20:00 with the exception of the gym (16:00). On Sundays, air supply units in the gym activate between 07:30 and 20:00.
	The building controls can not be modified to add CO2 or occupancy sensors.
RECOMMENDATION: Upgrade filtration, including installing MERV-13 filters, where possible	Yes/No: No
	Detail (Including filter grade): Direction received to replace MERV-10 filters with MERV-13 as existing stock is used. 100% complete. Frequency of filter changes increased from twice per year (MERV-10) to three times per year (MERV-13). Ongoing monitoring of air flow in place. Mitigation measures are available as per Ministry of Education and Public Health Guidelines. Generally, due to increased filter pressure drop, increasing filter efficiency can reduce air flow, impact occupant's thermal comfort, increase carbon dioxide [CO2] levels, etc. The professional opinion of an HVAC engineer is strongly recommended before attempting to upgrade any air filters. More efficient filters cause a higher pressure drop and will have an impact on Indoor Environmental Quality [IEQ] that may be beyond the capacity of building air handling units to compensate.
	Yes/No: No

RECOMMENDATION: Use other air cleaning or treatment technologies	Detail: Engineering study required to identify efficacy of other technologies that might be feasible for ventilation system
RECOMMENDATION: Manage energy use and air distribution through building automation control systems	Yes/No: Yes
	Detail: Periodic re-commissioning of building automation control systems is best practice and mandatory when hardware/software become obsolete.
Other Relevant Information:	Duct cleaning done on a 4 year cycle. Next scheduled date is 2024. According to Provincial COVID-19 Communicable Disease Guidelines for K-12 Settings, updated August 23,2021: At the time, there is no evidence that a building’s ventilation systems, in good operating condition, would contribute to the spread of the virus. Good indoor air ventilation alone cannot protect people from exposure to COVID-19, however, it may reduce risk when used in addition to other preventive measures.
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School District:	72 - Campbell River
School Name:	Cortes Elementary
REQUIREMENT: Regular inspection and maintenance of HVAC systems	Yes/No: Yes
	Date of last inspection: 2021-12-08
	Date of next inspection: 2022-01-27
	Date and type of most recent maintenance: December 2021 – investigated no heat issue
RECOMMENDATION: Increase supply of outside air	Yes/No: No
	Detail: Engineering study required to re-design ventilation system. Mitigation measures available as per Ministry of Education and Public Health Guidelines.
RECOMMENDATION: Upgrade filtration, including installing MERV-13 filters, where possible	Yes/No: No
	Detail (Including filter grade): Radiant heaters only. MERV-13 filters not possible. Mitigation measures as per Ministry of Education and Public Health Guidelines, including provision of portable HEPA filtration units.
RECOMMENDATION: Use other air cleaning or treatment technologies	Yes/No: No
	Detail: Engineering study required to quantify effectiveness of other technologies that might be feasible for ventilation system Portable HEPA filtration units have been provided.
RECOMMENDATION: Manage energy use and air distribution through building automation control systems	Yes/No: Yes
	Detail: Periodic re-commissioning of building automation control systems is best practice and mandatory when hardware/software become obsolete.
Other Relevant Information:	Duct cleaning done on a 4 year cycle. Next scheduled date is 2024. According to Provincial COVID-19 Communicable Disease Guidelines for K-12 Settings, updated August 23,2021: At the time, there is no evidence that a building’s ventilation systems, in good operating condition, would contribute to the spread of the virus. Good indoor air

	ventilation alone cannot protect people from exposure to COVID-19, however, it may reduce risk when used in addition to other preventive measures.
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School District:	72 - Campbell River
School Name:	Ecole des Deux Mondes
REQUIREMENT: Regular inspection and maintenance of HVAC systems	Yes/No: Yes
	Date of last inspection: 2022-01-14
	Date of next inspection: 2022-03-14
	Date and type of most recent maintenance: January 2022- change filters and visual inspection of all air handlers
RECOMMENDATION: Increase supply of outside air	Yes/No: No
	Detail: During school days, air supply units activate at 07:15. During school days, air supply units deactivate at 21:00. Increasing outside air supply can also be increased by lowering CO2 set points and/or disabling occupancy sensors. These changes will increase wear & tear on equipment and increase utility costs.
RECOMMENDATION: Upgrade filtration, including installing MERV-13 filters, where possible	Yes/No: No
	Detail (Including filter grade): Direction received to replace MERV-10 filters with MERV-13 as existing stock is used. 100% complete. Frequency of filter changes increased from twice per year (MERV-10) to three times per year (MERV-13). Ongoing monitoring of air flow in place. Mitigation measures available as per Ministry of Education and Public Health Guidelines. Generally, due to increased filter pressure drop, increasing filter efficiency can reduce air flow, impact occupant's thermal comfort, increase carbon dioxide [CO2] levels, etc. The professional opinion of an HVAC engineer is strongly recommended before attempting to upgrade any air filters. More efficient filters cause a higher pressure drop and will have an impact on Indoor Environmental Quality [IEQ] that may be beyond the capacity of building air handling units to compensate.
	Yes/No: No

