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## ODOUR MANAGEMENT PLAN

### 1.0 SCOPE

This Site System Document describes the 'Odour Management Plan' relating to operations within AFFCO Imlay's RMP boundary.

### 2.0 OUTCOMES

To ensure activities authorised by the 'Air Discharge Permit' are restricted to the discharge of contaminants to air, including odour, from the site. The discharges to air covered by the 'Air Discharge Permit' are associated with the following processes:-

- the holding of livestock in yards;
- truck washing;
- animal slaughter;
- by-product rendering;
- primary wastewater treatment plant;
- a package wastewater treatment plant;
- other emission producing activities such as ventilation;
- the combustion of natural gas by one module steam boiler with a net heat output of 10.5 MW producing carbon monoxide, oxides of nitrogen and trace levels of particulate matter

#### Background Information:-

**Air Discharge Permit:** the term 'Air Discharge Permit' encompasses the following:

ATH-2007010926.01:- Discharge Permit to discharge odour to air: The discharge of odour to air associated with activities occurring at the AFFCO site, Imlay Place - Whanganui.

ATH-2017201595.00:- Discharge Permit to discharge contaminants to air: The discharge of contaminants to air associated with the operation of a gas fired boiler located at the AFFCO site, Imlay Place - Whanganui.



### 3.0 RESPONSIBILITIES AND AUTHORITIES

TITLES RESPONSIBLE	ACTIVITY
Plant Manager.	Overall responsibility for ensuring compliance to Resource Consent conditions and for ensuring the 'Odour Management Plan' is being adhered to.
Stockyard Supervisor.	<b>Livestock Holding Facilities / Truck Washing Systems:-</b> Responsible for ensuring daily stockyards washing activities are implemented. Responsible for monitoring truck washing activities. Responsible for monitoring and recording daily / weekly / monthly consent requirements.
Rendering Supervisor.	<b>Slaughter Waste Systems:-</b> Responsible for ensuring the efficient running of the animal slaughter waste systems. <b>Rendering Operations:-</b> Responsible for ensuring the efficient running of Bio Filters and associated ventilation systems. Responsible for monitoring and recording daily / weekly / monthly consent requirements. Responsible for implementing corrective action should operational critical limits be exceeded. <b>Primary Waste Water Treatment Operations:-</b> Responsible for ensuring the efficient running of the primary Waste Water Treatment Plant. <b>Packaged Waste Water Treatment Operations:-</b> Responsible for ensuring the efficient running of the packaged Waste Water Treatment Plant.
Plant Engineer.	<b>Gas Fired Boiler Systems:-</b> Responsible for ensuring the efficient running of the RCR FULTON Gas Fired Boiler.
Operational Staff.	Responsible for monitoring operations / systems performance and ensuring timely communication with the respective Supervisors should critical limits be exceeded.
Compliance Team.	Responsible for internal audits of Rendering operations.



#### 4.0 REFERENCES

LOCATION OF REFERENCE	KEY POINTS
Air Discharge Permits:- ATH-2007010926.01; ATH-2017201595.00	All consent conditions.

#### 5.0 SUPPORT AND RELATED SYSTEMS

REFERENCE NUMBER	DOCUMENTATION TITLE
ENV 001	Environmental Management System
ENV 002	Spill Contingency Plan
ENV 003	Waste Water Treatment
ENV 004	Gas Fired Boiler
PS 005	Stockyards
IFP 003	Rendering
QS 003	Verification

#### 6.0 FACILITIES AND EQUIPMENT

##### Stockyards:-

- Washdown Hoses.
- Waste Drains.
- Ammonia Level Recording Device.
- Truck Wash Facility.

##### Slaughter Floor:-

- Slaughter Waste systems:-
  - Screw Conveyors.
  - Pre-breakers.
  - Contra Shears.
  - Hydrolyser.
  - Holding Bins.

