Yakima Regional Clean Air Agency

YAKIMA REGIONAL CLEAN AIR AGENCY

Order of Approval Permit Number NSRP-13-IP-23

New Source Review Order of Approval for International Paper Baghouse (Air Conveying Corporation) Model #7920RJAF and Cyclone Model #CY1812 at International Paper Facility (after the fact).

IN THE MATTER OF approving a project to install and operate an air contaminant source at International Paper, at Union Gap, WA. **THIS ORDER OF APPROVAL IS HEREBY ISSUED TO:**

Applicant/Permittee:	International Paper *Corrugated Box Plant*
Located at:	600 West Ahtanum Road Union Gap, WA 98903
Responsible Official:	International Paper Eric Lubrano, Site Manager 600 West Ahtanum Road Union Gap, WA 98903
Contact at the site:	Andrew Lange, EHS Manager (509) 576-3122

IN COMPLIANCE WITH THE PROVISIONS OF THE REVISED CODE OF WASHINGTON (RCW) CHAPTER 70A.15 WASHINGTON CLEAN AIR ACT, SECTION 2210, WASHINGTON ADMINISTRATIVE CODE (WAC) 173-400-110, AND WAC 173-460-040:

ISSUE DATE: September 30, 2024

THIS ORDER OF APPROVAL PERMIT IS SUBJECT TO THE FOLLOWING CONDITIONS:

Operation of the equipment must be conducted in compliance with all data and specifications submitted with the New Source Review (NSR) application under which this Order of Approval is issued, unless otherwise specified herein. The conditions and limitations of this NSR Order of Approval are attached as follows:

1.0 DESCRIPTION OF THE SOURCE

1.1 International Paper, hereafter referred to as the Permittee, the Facility, IP, or the Source, is the owner and operator of a corrugated packing manufacturing facility located at 600 W. Ahtanum Road. Union Gap, WA.

1.2 On July 8, 2023, the Permittee's baghouse (located on the roof), caught fire. As a result, the Permittee replaced the filters (bags) in the baghouse. The cyclone and baghouse installed on the facility roof around the year 1977 and 1995 respectively. A conditional permit was issued under permit number NSRP-10-IP-16. A view of Google Earth for the Facility site and its property boundaries is shown in Figure 1.

1.3 The Facility submitted a New Source Review (NSR) application in October 2023 to modify the existing cyclone and baghouse by installing an emergency explosion proof abort gate into the baghouse ducting. The abort gate is closed during normal operation and is designed to only open during an emergency such as a fire or explosion. The purpose of the abort gate is to protect personnel and equipment in the event of a fire or explosion. The Facility was granted approval for two weeks to complete this installation. The installation began in July 2024 and was completed in August 2024. The equipment drawing showing the location of the new bypass gate is shown in Figure 2. The Permittee submitted additional information to obtain a permit that reflects the modifications to be made to the existing baghouse and cyclone as the air emissions control equipment.

1.4 Other equipment used by the Permittee for the production of corrugated boxes includes flexographic printers, die cutters, a corrugator and a hogger. During the production of the corrugated boxes, some units generate corrugated clippings (trim and scrap material), which are collected and pneumatically transferred to the cyclone, large trims are sent to the shredder. The cyclone exhaust vents to the baghouse before being released into the atmosphere. Large particles collected by the cyclone are dropped into a baler, consolidated into bales and subsequently shipped off-site for recycling at the paper mill at different location.

1.5 The filtered air from the baghouse is either released to the atmosphere during summer or returned to the building for heat recovery during winter time utilizing a diverter valve. The dust / particulates collected by the baghouse are collected, compacted at the bottom of the baghouse using a horizontal auger/screw conveyor. From the conveyor it is dropped to the baler. Pneumatic collection system line diagram connecting all units to the cyclone system is shown in Figure 3 with their respective maximum design air flow for each line.

1.6 The Permittee utilizes cyclone model #CY1812 and baghouse model #7920RJAF, installed at the facility roof, to control particulate air emissions from the manufacturing process facility-wide. The cyclone and baghouse process flow diagram is shown in Figure 4. Figures 5 and 6 shows the cyclone and baghouse drawing and a photo of the system, respectively, installed at the building roof.

1.7 This Order number NSRP-13-IP-23 for modification of the existing cyclone and baghouse, listed in Table 1 below. Specifications for the permitted equipment in this Order and are as submitted by the Permittee with the NSR application as specified in the Table 1 below.

1.8 Air emissions from this operation are in form of Particulate Matters (PM_{10} and $PM_{2.5}$) pursuant to the Federal Clean Air Act (FCAA) and the Washington Administrative Code (WAC) 173-400.

1.9 The Permittee currently holds six Permits. NC-05-94 for a 600 Horsepower (Hp) boiler, Synthetic Minor Regulatory Order No. SM-WC-01-2005. NSRP-09-IP-14 for the installation of a new flexographic line (ID #5144), NSRP-10-IP-16 for the Air Conveying Corporation baghouse and cyclone (after the fact) NSRP-20-IP-16 for four gas fired heaters, and NSRP-12-IP-22 for a new flexographic rotary die cutter (ID #2436). This Order number NSRP-13-IP-23 shall supersedes Order NSRP-10-IP-16.

1.10 The City of Union Gap exempted this modification from the State Environmental Policy Act (SEPA) as sign by the City on November 29, 2023. A public notice for this NSR was published on March 05, 2024 in accordance with the Washington Clean Air Act (RCW) 70A.15.2210 and section 173-400-171 of the WAC.