RECOMMENDATION: Use other air cleaning or treatment technologies	Detail: Engineering study required to quantify effectiveness of other technologies that might be feasible for ventilation system
RECOMMENDATION: Manage energy use and air distribution through building automation control systems	Yes/No: Yes
	Detail: Periodic re-commissioning of building automation control systems is best practice and mandatory when hardware/software become obsolete.
Other Relevant Information:	Duct cleaning done on a 4 year cycle. Next scheduled date is 2024. According to Provincial COVID-19 Communicable Disease Guidelines for K-12 Settings, updated August 23,2021: At the time, there is no evidence that a building's ventilation systems, in good operating condition, would contribute to the spread of the virus. Good indoor air ventilation alone cannot protect people from exposure to COVID-19, however, it may reduce risk when used in addition to other preventive measures.
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School District:	72 - Campbell River
School Name:	Ecole Willow Point
REQUIREMENT: Regular inspection and maintenance of HVAC systems	Yes/No: Yes
	Date of last inspection: 2022-01-07
	Date of next inspection: 2022-03-18
	Date and type of most recent maintenance: January 2022 - Change filters and visual inspection of all air handlers
RECOMMENDATION: Increase supply of outside air	Yes/No: No
	Detail: During school days, air supply units activate at 04:00 with the exception of the gym (07:00). During school days, air supply units deactivate at 18:00. The building controls could be modified to add CO2 or occupancy sensors. However, this will increase wear & tear on equipment and increase utility costs.
RECOMMENDATION: Upgrade filtration, including installing MERV-13 filters, where possible	Yes/No: No
	Detail (Including filter grade): Direction received to replace MERV-10 filters with MERV-13 as existing stock is used. 100% complete. Frequency of filter changes increased from twice per year (MERV-10) to three times per year (MERV-13). Ongoing monitoring of air flow in place. Mitigation measures available as per Ministry of Education and Public Health Guidelines. Generally, due to increased filter pressure drop, increasing filter efficiency can reduce air flow, impact occupant's thermal comfort, increase carbon dioxide [CO2] levels, etc. The professional opinion of an HVAC engineer is strongly recommended before attempting to upgrade any air filters. More efficient filters cause a higher pressure drop and will have an impact on Indoor Environmental Quality [IEQ] that may be beyond the capacity of building air handling units to compensate.
	Yes/No: No

RECOMMENDATION: Use other air cleaning or treatment technologies	Detail: Engineering study required to quantify effectiveness of other technologies that might be feasible for this building's ventilation system
RECOMMENDATION: Manage energy use and air distribution through building automation control systems	Yes/No: Yes
	Detail: Periodic re-commissioning of building automation control systems is best practice and mandatory when hardware/software become obsolete.
Other Relevant Information:	Duct cleaning done on a 4 year cycle. Next scheduled date is 2022. According to Provincial COVID-19 Communicable Disease Guidelines for K-12 Setting, updated August 23, 2021: At this time, there is no evidence that a building's ventilation system, in good operating condition, would contribute to the spread of the virus. Good indoor air ventilation alone cannot protect people from exposure to COVID-19; however, it may reduce risk when used in addition to other preventive measures.
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School District:	72 - Campbell River
School Name:	Georgia Park Elementary
REQUIREMENT: Regular inspection and maintenance of HVAC systems	Yes/No: Yes
	Date of last inspection: 2021-12-15
	Date of next inspection: 2022-03-15
	Date and type of most recent maintenance: December 2022 - change filters and visual inspection of all air handlers
RECOMMENDATION: Increase supply of outside air	Yes/No: No
	Detail: During school days, air supply units activate at various times between 02:00 and 04:00. During school days, air supply units deactivate at 20:00. The building controls can not be modified to add CO2 or occupancy sensors.
RECOMMENDATION: Upgrade filtration, including installing MERV-13 filters, where possible	Yes/No: No
	Detail (Including filter grade): Direction received to replace MERV-10 filters with MERV-13 as existing stock is used. 100% completed. Frequency of filter changes increased from twice per year (MERV-10) to three times per year (MERV-13). Ongoing monitoring of air flow in place. Mitigation measures available as per Ministry of Education and Public Health Guidelines. Generally, due to increased filter pressure drop, increasing filter efficiency can reduce air flow, impact occupant's thermal comfort, increase carbon dioxide [CO2] levels, etc. The professional opinion of an HVAC engineer is strongly recommended before attempting to upgrade any air filters. More efficient filters cause a higher pressure drop and will have an impact on Indoor Environmental Quality [IEQ] that may be beyond the capacity of building air handling units to compensate.
	Yes/No: No