##### Rendering Plant:-

- Extraction Ducting.
- Vacuum Gauges.
- Temperature Gauges.
- Pressure Gauges.
- Cooling Tower.
- Water Scrubber
- Heat Exchangers.
- Waste heat Evaporator.
- Extraction Fans.
- Bio Filters.
- SCADA System.



**Primary Wastewater Treatment Plant:-**

- Pump.
- Contra Shear.
- Sediment Tanks.

**Packaged Wastewater Treatment Plant:-**

- Holding Tank.
- Bio Filter.
- Chemical Holding Tanks.



**7.0 SYSTEM DESCRIPTION**

**7.1 Odour Management Control - Flow Process**

**7.1.1 Stockyards**

STEPS	INPUTS	OUTPUTS	MONITORING TASK DESCRIPTION	MONITORING FREQUENCY	CALIBRATION FREQUENCY	CONDITION NUMBER	CHECKSHEET
1. Unload stock from truck.		Wash truck in truck wash.					
2. Wash truck in truck wash.		Waste water to Effluent Plant.					
3. Belly wash animals.		Waste water to Effluent Plant.					
4. Move animals to Holding Pens.							
5. Hold animals until slaughter.	Ammonia level test.		Refer Task Description PSL 061 - Ammonia Level Monitoring.	Weekly	N/A		
6. Move animals to Sticking Pen.							
7. Hose down pen once animals are moved.		Waste water to Effluent Plant.	Refer Task Description PSL 060- Stockyards Hygiene Monitoring.	Daily	N/A	Condition 11	SKF 009 – Stockyards Hygiene Checksheet



7.1.2 Slaughter Waste Systems

STEPS	INPUTS	OUTPUTS	MONITORING TASK DESCRIPTION	MONITORING FREQUENCY	CALIBRATION FREQUENCY	CONDITION NUMBER	CHECKSHEET
1. Slaughter wastes sent via chute to basement waste system processes.	Water for fluming.	Blood pumped to Rendering Plant.					
2. Solid wastes denatured via pre-breaking. Wool / hair on solids hydrolysed.	Caustic Soda.	Liquid wastes to Effluent Plant.					
3. Denatured wastes binned and transported to Rendering Plant.	Waste Bins.	Liquid wastes to Effluent Plant.	Refer Task Description WM 001 - Trucking Wastes to Rendering Plant.				
4. Waste Systems cleaned on an on going basis.	Non Potable Water	Liquid wastes to Effluent Plant.	Refer Task Description WM 002 - Process Waste Systems Hygiene Monitoring Procedure.	Daily	N/A		





7.1.3 Rendering Operations

7.1.3.1 Outside Raw Material Bin

STEPS	INPUTS	OUTPUTS	MONITORING TASK DESCRIPTION	MONITORING FREQUENCY	CALIBRATION FREQUENCY	CONDITION NUMBER	CHECKSHEET
1. Incoming soft offal product quality checks (external loads only):- <ul style="list-style-type: none"> <li>• pH.</li> <li>• Temperature.</li> <li>• Age.</li> <li>• Dosing.</li> <li>• Type, quality and source.</li> </ul>	Temperature gauge.  pH indicator tapes.		Refer Task Description OMP 001 - Raw Material Monitoring Procedure.	Every load.	Quarterly calibration of temperature gauge.	Condition 13 & 34	RMF 009 – AFFCO Imlay Rendering Operations.
2. Outside Truck Ramp and Raw Material Bin cleaning.	High Pressure Water.  Approved chemical.	Waste water to Effluent Plant.	Refer Task Description REN 067 - Outside Raw Material Quality Monitoring Procedure.	Daily.	N/A	Condition 12.	RMF 012 –Imlay Rendering Shift Report.