2.0 DETERMINATIONS

In relation to the above modification, the Yakima Regional Clean Air Agency (YRCAA) determines that the Facility shall comply with all applicable federal, state and local regulations and laws including but not limited to the following determination:

2.1 Modification and operation of the cyclone and baghouse at this Facility is considered a modification of a source of air contaminants requiring a NSR Permit pursuant to RCW 70A.15.2210 and WAC 173-400-110 General Regulation for Air Pollution Sources - New Source Review for Sources and Portable Sources, thus, this NSR is being processed;

2.2 The Facility is located in an area that is in attainment with all state and federal air quality standards for criteria pollutants and under a Limited Maintenance Plan (LMP) for PM_{10};

2.3 The Facility is not a major stationary source but a Synthetic Minor source as of the date of issuance of this Order. This modification is not subject to Prevention of Significant Deterioration (PSD) permitting requirements of WAC 173-400-700 through 173-400-750;

2.4 This Facility is not subject to 40 CFR Part 63, Subpart KK National Emission Standards for the Printing and Publishing Industry as pursuant to §63.820 (a)(7).

2.5 The Facility is subject to the annual Registration Program pursuant WAC 173-400-099 Registration Program and YRCAA Regulation 1, Section 4.01 – Registration Program and, classified as a Synthetic Minor source at the issuance of this Order.

2.6 This Order of Approval shall supersede the determination for a new source review application in 2016 with number NSRP-10-IP-16. All applicable conditions of NSRP-10-IP-16 are included in this Order. Hence, the supersedence.

2.7 The corresponding air emissions from this modification were calculated as indicated in Appendix A of this Order based on Potential to Emit (PTE) i.e., 8760 hours per year, with control; and

2.8 The calculation results showed that potential air emissions with control will comply with the National Ambient Air Quality Standards (NAAQS) of 40 CFR Part 50.

THEREFORE, it is hereby ordered that the project as described above, in the NSR application, and in the detailed plans, specifications and other information submitted in reference thereto, is **APPROVED** for operation, **PROVIDED** the specifications submitted with the application and the following conditions are met:

3.0 OPERATIONAL APPROVAL CONDITIONS

3.1 The cyclone and baghouse must be operated in accordance with the specifications submitted with the NSR application to the YRCAA, the manufacturer specifications, and the conditions of this Order.

3.2 This Order is for the modification to the process in the operation of the existing cyclone and baghouse installed on the roof of the Permittee's building in 1977 and 1995, respectively, located at 600 West Ahtanum Road., Union Gap, WA., in accordance with the plan and specifications submitted with the NSR application to YRCAA and specified in Table 1 of this Order below.

3.3 This Order authorizes the modification and operation of the following equipment:

Table 1: Authorized equipment list

Units	Equipment Name	Manufacturer	Model Number	Specifications
1	Cyclone	Air Conveying Corporation	CY1812	Maximum airflow design capacity: 79,200 scfm.
1	Baghouse	Air Conveying Corporation	7920RJAF	- Maximum design capacity: 79,200 scfm. - Filter media: 16 oz polyester felt with a glazed surface. - 520 bags. - 99.9% efficiency. - Horizontal stack. - 6 feet above ground.

3.4 Best Available Control Technology (BACT) pursuant to RCW 70A.15.2210 and WAC 173 400-113 shall be satisfied for any proposed new facility or modified air emission source to control air emissions. YRCAA finds BACT to be satisfied as submitted and as follows:

3.4.1 Operation of the Air Conveying Corporation (ACC) baghouse model #7920RJAF with a maximum airflow rate of 79,200 standard cubic feet per minute (scfm), and 520 bags (16 ounces (oz) polyester felt with a glazed surface as air filter media) with 99.9% efficiency for $PM_{2.5}$ per manufacturer's specifications and as submitted in NSR application;

3.4.2 Operation of an ACC cyclone model #CY1812 with a maximum airflow rate of 79,200 scfm, as submitted in NSR application and as per manufacturer's specifications;

3.4.3 The airflow into the cyclone and baghouse shall not exceed the design capacity of 79,200 scfm as specified in the NSR application, and as shown in Figure 3 below;

3.4.4 The baghouse as control equipment must be operating at all times with the cyclone during operating hours when flexographic lines, die cutters, corrugators, shredder and any other line/process connected to the cyclone, as per Figure 3 in this Order. In no event, particulate emissions from these units shall be released directly to the ambient atmosphere without passing through the cyclone and baghouse control equipment;

3.4.5 Air emissions from the units shown in Table 1 below shall meet the NAAQS of 40 CFR Part 50 as specified in Appendix A of this Order; and

3.4.6 The Permittee shall develop, if not done yet, update, maintain and implement an Operation and Maintenance (O&M) Plan for equipment specified in Table 1 of this Order including appropriate training for all operators as manufacturers recommended standards.

3.5 All equipment specified in Table 1 of this Order above shall be operated and maintained as per manufacturer's specifications, the information submitted with the NSR application and the approval conditions of this Order. It shall be the responsibility of the Permittee to check and make sure that each unit is maintained and operated as per manufacturer's specifications as also indicated in the O&M.

3.6 Maintenance activities on the cyclone and baghouse shall be scheduled when the Permittee is not operating any of the lines connected to them i.e., flexographic printers, die cutters, corrugator, and shredder.