RECOMMENDATION: Use other air cleaning or treatment technologies	Detail: Engineering study required to quantify effectiveness of other technologies that might be feasible for ventilation system
RECOMMENDATION: Manage energy use and air distribution through building automation control systems	Yes/No: Yes
	Detail: Periodic re-commissioning of building automation control systems is best practice and mandatory when hardware/software become obsolete.
Other Relevant Information:	Duct cleaning done on a 4 year cycle. Next scheduled date is 2023. According to Provincial COVID-19 Communicable Disease Guidelines for K-12 Settings, updated August 23,2021: At the time, there is no evidence that a building's ventilation systems, in good operating condition, would contribute to the spread of the virus. Good indoor air ventilation alone cannot protect people from exposure to COVID-19, however, it may reduce risk when used in addition to other preventive measures.
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School District:	72 - Campbell River
School Name:	Ocean Grove Elementary
REQUIREMENT: Regular inspection and maintenance of HVAC systems	Yes/No: Yes
	Date of last inspection: 2021-12-15
	Date of next inspection: 2022-03-15
	Date and type of most recent maintenance: July 2021. Change filters and visual inspection of all air handlers
RECOMMENDATION: Increase supply of outside air	Yes/No: No
	Detail: During school days, air supply units activate at 04:00 with exception of modular classrooms (07:00). During school days, air supply units deactivate at 20:00 with exception of modular classrooms (17:30). The building controls can not be modified to add CO2 or occupancy sensors.
RECOMMENDATION: Upgrade filtration, including installing MERV-13 filters, where possible	Yes/No: No
	Detail (Including filter grade): Direction received to replace MERV-10 filters with MERV-13 as existing stock is used. 100% completed. Frequency of filter changes increased from twice per year (MERV-10) to three times per year (MERV-13). Ongoing monitoring of air flow in place. Mitigation measures available as per Ministry of Education and Public Health Guidelines. Generally, due to increased filter pressure drop, increasing filter efficiency can reduce air flow, impact occupant's thermal comfort, increase carbon dioxide [CO2] levels, etc. The professional opinion of an HVAC engineer is strongly recommended before attempting to upgrade any air filters. More efficient filters cause a higher pressure drop and will have an impact on Indoor Environmental Quality [IEQ] that may be beyond the capacity of building air handling units to compensate.
	Yes/No: No

RECOMMENDATION: Use other air cleaning or treatment technologies	Detail: Engineering study required to quantify effectiveness of other technologies that might be feasible for ventilation system Portable HEPA filtration units have been provided.
RECOMMENDATION: Manage energy use and air distribution through building automation control systems	Yes/No: Yes Detail: Periodic re-commissioning of building automation control systems is best practice and mandatory when hardware/software become obsolete.
Other Relevant Information:	Duct cleaning done on a 4 year cycle. Next scheduled date is 2024. According to Provincial COVID-19 Communicable Disease Guidelines for K-12 Settings, updated August 23,2021: At the time, there is no evidence that a building's ventilation systems, in good operating condition, would contribute to the spread of the virus. Good indoor air ventilation alone cannot protect people from exposure to COVID-19, however, it may reduce risk when used in addition to other preventive measures.
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School District:	72 - Campbell River
School Name:	Penfield Elementary
REQUIREMENT: Regular inspection and maintenance of HVAC systems	Yes/No: Yes
	Date of last inspection: 2021-12-16
	Date of next inspection: 2022-03-15
	Date and type of most recent maintenance: December 2021 - change filters and visual inspection of all air handlers
RECOMMENDATION: Increase supply of outside air	Yes/No: No
	<p>Detail: During school days, air supply units activate at 04:00 with exception of Mondays (03:30) and the modular classrooms (06:00). During school days, air supply units deactivate at 22:00 with exception of modular classrooms M-1 (18:00) and M-2 (17:30).</p> <p>Increasing outside air supply can also be increased by disabling occupancy sensors. These changes will increase wear & tear on equipment and increase utility costs.</p>
RECOMMENDATION: Upgrade filtration, including installing MERV-13 filters, where possible	Yes/No: No
	<p>Detail (Including filter grade): Direction received to replace MERV-10 filters with MERV-13 as existing stock is used. 100% complete. Frequency of filter changes increased from twice per year (MERV-10) to three times per year (MERV-13). Ongoing monitoring of air flow in place.</p> <p>Mitigation measures available as per Ministry of Education and Public Health Guidelines. Generally, due to increased filter pressure drop, increasing filter efficiency can reduce air flow, impact occupant's thermal comfort, increase carbon dioxide [CO₂] levels, etc. The professional opinion of an HVAC engineer is strongly recommended before attempting to upgrade any air filters. More efficient filters cause a higher pressure drop and will have an impact on Indoor Environmental Quality [IEQ] that may be beyond the capacity of building air handling units to compensate.</p>

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School District:	72 - Campbell River
School Name:	Pinecrest Elementary
REQUIREMENT: Regular inspection and maintenance of HVAC systems	Yes/No: Yes
	Date of last inspection: 2022-01-06
	Date of next inspection: 2022-03-16
	Date and type of most recent maintenance: January 2022 - Change filters and visual inspection of all air handlers
RECOMMENDATION: Increase supply of outside air	Yes/No: No
	Detail: During school days, air supply units activate at 04:30 with the exception of the modular classrooms (05:00 and Thursday 07:00). During school days, air supply units deactivate at 21:00 with the exception of the modular classrooms (17:30 and Thursday 20:00) Increasing outside air supply can also be increased by lowering CO2 set points and/or disabling occupancy sensors. These changes will increase wear & tear on equipment and increase utility costs.
RECOMMENDATION: Upgrade filtration, including installing MERV-13 filters, where possible	Yes/No: No
	Detail (Including filter grade): Direction received to replace MERV-10 filters with MERV-13 as existing stock is used. 100% completed. Frequency of filter changes increased from twice per year (MERV-10) to three times per year (MERV-13). Ongoing monitoring of air flow in place. Mitigation measures available as per Ministry of Education and Public Health Guidelines. Generally, due to increased filter pressure drop, increasing filter efficiency can reduce air flow, impact occupant's thermal comfort, increase carbon dioxide [CO2] levels, etc. The professional opinion of an HVAC engineer is strongly recommended before attempting to upgrade any air filters. More efficient filters cause a higher pressure drop and will have an impact on Indoor Environmental Quality [IEQ] that may be beyond the capacity of building air handling units to compensate.