**7.1.3.2 Wetside Processing**

STEPS	INPUTS	OUTPUTS	MONITORING TASK DESCRIPTION	MONITORING FREQUENCY	CALIBRATION FREQUENCY	CONDITION NUMBER	CHECKSHEET
1. Air extraction ducting from following vessels:- <ul style="list-style-type: none"> <li>• Internal Raw Material Bin.</li> <li>• Pre-Heater.</li> <li>• Pre-Heater Discharge.</li> <li>• Blood Decanter.</li> <li>• Top of Drainer Screw.</li> <li>• Discharge from Drainer Screw into Press Feed Screw.</li> <li>• Top of Press Feed Screw.</li> <li>• Connections to Solids Press and Entry Hopper.</li> <li>• Connection to three tallow separator discharge chambers.</li> <li>• Sub-manifold to Decanter and Separators.</li> <li>• Drier Feed Conveyor.</li> <li>• Decanter Discharge conveyor.</li> <li>• Squeeze Press (3 x connections).</li> <li>• Liquid Phase Tanks.</li> </ul>		Fugitive odours to Bio Filter	Refer Task Description OMP 002 – Wetside Odour Extraction Monitoring Procedures.	Daily.  Annually (Contractor).	Annual	Condition 18a; 19a; 19c.	External Audit Report
2. Check manual vacuum pressures of extraction ducting.	Calibrated gauges.		Refer Task Description OMP 002 – Wetside Odour Extraction Monitoring Procedures.	Daily.  Annually (Contractor).	Annual (gauge)	Condition 18a; 19a; 19c.	RMF 008 – Air Odour Resource Consent Monitoring Checksheet.  External Audit Report
3. Clean extraction ducting.	High pressure water.	Fugitive odours to Bio Filter		Annually (Contractor).	N/A	Condition 5.	External Audit Report



STEPS	INPUTS	OUTPUTS	MONITORING TASK DESCRIPTION	MONITORING FREQUENCY	CALIBRATION FREQUENCY	CONDITION NUMBER	CHECKSHEET
4. Visually check for any leaks of steamy odorous vapours.			OMP 002 – Wetside Odour Extraction Monitoring Procedures.	Daily.  Annually (Contractor).		Condition 19(a).	RMF 008 – Air Odour Resource Consent Monitoring Checksheet.  External Audit Report



**7.1.3.3 Dryside Processing**

STEPS	INPUTS	OUTPUTS	MONITORING TASK DESCRIPTION	MONITORING FREQUENCY	CALIBRATION FREQUENCY	CONDITION NUMBER	CHECKSHEET
1. Air extraction ducting from following vessels:- <ul style="list-style-type: none"> <li>• Drier in-feed and out-feed conveyors (ducting feeds into wet side ducting).</li> <li>• Dryside connection to open air (ducting feeds into wet side ducting).</li> <li>• Roto Disc Driers (ducting feeds to Trash Cyclone).</li> <li>• Unground Bin (ducting feeds to Dryside Water Scrubber).</li> <li>• Ground Bin (Finished Bin) (ducting feeds to Dryside Water Scrubber).</li> </ul>		Fugitive odours to Bio Filter	Refer Task Description OMP 003 – Dryside Odour Extraction Monitoring Procedures.	Daily.  Annually (Contractor).	Annual.	Condition 18c; 19a; 19c.	External Audit Report
2. Roto Disc Driers:- Visual check of vacuum pressures via SCADA system (HRP3 & HRP4).	Calibrated gauges.  Pressure Transmitters.	SCADA information.	Refer Task Description OMP 003 – Dryside Odour Extraction Monitoring Procedures.	Daily.	Annual.	Condition 18c	RMF 012 – Imlay Rendering Shift Report.
3. Manual check of vacuum gauge on common exhaust duct from Roto Disc Driers.	Vacuum gauge.			Weekly.  Annually (Contractor).	Annual.	Condition 5	RMF 008 – Air Odour Resource Consent Monitoring Checksheet.  External Audit Report



## 7.1.4 Bio Filter Systems

### 7.1.4.1 Raw Material Bin – Odour Extraction

STEPS	INPUTS	OUTPUTS	MONITORING TASK DESCRIPTION	MONITORING FREQUENCY	CALIBRATION FREQUENCY	CONDITION NUMBER	CHECKSHEET
1. Odour extraction from Outside Raw Material Bin to Bio Filter.  • No leaks.		Fugitive odours to Bio Filter	Refer Task Description OMP 006 – Bio Filters Monitoring Procedures.	Daily.	N/A	Conditions 15 & 16	RMF 008 – Air Odour Resource Consent Monitoring Checksheet.