3.7 The Permittee shall maintain the bags in the baghouse as per manufacturer's specifications.

3.8 The Permittee must develop/update and implement a site specific O&M Plan, if not developed yet, for the Facility and air emissions control equipment i.e. cyclone and baghouse, and shall be based on manufacturer's operation manuals, recommended standards or certified operator as part of BACT above. The O&M plan shall contain at least four sections: general information, operation plan (i.e., key operating parameters), maintenance plan, and any other additional information. If an O&M is not developed yet, a plan must be completed within ninety (90) days of the issuance of this Order and shall include at a minimum, but not limited to the following:

3.8.1 The monitoring of the physical conditions or signs of damage (wear and tear) of the cyclone and baghouse as per designers or manufacturers recommended intervals. If no recommended intervals, it shall be done at least, monthly. The log of any major repair or replacement to the baghouse and cyclone shall be reported to YRCAA within fourteen (14) business days;

3.8.2 Regular schedule of the inspections and maintenance checks;

3.8.3 The monthly check and log of the pressure drop reading from the installed gauge while in operation of the baghouse. If no gauge pressure installed a pressure gauge must be installed and operating range shall be clearly marked; and

3.8.4 The range of the pressure drop while the baghouse is in operation shall not be exceeded and shall be clearly marked on or besides the gauge based on manufacturer's recommendations.

3.9 Within 90 days from the date of issuance of this Order, the Permittee shall submit notification to YRCAA indicating that the O&M plan is completed and in place. If the Permittee needs to make any future modification to the Facility's operation or equipment, an approval in writing from YRCAA must be issued before any modification takes place. The O&M documents must be updated and implemented to reflect such modification.

3.10 Opacity as measured by 40 CFR Part 60, Appendix A, Method 9 and Method 22, shall be conducted within 60 days from the issuance of this Order and shall not exceed five percent (5%), average for six (6) consecutive minutes in any given one hour period, from the baghouse stack and from fugitive air emissions, respectively. The Permittee shall maintain the 5% or less at all times when in operation, except during periods of startup, shutdown or malfunction as provided in WC 173-400-081. If the opacity is greater than this limit the Permittee shall immediately stop the baghouse and all equipment connected to it, and take corrective actions as per the O&M plan until visible emissions are below the respective opacity limit.

3.11 The Permittee must conduct visible emission inspections of the facility and the baghouse exhaust at least once per month. Inspections are to be performed while the facility is in operation during daylight hours. If during the monthly visible emissions inspection, visible emissions other than uncombined water are observed from the baghouse or the

facility, the Permittee must as soon as practicable but within 24 hours of the initial observation do the following:

3.11.1 Verify and certify that the affected unit and the operation is performing according to its design functions within the acceptable design parameters and is being operated according to O&M procedures. Therefore, it must be checked against any operational conditions that have resulted in compliance in the past. If the equipment is not performing according to its design and O&M procedures, the Permittee must take corrective actions to correct the problem, which may include shutting down the unit and the operation until it can be repaired or there are no visible emissions or until the unit and the operation is demonstrated to be in compliance with all applicable opacity limitations in the permit using the reference test method above; or

3.11.2 Conduct an opacity evaluation by a certified opacity reader in accordance with 40 CFR 60, Appendix A, Method 9 or Method 22, for stack or fugitive air emissions respectively, to verify compliance with the respective opacity limit. If opacity is greater than five percent 5% limit, appropriate and timely corrective action must be taken no later than 24 hours to identify and correct the problem causing the opacity. All observations using the opacity reference test method must be kept on-site and made available to YRCAA staff during an inspection or upon request. If the Permittee has no certified opacity reader on site, the Permittee shall contact YRCAA and they will be advised accordingly.

3.11.3 If the above two corrective actions will not resolve the visible emission within 24 hours, source test for $PM_{2.5}$ will required and shall be conducted within 60 days from the initial observation in accordance with 40 CFR Part 60, Appendix A, Method 5 with Method 202 or 201A with 202 front and back half to demonstrate compliance with BACT determination above.

3.12 Pursuant to WAC 173-400-105(4), the permitting authority (YRCAA) may require a source test to determine compliance with the emission limits outlined of this Order.

3.13 A source test shall be conducted within ninety (90) days from the issuance day of this Order and every five (5) years thereafter, or when deemed necessary as stated above, to demonstrate compliance for air pollutants specific to this Order.

3.14 The Permittee shall conduct a $PM_{2.5}$ source test for the baghouse, which shall achieve a minimum efficiency of 99.9% as required herein. The source test shall be conducted in accordance with 40 CFR Part 60 Appendix A, Method 5 with Method 202 or 201A with 202 front and back half, to demonstrate compliance with the BACT determination above. The source test protocol must be submitted to and approved by YRCAA at least thirty (30) days prior to the source test date. Results of the source test when conducted shall be submitted to YRCAA within 30 days after the source test is completed.

3.15 Total air emissions for Criteria Pollutants must be calculated and submitted to YRCAA on an annual basis with the Annual Registration and shall not exceed any specified allowable limit in Appendix A from the baghouse of this Order.

3.16 There must be no fallout or any fugitive emissions from the Facility beyond the property boundary in a quantity that interferes unreasonably with the use and enjoyment of the property owner upon which the material is deposited, or is detrimental to the health, safety, or welfare of any person, or causes damage to any property or business.

4.0 GENERAL APPROVAL CONDITIONS

4.1 Operation of the cyclone and baghouse and any other emission points at this Facility must comply with all other requirements specified in all applicable federal, state, and local air pollution laws and regulations, including, but not limited to, RCW 70A.15 (Washington Clean Air Act), WAC 173-400 (General Regulations for Air Pollution Sources), and YRCAA Regulation 1.

4.2 All plans, specifications or other information submitted to YRCAA and any further authorizations, approvals or denials in relation to this operation, shall be incorporated herein and made to be part of YRCAA file and this Order.

4.3 Except as specified in this Order, any new or additional construction, installation of equipment, modifications or alterations to the operation or materials used not covered in this review process which will affect air emissions from any equipment in this Facility are subject to a NSR permitting process before it takes place or construction starts as required by RCW 70A.15.2210, WAC 173-400-110, WAC 173-460-040 and YRCAA Regulation 1 and BACT and t-BACT requirements must be satisfied.