RECOMMENDATION: Use other air cleaning or treatment technologies	Yes/No: No
	Detail: Engineering study required to quantify effectiveness of other technologies that might be feasible for this building's ventilation system.
	Portable HEPA filtration units have been provided.
RECOMMENDATION: Manage energy use and air distribution through building automation control systems	Yes/No: Yes
	Detail: Periodic re-commissioning of building automation controls systems is best practice and mandatory when hardware/software becomes obsolete.
Other Relevant Information:	Duct cleaning done on a 4 year cycle. Next scheduled date is 2022. According to Provincial COVID-19 Communicable Disease Guidelines for K-12 Settings, updated August 23,2021: At the time, there is no evidence that a building's ventilation systems, in good operating condition, would contribute to the spread of the virus. Good indoor air ventilation alone cannot protect people from exposure to COVID-19, however, it may reduce risk when used in addition to other preventive measures.
District Contact for any Questions:	Name:
	Phone Number:
	Email: maintenance@sd72.bc.ca

RECOMMENDATION: Use other air cleaning or treatment technologies	Yes/No: No
	Detail: Engineering study required to quantify effectiveness of other technologies that might be feasible for ventilation system Portable HEPA filtration units have been provided.
RECOMMENDATION: Manage energy use and air distribution through building automation control systems	Yes/No: Yes
	Detail: Periodic re-commissioning of building automation control systems is best practice and mandatory when hardware/software become obsolete.
Other Relevant Information:	Duct cleaning done on a 4 year cycle. Next scheduled date is 2023. According to Provincial COVID-19 Communicable Disease Guidelines for K-12 Settings, updated August 23,2021: At the time, there is no evidence that a building's ventilation systems, in good operating condition, would contribute to the spread of the virus. Good indoor air ventilation alone cannot protect people from exposure to COVID-19, however, it may reduce risk when used in addition to other preventive measures.
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School District:	72 - Campbell River
School Name:	Quadra Elementary
REQUIREMENT: Regular inspection and maintenance of HVAC systems	Yes/No: Yes
	Date of last inspection: 2022-01-19
	Date of next inspection: 2022-03-16
	Date and type of most recent maintenance: January 2022 - Change filters and visual inspection of all air handlers
RECOMMENDATION: Increase supply of outside air	Yes/No: No
	Detail: During school days, air supply units active at 06:00 with the exception of Mondays for rooms 106 and 107 (05:00). During school days, air supply units deactivate at 20:00 with the exception of rooms 106 and 107 (19:00) The building controls can not be modified to add CO2 or occupancy sensors.
RECOMMENDATION: Upgrade filtration, including installing MERV-13 filters, where possible	Yes/No: No
	Detail (Including filter grade). Direction received to replace MERV-10 filters with MERV-13 as existing stock is used. 100% completed where MERV-13 filters can be installed. Frequency of filter changes increased from twice per year (MERV-10) to three times per year (MERV-13). Ongoing monitoring of air flow in place. Mechanical upgrade included on capital plan, which is anticipated to impact ventilation system. Mitigation measures available as per Ministry of Education and Public Health guidelines, including portable HEPA filtration units in classrooms. Generally, due to increased filter pressure drop, increasing filter efficiency can reduce air flow, impact occupant's thermal comfort, increase carbon dioxide [CO2] levels, etc. The professional opinion of an HVAC engineer is strongly recommended before attempting to upgrade any air filters. More efficient filters cause a higher pressure drop and will have an impact on Indoor Environmental Quality [IEQ] that may be beyond the capacity of building air handling units to compensate.

RECOMMENDATION: Use other air cleaning or treatment technologies	Yes/No: No
	Detail: Engineering study required to quantify effectiveness of other technologies that might be feasible for ventilation system Portable HEPA filtration units have been provided.
RECOMMENDATION: Manage energy use and air distribution through building automation control systems	Yes/No: Yes
	Detail: Periodic re-commissioning of building automation control systems is best practice and mandatory when hardware/software become obsolete.
Other Relevant Information:	Duct cleaning done on a 4 year cycle. Next scheduled date is 2025. According to Provincial COVID-19 Communicable Disease Guidelines for K-12 Settings, updated August 23,2021: At the time, there is no evidence that a building's ventilation systems, in good operating condition, would contribute to the spread of the virus. Good indoor air ventilation alone cannot protect people from exposure to COVID-19, however, it may reduce risk when used in addition to other preventive measures.
District Contact for any Questions:	Name:
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School District:	72 - Campbell River
School Name:	Ripple Rock Elementary
REQUIREMENT: Regular inspection and maintenance of HVAC systems	Yes/No: Yes
	Date of last inspection: 2022-01-06
	Date of next inspection: 2022-03-16
	Date and type of most recent maintenance: January 2022 – change filters and visual inspection of all air handlers
RECOMMENDATION: Increase supply of outside air	Yes/No: No
	Detail: During school days, air supply units activate at 04:00. During school days, air supply units deactivate at 22:00 with exception of gym (15:30) Increasing outside air supply can also be increased by lowering CO2 set points and/or disabling occupancy sensors. These changes will increase wear & tear on equipment and increase utility costs.
RECOMMENDATION: Upgrade filtration, including installing MERV-13 filters, where possible	Yes/No: No
	Detail (Including filter grade): Direction received to replace MERV-10 filters with MERV-13 as existing stock is used. 100% complete. Frequency of filter changes increased from twice per year (MERV-10) to three times per year (MERV-13). Ongoing monitoring of air flow in place. Mitigation measures available as per Ministry of Education and Public Health Guidelines. Generally, due to increased filter pressure drop, increasing filter efficiency can reduce air flow, impact occupant's thermal comfort, increase carbon dioxide [CO2] levels, etc. The professional opinion of an HVAC engineer is strongly recommended before attempting to upgrade any air filters. More efficient filters cause a higher pressure drop and will have an impact on Indoor Environmental Quality [IEQ] that may be beyond the capacity of building air handling units to compensate.
	Yes/No: No