**7.1.4.2 Wetside Odour Extraction System to Main Bio Filter (uncovered)**

STEPS	INPUTS	OUTPUTS	MONITORING TASK DESCRIPTION	MONITORING FREQUENCY	CALIBRATION FREQUENCY	CONDITION NUMBER	CHECKSHEET
1. Wetside Odour Condenser:- Inlet Duct to Wetside Cooler:- Temperature monitoring:- <ul style="list-style-type: none"> <li>Visual check of temperatures via SCADA system (HTR5).</li> </ul>	Manual Temperature Gauge.  Temperature Transmitter.	SCADA information.	Refer Task Description OMP 004 – Wetside Odour Extraction to Main Bio Filter Monitoring Procedures.	Daily.	Annual.	Condition 5 & 14	RMF 008 – Air Odour Resource Consent Monitoring Checklist.
2. Wetside Odour Condenser:- Outlet Duct from Wetside Water Cooling Tower:- Temperature and pressure monitoring:- <ul style="list-style-type: none"> <li>Manual Air Temperature gauge.</li> <li>Visual check of temperatures (HRT4) via SCADA system.</li> </ul>	Manual Temperature Gauge.  Temperature Transmitter.	SCADA information.	Refer Task Description OMP 004 – Wetside Odour Extraction to Main Bio Filter Monitoring Procedures.	Daily.	Annual – gauges and transmitters.	Condition 5 & 14	RMF 008 – Air Odour Resource Consent Monitoring Checklist.
3. Wetside Odour Condensate:- Outlet Duct:- Temperature monitoring:- <ul style="list-style-type: none"> <li>Manual condensate Temperature gauge.</li> </ul>	Manual Temperature Gauge.		Refer Task Description OMP 004 – Wetside Odour Extraction to Main Bio Filter Monitoring Procedures.	Daily.	Annual – gauges.	Condition 5 & 14	RMF 008 – Air Odour Resource Consent Monitoring Checklist.
4. Separator Stickwater to Waste Heat Evaporator (WHE):- <ul style="list-style-type: none"> <li>WHE pump vacuum.</li> <li>Stickwater level in evaporator.</li> <li>Vapour temp.</li> </ul>		Solids back to Squeeze Press.  SCADA information.	Refer Task Description OMP 004 – Wetside Odour Extraction to Main Bio Filter Monitoring Procedures.	Daily		Condition 5 & 14	RMF 008 – Air Odour Resource Consent Monitoring Checklist.