4.4 The YRCAA's Air Pollution Control Officer (APCO) or his designated staff shall be allowed to enter the Facility at reasonable times to inspect equipment and/or records specific to the control, recovery, or release of air contaminants into the atmosphere for compliance with applicable laws, regulations and the conditions on this Order pursuant RCW 70A.15.2500 and YRCAA Regulation 1.

4.5 Deviations from these conditions are violations subject to penalties in accordance with RCW 70A.15.3150 and 3160, WAC 173-400-230 and YRCAA Regulation 1, Article 5.

4.6 Nothing in this Order shall be construed as preventing or evading compliance with any other requirement(s) of law including those imposed pursuant to the federal and state Clean Air Acts, and rules and regulations thereunder. Any violation(s) of such rules and regulations are subject to enforcement and penalty action in accordance with RCW 70A.15.3150 and 3160, WAC 173-400-230 and YRCAA Regulation 1, Article 5.

4.7 This Order may be modified, suspended or revoked in whole or part for cause including, but not limited to, the following:

4.7.1 Violation of any terms or conditions of this authorization; or

4.7.2 If this authorization has been obtained by misrepresentation or failure to disclose fully all relevant facts.

4.8 The provisions of this authorization are severable and, if any provision or application of any provision of this authorization to any circumstance is held invalid, the application of such provision to their circumstances, and the remainder of this authorization, shall not be affected thereby.

4.9 The requirements of this Order apply to the Facility owner and/or operator(s) and any contractor or subcontractor performing any activity authorized under this Order. Any person(s), including contractor(s) and subcontractor(s), not in compliance with the applicable requirements of this Order are in violation of federal, state and local laws and regulations and subject to appropriate civil and criminal penalties. The Facility owner and/or operator, and all contractor(s) or subcontractor(s) are liable for the actions and violations of their employee(s). Any violation committed by a contractor or subcontractor shall be considered a violation by the Facility owner or operator, and is also a violation by the contractor and/or any subcontractor(s).

4.10 Laws, rules and regulations may be superseded or revised without notice. It is the Permittee's responsibility to stay current with laws, rules and regulations governing their business and therefore is expected to comply with all new laws, rules and regulations immediately upon their effective date. New laws, rules and regulation updates will be incorporated into existing Orders or upon renewal of said Orders.

4.11 All air emissions from the operation of this Facility must comply with air emission standards at all times. It is the responsibility of the owner to insure that air emissions are within all known current and future applicable federal, state, and local regulation and standards, including but not limited to 40 CFR Part 50 (NAAQS) and WAC 173-400-040.

4.12 This Order is invalid without paying the complete appropriate/required fees to YRCAA, pursuant to RCW 70A.15.2210.

5.0 EMISSION LIMITS

5.1 The Permittee shall not exceed the allowable air emissions from this Facility, which are based on potential to emit with control. This annual allowable limit for air emissions is specified in Appendix A for this operation.

5.2 If and when the Permittee wishes to increase any air emissions limits specified in Appendix A or make changes to any of the equipment, including the controls or its efficiencies, a NSR application must be submitted and a written Order must be issued by YRCAA prior to any increase or changes take place.

5.3 Opacity from the baghouse shall not exceed five percent (5%) for any six-minute (6) period at any time as specified above.

5.4 The baghouse efficiency shall be at minimum 99.9% as submitted with the NSR application.

5.5 In addition to those specified limits in this Order, the Permittee shall comply with all applicable general standards for maximum air emissions as specified in WAC 173-400-040 and NAAQS of 40 CFR Part 50 at all times.

6.0 MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

6.1 This Order and a copy of the O&M Plan for this Facility must be kept on-site at all times and shall be readily available, organized and accessible upon request by the YRCAA's APCO or designated staff, or during an inspection. The O&M Plan must be updated to reflect any changes in operating procedures and such changes shall be implemented routinely.

6.2 All required records stated above, including but not limited to visible emissions inspections, maintenance procedures (including repairs) for equipment listed on Table 1 above, and reports, must be maintained and kept on-site for a rolling average of five (5) years. These records shall be readily available, organized and accessible to the YRCAA's APCO or designated staff during inspections or upon request.

6.3 Records shall include, at minimum, the monthly number of hours of operation for the baghouse and cyclone, the O&M items performed, and opacity readings. Forms for recordkeeping must be designed by the Permittee and shall include at least the date, time of maintenance performed and the operator's name.

6.4 The Facility shall submit its annual registration report including the calculation of their total annual air emissions and the number of hours of operation for the Facility with the required fees to YRCAA as specified in the sent-out annual registration forms on or before the specified date. Annual air emissions and production shall be based on the previous calendar year.

6.5 Any application forms, report, or compliance certification, monthly records and the annual registration submitted to YRCAA pursuant to this Order must be signed by a responsible official.

6.6 This Order and its conditions shall remain in effect in the event of any change in control, ownership, or name of the facility. In the event of any such change, the Permittee shall notify the succeeding owner of all Orders of Approval, including this one, and all conditions. The Permittee must also notify YRCAA of the change in control, ownership, or name change by filing an "Ownership or Name Change" form within fifteen (15) days of that change. The form can be obtained from YRCAA's office or the agency's website.

6.7 If any other source test to be required for this operation, except as specified in the approval conditions above, the results of any source test shall be submitted to the YRCAA within 45 days following the completion date of the source test. This information shall be kept on-site for a rolling average of five (5) years from any current date and must be made available during inspections or when requested by YRCAA.

6.8 Any final source test results must be reported to YRCAA in units of ppmv, pounds per hour and potential tons per year for each pollutant or as appropriate.