RECOMMENDATION: Use other air cleaning or treatment technologies	Detail: Engineering study required to quantify effectiveness of other technologies that might be feasible for ventilation system Portable HEPA filtration units have been provided.
RECOMMENDATION: Manage energy use and air distribution through building automation control systems	Yes/No: No Detail: Periodic re-commissioning of building automation control systems is best practice and mandatory when hardware/software become obsolete.
Other Relevant Information:	Duct cleaning done on a 4 year cycle. Next scheduled date is 2022. According to Provincial COVID-19 Communicable Disease Guidelines for K-12 Settings, updated August 23,2021: At the time, there is no evidence that a building's ventilation systems, in good operating condition, would contribute to the spread of the virus. Good indoor air ventilation alone cannot protect people from exposure to COVID-19, however, it may reduce risk when used in addition to other preventive measures.
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School District:	72 - Campbell River
School Name:	Sandowne Elementary
REQUIREMENT: Regular inspection and maintenance of HVAC systems	Yes/No: Yes
	Date of last inspection: 2021-12-16
	Date of next inspection: 2022-03-17
	Date and type of most recent maintenance: December 2021 - Change filters and visual inspection of all air handlers
RECOMMENDATION: Increase supply of outside air	Yes/No: No
	Detail: During school days, air supply units activate between 05:00 and 06:00 with the exception of rooms 17, 20 and 21 (07:00) and the modular classroom (06:30). During school days, air supply units deactivate at 20:00 with the exception of the modular classroom (18:00) The building controls can not be modified to add CO2 or occupancy sensors.
RECOMMENDATION: Upgrade filtration, including installing MERV-13 filters, where possible	Yes/No: No
	Detail (Including filter grade): Direction received to replace MERV-10 filters with MERV-13 as existing stock is used. 100% complete where MERV-13 filters are possible. Frequency of filter changes increased from twice per year (MERV-10) to three times per year (MERV-13). Ongoing monitoring of air flow in place. Mitigation measures available as per Ministry of Education and Public Health Guidelines. Generally, due to increased filter pressure drop, increasing filter efficiency can reduce air flow, impact occupant's thermal comfort, increase carbon dioxide [CO2] levels, etc. The professional opinion of an HVAC engineer is strongly recommended before attempting to upgrade any air filters. More efficient filters cause a higher pressure drop and will have an impact on Indoor Environmental Quality [IEQ] that may be beyond the capacity of building air handling units to compensate.

RECOMMENDATION: Use other air cleaning or treatment technologies	Yes/No: No
	Detail: Engineering study required to quantify effectiveness of other technologies that might be feasible for ventilation system Portable HEPA filtration units have been provided.
RECOMMENDATION: Manage energy use and air distribution through building automation control systems	Yes/No: Yes
	Detail: Periodic re-commissioning of building automation control systems is best practice and mandatory when hardware/software become obsolete.
Other Relevant Information:	Duct cleaning done on a 4 year cycle. Next scheduled date is 2023. According to Provincial COVID-19 Communicable Disease Guidelines for K-12 Settings, updated August 23,2021: At the time, there is no evidence that a building's ventilation systems, in good operating condition, would contribute to the spread of the virus. Good indoor air ventilation alone cannot protect people from exposure to COVID-19, however, it may reduce risk when used in addition to other preventive measures.
District Contact for any Questions:	Name:
	Phone Number:
	Email: maintenance@sd72.bc.ca