You may appeal this Order to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process and applicable requirements are governed by Chapter 43.21B RCW. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal, you must do all of the following within 30 days of the date of receipt of this Order:

- File your appeal and a copy of this Order with the PCHB, P.O. Box 40903, Olympia, WA, 98504-0903. Filing means, actual receipt of appeal by the PCHB during the regular business hours.
- You must serve a copy of your appeal and this Order on YRCAA in paper form - by mail or in person. E-mail is not accepted.

DATED at Yakima, Washington this 30th of September, 2024.

PREPARED BY:

Elizel Reynoso
Engineer Specialist
Yakima Regional Clean Air Agency

REVIEWED AND APPROVED BY:

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Yakima Regional Clean Air Agency
For
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Air Pollution Control Officer
Yakima Regional Clean Air Agency

REVIEWED BY:

Norman Hepner, P.E.
Nth Degree Engineering Solutions

HASAN MUSTAFA M TAHAT
STATE OF WASHINGTON
24008211
REGISTERED
PROFESSIONAL ENGINEER

ACC Baghouse and Cyclone

Actual Operating Hours [1]	4160 hours/yr	(16 hours, 5 days, 52 weeks)
Potential Operating Hours (PTE equals allowable)	8760 hours/yr	(24/7 for 52 weeks)

[1] As per NSR application.

Cyclone model #CY1812 and Air Conveying Corporation (ACC) baghouse model #7920RJAF			
Cyclone PM_{10} Emission Factor [1]	3.6 lb/hr		
Cyclone $PM_{2.5}$ Emission Factor [1]	0.4 lb/hr		
ACC baghouse and cyclone maximum air flow	79,200 CFM		
Polyester felt bags with glazed surface efficiency [2]	99.9%		
Actual Emissions			
PM_{10} (lb/yr)	15.0	$PM_{2.5}$ (lb/yr)	1.7
PM_{10} (ton/yr)	0.01	$PM_{2.5}$ (ton/yr)	0.001
		$PM_{2.5}$ (g/s)	2.39E-05
Potential Emissions			
PM_{10} (lb/yr)	31.5	$PM_{2.5}$ (lb/yr)	3.5
PM_{10} (ton/yr)	0.02	$PM_{2.5}$ (ton/yr)	0.002
		$PM_{2.5}$ (g/s)	5.04E-05

[1] Emission factor from NCASI "PM, PM10 and PM2.5 Emissions from Scrap and Trim Cyclones" report, Mill A with Cyclone/Baghouse PM recirculation ON and an estimated 99% efficiency for $PM_{2.5}$ capture.

[2] As per manufacturer specifications.

AERSCREEN Modeling Results with Max. Concentration @ Property Boundary with Downwash (1 g/s) and horizontal stack

Scaled 24-hr Concentration @ 1g/s	1040 $\mu g/m^3$
Modeled Concentration	0.0524 $\mu g/m^3$
Background Concentration	30 $\mu g/m^3$
Total Concentration	30.052 $\mu g/m^3$

Figure 1: Google Earth® view of the Facility site including property boundaries.

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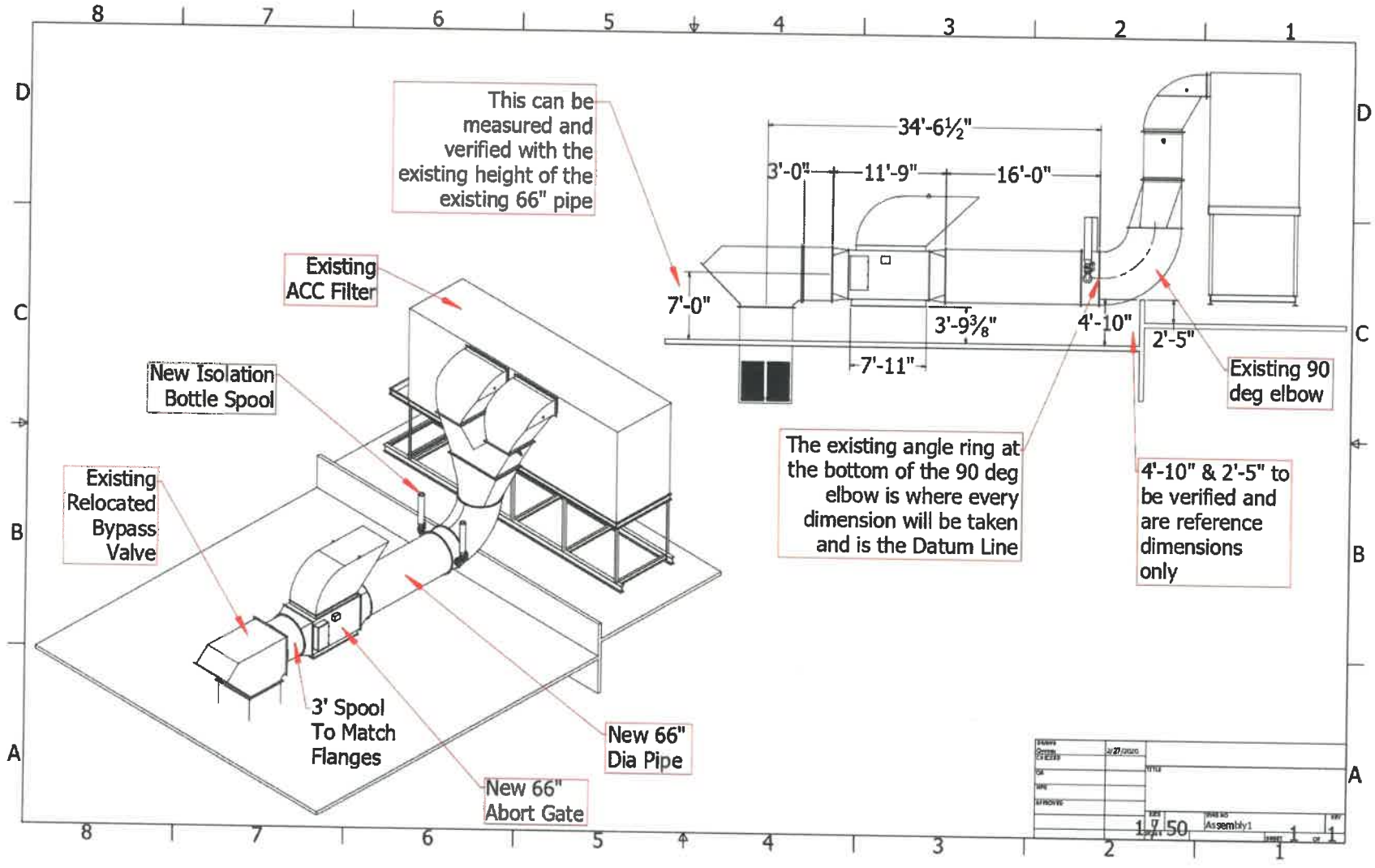

Figure 2: Equipment drawing with the new bypass gate.

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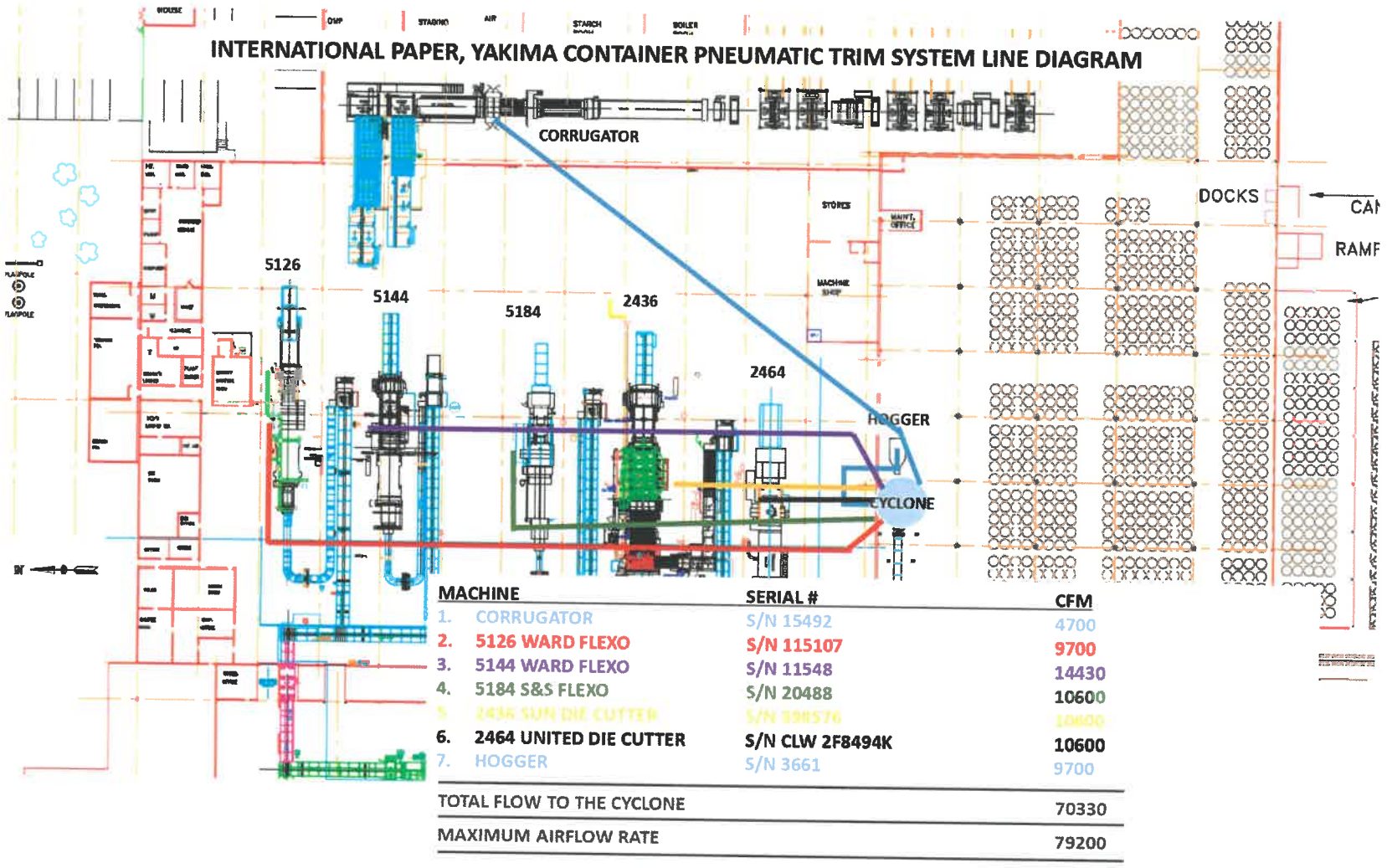

Figure 3: Pneumatic trim system line diagram with maximum air flows for each line connected to the cyclone trim collection system.