VENTILATION SYSTEM OVERVIEW

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School District:	72 - Campbell River
School Name:	Sayward School
REQUIREMENT: Regular inspection and maintenance of HVAC systems	Yes/No: Yes
	Date of last inspection: 2022-01-14
	Date of next inspection: 2022-03-17
	Date and type of most recent maintenance: January 2022 – change filters and visual inspection of all air handlers
RECOMMENDATION: Increase supply of outside air	Yes/No: No
	Detail: During school days, air supply units activate at 05:00 with the exception of Monday (04:00), the gym (07:00) and the lobby (07:00). During school days, air supply units deactivate at 20:00 with exception of Monday (21:00), the gym (18:00) and the lobby (20:00). On weekends, the gym air supply units activate between 12:00 and 12:30. The building controls can not be modified to add CO2 or occupancy sensors.
RECOMMENDATION: Upgrade filtration, including installing MERV-13 filters, where possible	Yes/No: No
	Detail (Including filter grade): Direction received to replace MERV-10 filters with MERV-13 as existing stock is used. 100% complete. Frequency of filter changes increased from twice per year (MERV-10) to three times per year (MERV-13). Ongoing monitoring of air flow in place. Mitigation measures available as per Ministry of Education and Public Health Guidelines. Generally, due to increased filter pressure drop, increasing filter efficiency can reduce air flow, impact occupant's thermal comfort, increase carbon dioxide [CO2] levels, etc. The professional opinion of an HVAC engineer is strongly recommended before attempting to upgrade any air filters. More efficient filters cause a higher pressure drop and will have an impact on Indoor Environmental Quality [IEQ] that may be beyond the capacity of building air handling units to compensate.

RECOMMENDATION: Use other air cleaning or treatment technologies	Yes/No: No
	Detail: Engineering study required to quantify effectiveness of other technologies that might be feasible for ventilation system
RECOMMENDATION: Manage energy use and air distribution through building automation control systems	Yes/No: Yes
	Detail: Capital project proposal submitted for replacement of boilers includes updates to air handling systems and building controls. Periodic re-commissioning of building automation control systems is best practice and mandatory when hardware/software become obsolete.
Other Relevant Information:	Duct cleaning done on a 4 year cycle. Next scheduled date is 2025. According to Provincial COVID-19 Communicable Disease Guidelines for K-12 Settings, updated August 23,2021: At the time, there is no evidence that a building's ventilation systems, in good operating condition, would contribute to the spread of the virus. Good indoor air ventilation alone cannot protect people from exposure to COVID-19, however, it may reduce risk when used in addition to other preventive measures.
District Contact for any Questions:	Name:
	Phone Number:
	Email: maintenance@sd72.bc.ca

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School District:	72 - Campbell River
School Name:	Surge Narrows School
REQUIREMENT: Regular inspection and maintenance of HVAC systems	Yes/No: Yes
	Date of last inspection: 2021-05-12
	Date of next inspection: 2022-03-17
	Date and type of most recent maintenance: May 2021. Inspect heat recovery units.
RECOMMENDATION: Increase supply of outside air	Yes/No: Yes
	Detail: Turn on heat recovery ventilators when school in session
RECOMMENDATION: Upgrade filtration, including installing MERV-13 filters, where possible	Yes/No: No
	Detail (Including filter grade): Not possible (electric baseboard heaters). Mitigation measures available as per Ministry of Education and Public Health Guidelines, including provision of portable HEPA filtration units.
RECOMMENDATION: Use other air cleaning or treatment technologies	Yes/No: No
	Detail: Engineering study required to quantify effectiveness of other technologies that might be feasible for ventilation system
	Portable HEPA filtration units have been provided.
RECOMMENDATION: Manage energy use and air distribution through building automation control systems	Yes/No: No
	Detail: Due to remote location, building generator is controlled manually.
Other Relevant Information:	
District Contact for any Questions:	Name:
	Phone Number:

Email: maintenance@sd72.bc.ca

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School District:	72 - Campbell River
School Name:	Phoenix Middle
REQUIREMENT: Regular inspection and maintenance of HVAC systems	Yes/No: Yes
	Date of last inspection: 2022-01-19
	Date of next inspection: 2022-03-15
	Date and type of most recent maintenance: January 2022 – change filters and visual inspection of all air handlers
RECOMMENDATION: Increase supply of outside air	Yes/No: No
	Detail: During school days, air supply units activate at 03:30 and deactivate at 16:30 The building controls can not be modified to add CO2 or occupancy sensors.
RECOMMENDATION: Upgrade filtration, including installing MERV-13 filters, where possible	Yes/No: No
	Detail (Including filter grade): Direction received to replace MERV-10 filters with MERV-13 as existing stock is used. 100% complete. Frequency of filter changes increased from twice per year (MERV-10) to three times per year (MERV-13). Ongoing monitoring of air flow in place. Mitigation measures available as per Ministry of Education and Public Health Guidelines. Generally, due to increased filter pressure drop, increasing filter efficiency can reduce air flow, impact occupant's thermal comfort, increase carbon dioxide [CO2] levels, etc. The professional opinion of an HVAC engineer is strongly recommended before attempting to upgrade any air filters. More efficient filters cause a higher pressure drop and will have an impact on Indoor Environmental Quality [IEQ] that may be beyond the capacity of building air handling units to compensate.
	Yes/No: No

RECOMMENDATION: Use other air cleaning or treatment technologies	Detail: Engineering study required to quantify effectiveness of other technologies that might be feasible for ventilation system Portable HEPA filtration units have been provided.
RECOMMENDATION: Manage energy use and air distribution through building automation control systems	Yes/No: Yes Detail: Periodic re-commissioning of building automation control systems is best practice and mandatory when hardware/software become obsolete.
Other Relevant Information:	Duct cleaning done on a 4 year cycle. Next scheduled date is 2024. According to Provincial COVID-19 Communicable Disease Guidelines for K-12 Settings, updated August 23,2021: At the time, there is no evidence that a building's ventilation systems, in good operating condition, would contribute to the spread of the virus. Good indoor air ventilation alone cannot protect people from exposure to COVID-19, however, it may reduce risk when used in addition to other preventive measures.
District Contact for any Questions:	Name: Phone Number: Email: maintenance@sd72.bc.ca