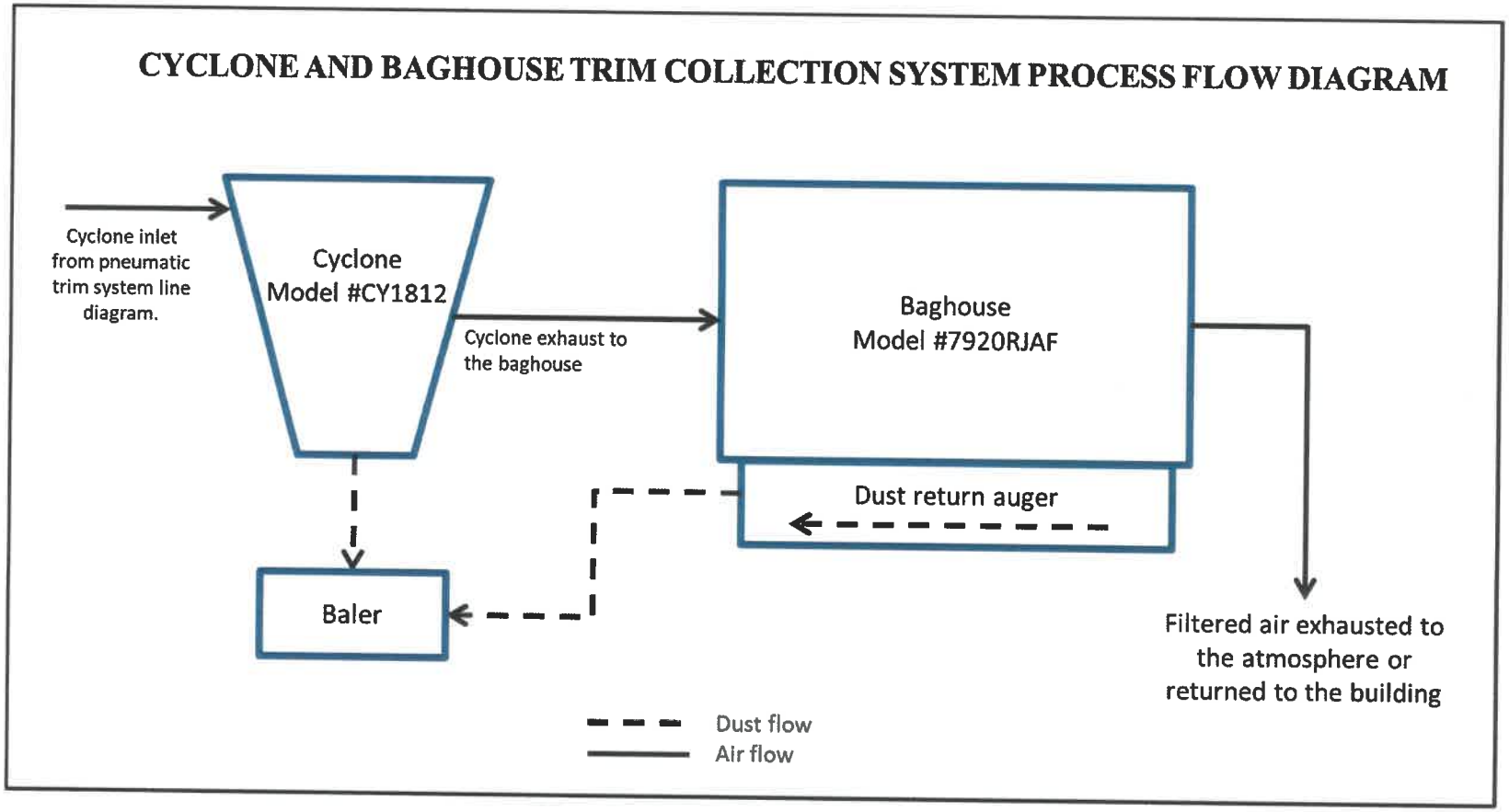

Figure 4: Cyclone, baghouse trims collection system process flow diagram.

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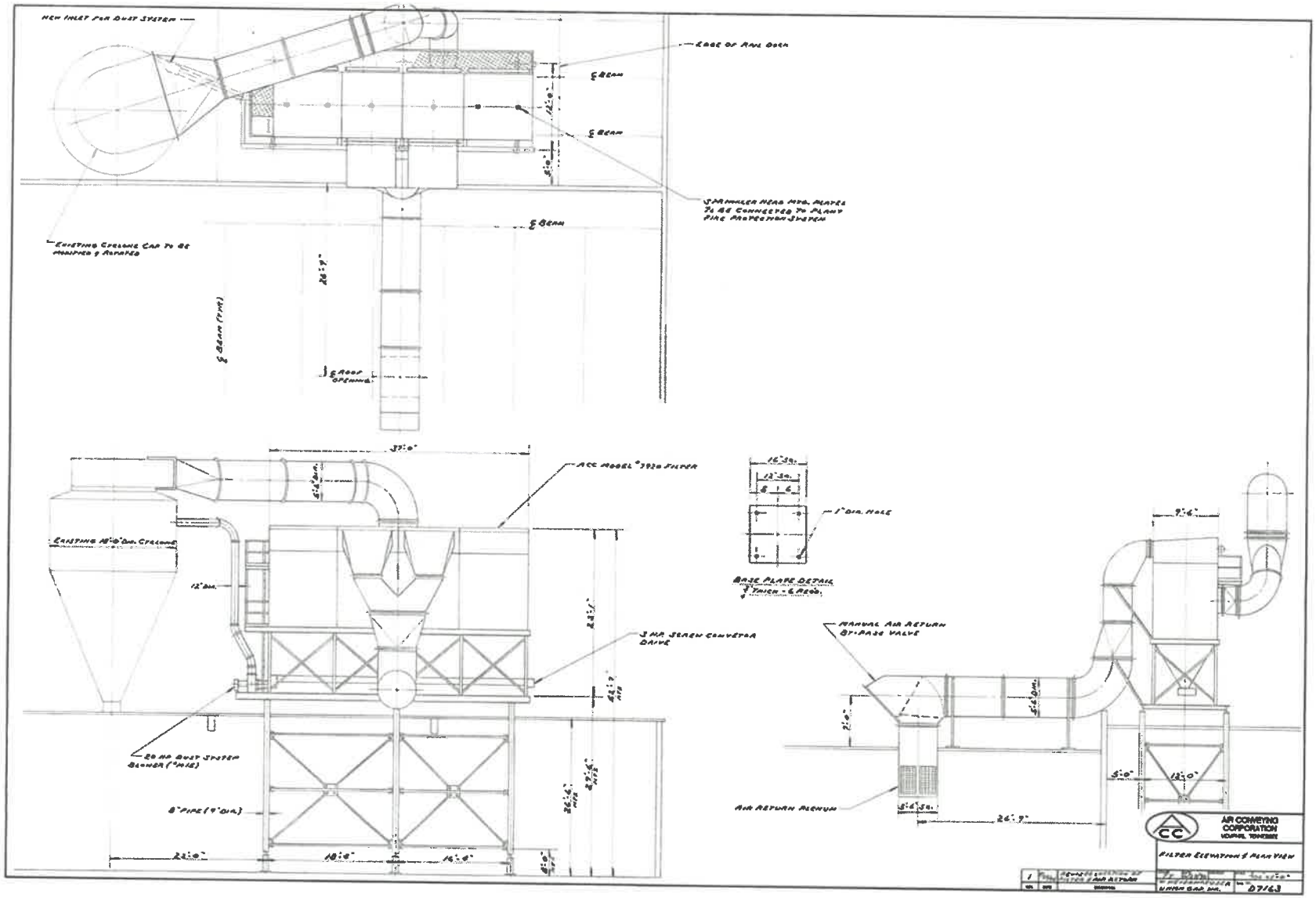

Figure 5: Cyclone and baghouse drawing.

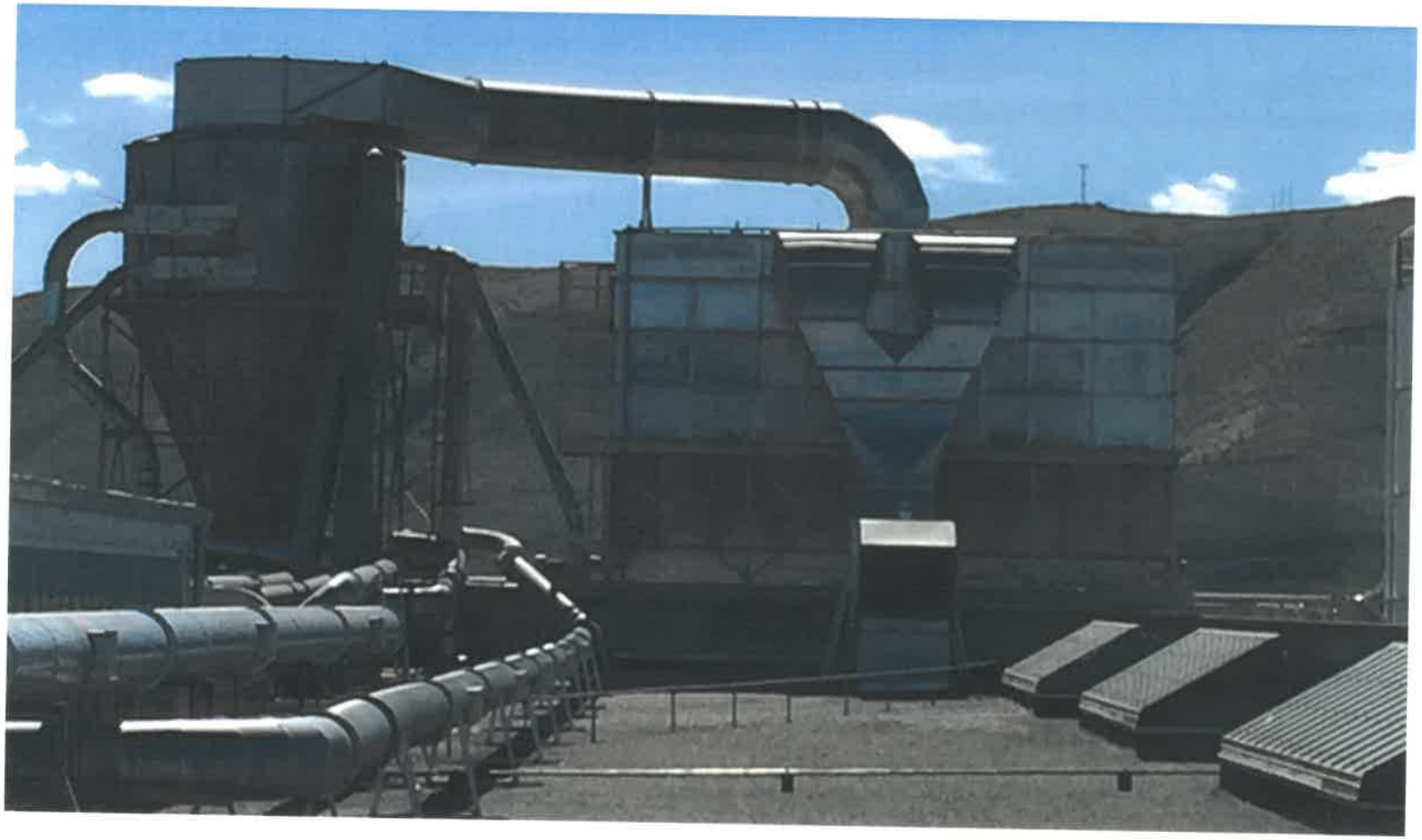

Figure 6: Facility-wide particulates air emission control equipment installed at the Permittee's building roof; cyclone (left) and baghouse (right).