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School District:	72 - Campbell River
School Name:	Southgate Middle
REQUIREMENT: Regular inspection and maintenance of HVAC systems	Yes/No: Yes
	Date of last inspection: 2022-01-12
	Date of next inspection: 2022-03-17
	Date and type of most recent maintenance: January 2022 - Change filters and visual inspection of all air handlers
RECOMMENDATION: Increase supply of outside air	Yes/No: Yes
	Detail: During school days, some air supply units activate at 07:30 and others at 06:45. Some air supply units deactivate at 16:30 and others at 17:15. C and D Wing ventilation system has unknown schedule and requires replacement (Capital Plan)
	The building controls can not be modified to add CO2 or occupancy sensors.
RECOMMENDATION: Upgrade filtration, including installing MERV-13 filters, where possible	Yes/No: No
	Detail (Including filter grade): Direction received to replace MERV-10 filters with MERV-13 as existing stock is used. 100% complete where feasible. Frequency of filter changes increased from twice per year (MERV-10) to three times per year (MERV-13). Ongoing monitoring of air flow in place. Mechanical upgrades included on capital plan for HVAC upgrades, which is anticipated to improve the ventilation system. Mitigation measures available as per Ministry of Education and Public Health Guidelines. Generally, due to increased filter pressure drop, increasing filter efficiency can reduce air flow, impact occupant's thermal comfort, increase carbon dioxide [CO2] levels, etc. The professional opinion of an HVAC engineer is strongly recommended before attempting to upgrade any air filters. More efficient filters cause a higher pressure drop and will have an impact on Indoor Environmental Quality [IEQ] that may be beyond the capacity of building air handling units to compensate.
	Yes/No: No

RECOMMENDATION: Use other air cleaning or treatment technologies	Detail: Engineering study required to quantify effectiveness of other technologies that might be feasible for ventilation system Portable HEPA filtration units have been provided.
RECOMMENDATION: Manage energy use and air distribution through building automation control systems	Yes/No: Yes Detail: Upgrade to C and D Wing to having building automation control systems is included in capital project proposal.
Other Relevant Information:	Duct cleaning done on a 4 year cycle. Next scheduled date is 2023. According to Provincial COVID-19 Communicable Disease Guidelines for K-12 Settings, updated August 23,2021: At the time, there is no evidence that a building's ventilation systems, in good operating condition, would contribute to the spread of the virus. Good indoor air ventilation alone cannot protect people from exposure to COVID-19, however, it may reduce risk when used in addition to other preventive measures.
District Contact for any Questions:	Name: Phone Number: Email: maintenance@sd72.bc.ca

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School District:	72 - Campbell River
School Name:	Carihi High
REQUIREMENT: Regular inspection and maintenance of HVAC systems	Yes/No: Yes
	Date of last inspection: 2022-01-10
	Date of next inspection: 2022-03-14
	Date and type of most recent maintenance: January 2022 – filter changes and visual inspection
RECOMMENDATION: Increase supply of outside air	Yes/No: No
	Detail: During school days, air supply units activate at 06:00 with exception of Shops (01:00) and gym (07:30). Air supply units deactivate at 19:30 with exception of shops (23:00) and gym (16:00). Increasing outside air supply can also be increased by lowering CO2 set points and/or disabling occupancy sensors. These changes will increase wear & tear on equipment and increase utility costs.
RECOMMENDATION: Upgrade filtration, including installing MERV-13 filters, where possible	Yes/No: No
	Detail (Including filter grade): Direction received to replace MERV-10 filters with MERV-13 as existing stock is used. 100% complete. Frequency of filter changes increased from twice per year (MERV-10) to three times per year (MERV-13). Ongoing monitoring of air flow in place. Mitigation measures available as per Ministry of Education and Public Health Guidelines. Generally, due to increased filter pressure drop, increasing filter efficiency can reduce air flow, impact occupant's thermal comfort, increase carbon dioxide [CO2] levels, etc. The professional opinion of an HVAC engineer is strongly recommended before attempting to upgrade any air filters. More efficient filters cause a higher pressure drop and will have an impact on Indoor Environmental Quality [IEQ] that may be beyond the capacity of building air handling units to compensate.
	Yes/No: No

RECOMMENDATION: Use other air cleaning or treatment technologies	Detail: Engineering study required to identify efficacy of other technologies that might be feasible for ventilation system
RECOMMENDATION: Manage energy use and air distribution through building automation control systems	Yes/No: Yes
	Detail: Periodic re-commissioning of building automation control systems is best practice and mandatory when hardware/software become obsolete.
Other Relevant Information:	Duct cleaning done on a 4 year cycle. Next scheduled date is 2024. According to Provincial COVID-19 Communicable Disease Guidelines for K-12 Settings, updated August 23,2021: At the time, there is no evidence that a building’s ventilation systems, in good operating condition, would contribute to the spread of the virus. Good indoor air ventilation alone cannot protect people from exposure to COVID-19, however, it may reduce risk when used in addition to other preventive measures.
District Contact for any Questions:	Name:
	Phone Number:
	Email: maintenance@sd72.bc.ca

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School District:	72 - Campbell River
School Name:	Timberline High
REQUIREMENT: Regular inspection and maintenance of HVAC systems	Yes/No: Yes
	Date of last inspection: 2022-01-19
	Date of next inspection: 2022-03-18
	Date and type of most recent maintenance: January 2022 - Change filters, rebuilding heating coils, checking building controls and visual inspection of all air handlers
RECOMMENDATION: Increase supply of outside air	Yes/No: No
	<p>Detail: During school days, air supply units activate at 05:00 with the exception of Monday (02:00), G204 (05:15) and the gym (06:15). During school days, air supply units deactivate at 23:00 with the exception of Monday (20:00) and the gym (22:00). On weekends, air supply unit activate at 07:00 and deactivate at 17:00.</p> <p>The building controls could be modified to add CO2 or occupancy sensors. However, this will increase wear & tear on equipment and increase utility costs.</p>
RECOMMENDATION: Upgrade filtration, including installing MERV-13 filters, where possible	Yes/No: No
	<p>Detail (Including filter grade): Direction received to replace MERV-10 filters with MERV-13 as existing stock is used. 100% complete. Frequency of filter changes increased from twice per year (MERV-10) to three times per year (MERV-13). Ongoing monitoring of air flow in place.</p> <p>Mitigation measures available as per Ministry of Education and Public Health Guidelines, including provision of portable HEPA filtration units in two classrooms without windows that can be opened. Generally, due to increased filter pressure drop, increasing filter efficiency can reduce air flow, impact occupant's thermal comfort, increase carbon dioxide [CO2] levels, etc. The professional opinion of an HVAC engineer is strongly recommended before attempting to upgrade any air filters. More efficient filters cause a higher pressure drop and will have an impact on Indoor Environmental Quality [IEQ] that may be beyond the capacity of building air handling units to compensate.</p>

RECOMMENDATION: Use other air cleaning or treatment technologies	Yes/No: No
	Detail: Engineering study required to quantify effectiveness of other technologies that might be feasible for ventilation system
	Portable HEPA filtration units have been provided.
RECOMMENDATION: Manage energy use and air distribution through building automation control systems	Yes/No: Yes
	Detail: Periodic re-commissioning of building automation control systems is best practice and mandatory when hardware/software become obsolete.
Other Relevant Information:	Duct cleaning done on a 4 year cycle. Next scheduled date is 2023. According to Provincial COVID-19 Communicable Disease Guidelines for K-12 Settings, updated August 23,2021: At the time, there is no evidence that a building's ventilation systems, in good operating condition, would contribute to the spread of the virus. Good indoor air ventilation alone cannot protect people from exposure to COVID-19, however, it may reduce risk when used in addition to other preventive measures.
District Contact for any Questions:	Name:
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School District:	72 - Campbell River
School Name:	Robron
REQUIREMENT: Regular inspection and maintenance of HVAC systems	Yes/No: Yes
	Date of last inspection: 2022-01-18
	Date of next inspection: 2022-03-16
	Date and type of most recent maintenance: January 2022 - Change filters and visual inspection of all air handlers
RECOMMENDATION: Increase supply of outside air	Yes/No: No
	Detail: In consideration of the pneumatic controls in this building, a comprehensive engineering study is required prior to attempting to increase the supply of outside air.
RECOMMENDATION: Upgrade filtration, including installing MERV-13 filters, where possible	Yes/No: No
	Detail (Including filter grade): Direction received to replace MERV-10 filters with MERV-13 as existing stock is used. 100% complete. Frequency of filter changes increased from twice per year (MERV-10) to three times per year (MERV-13). Ongoing monitoring of air flow in place. Mitigation measures available as per Ministry of Education and Public Health Guidelines. Generally, due to increased filter pressure drop, increasing filter efficiency can reduce air flow, impact occupant's thermal comfort, increase carbon dioxide [CO2] levels, etc. The professional opinion of an HVAC engineer is strongly recommended before attempting to upgrade any air filters. More efficient filters cause a higher pressure drop and will have an impact on Indoor Environmental Quality [IEQ] that may be beyond the capacity of building air handling units to compensate.
RECOMMENDATION: Use other air cleaning or treatment technologies	Yes/No: No
	Detail: Engineering study required to quantify effectiveness of other technologies that might be feasible for ventilation system Portable HEPA filtration units have been provided.

RECOMMENDATION: Manage energy use and air distribution through building automation control systems	Yes/No: Yes
	Detail: Capital project submitted to install building automation controls
Other Relevant Information:	Duct cleaning done on a 4 year cycle. Next scheduled date is 2022. According to Provincial COVID-19 Communicable Disease Guidelines for K-12 Settings, updated August 23,2021: At the time, there is no evidence that a building's ventilation systems, in good operating condition, would contribute to the spread of the virus. Good indoor air ventilation alone cannot protect people from exposure to COVID-19, however, it may reduce risk when used in addition to other preventive measures.
District Contact for any Questions:	Name:
	Phone Number:
	Email: maintenance@sd72.bc.ca