7.1.4.3 Dryside Odour Extraction System to Main Bio Filter (uncovered) and Drier Bio Filter (covered)

STEPS	INPUTS	OUTPUTS	MONITORING TASK DESCRIPTION	MONITORING FREQUENCY	CALIBRATION FREQUENCY	CONDITION NUMBER	CHECKSHEET
1. Drier Condensate Temperature :- (Gardiner Heat Exchanger):- <ul style="list-style-type: none"> <li>Manual Air Temperature gauge.</li> </ul>	Manual Temperature Gauge.		Refer Task Description OMP 005 – Dryside Odour Extraction to Main and Drier Bio Filters Monitoring Procedures.	Daily.	Annual – gauges.	Condition 5 & 14	RMF 008 – Air Odour Resource Consent Monitoring Checklist.
2. Drier Condenser Temperature:- Outlet from Potter Heat Exchanger:- <ul style="list-style-type: none"> <li>Temperature transmitter to SCADA (HRT12).</li> </ul>	Temperature Transmitter.	SCADA information.	Refer Task Description OMP 005 – Dryside Odour Extraction to Main and Drier Bio Filters Monitoring Procedures.	Daily.	Annual – gauges and transmitters.	Condition 5 & 14	RMF 008 – Air Odour Resource Consent Monitoring Checklist.
3. Drier Condenser Temperature:- Post Main Fan (9.3) to Drier Bio Filter (covered):- <ul style="list-style-type: none"> <li>Manual Air Temperature gauge.</li> <li>Temperature transmitter to SCADA (HRT14).</li> </ul>	Manual Temperature Gauge.  Temperature Transmitter.	SCADA information.	Refer Task Description OMP 005 – Dryside Odour Extraction to Main and Drier Bio Filters Monitoring Procedures.	Daily.	Annual – gauges and transmitters.	Condition 5 & 14	RMF 008 – Air Odour Resource Consent Monitoring Checklist.
4. Dryside Process Vapours:- Inlet Duct to Dryside Water Scrubber:- Temperature monitoring:- <ul style="list-style-type: none"> <li>Manual Air Temperature gauge.</li> <li>Temperature transmitter to SCADA (HRT1).</li> </ul>	Manual Temperature Gauge.  Temperature Transmitter.	SCADA information.	Refer Task Description OMP 005 – Dryside Odour Extraction to Main and Drier Bio Filters Monitoring Procedures.	Daily.	Annual – gauges and transmitters.	Condition 30	RMF 008 – Air Odour Resource Consent Monitoring Checklist.



STEPS	INPUTS	OUTPUTS	MONITORING TASK DESCRIPTION	MONITORING FREQUENCY	CALIBRATION FREQUENCY	CONDITION NUMBER	CHECKSHEET
5. Dryside Process Vapours:- Outlet Duct from Dryside Water Scrubber:- <ul style="list-style-type: none"> <li>Manual Air Temperature gauge.</li> <li>Temperature transmitter to SCADA (HRT2).</li> </ul>	Manual Temperature Gauge.  Temperature Transmitter.	SCADA information.	Refer Task Description OMP 005 – Dryside Odour Extraction to Main and Drier Bio Filters Monitoring Procedures.	Daily	Annual – gauges and transmitters.	Condition 30	RMF 008 – Air Odour Resource Consent Monitoring Checksheet.
6. Drier Condenser:- Outlet Duct from Main Bio Filter Fan (14.1):- Temperature and pressure monitoring:- <ul style="list-style-type: none"> <li>Manual Air Temperature.</li> <li>Visual check of temperature (HRT3) and vacuum (HRP2) pressures via SCADA system.</li> </ul>	Manual Temperature Gauge.  Temperature and Pressure Transmitters.	SCADA information.	Refer Task Description OMP 005 – Dryside Odour Extraction to Main and Drier Bio Filters Monitoring Procedures.	Daily.	Annual – gauges and transmitters.	Condition 30	RMF 008 – Air Odour Resource Consent Monitoring Checksheet.





#### 7.1.4.4 Outside Raw Material Bin Bio Filter

STEPS	INPUTS	OUTPUTS	MONITORING TASK DESCRIPTION	MONITORING FREQUENCY	CALIBRATION FREQUENCY	CONDITION NUMBER	CHECKSHEET
1. Outside Raw Material Bin Bio Filter monitoring:- <ul style="list-style-type: none"><li>• Visually check integrity of extraction system.</li></ul>			Refer Task Description OMP 006 – Bio Filters Monitoring Procedures.	Daily.		Condition 15 & 16	RMF 008 – Air Odour Resource Consent Monitoring Checksheet.



7.1.4.5 Main Bio Filter (uncovered)

STEPS	INPUTS	OUTPUTS	MONITORING TASK DESCRIPTION	MONITORING FREQUENCY	CALIBRATION FREQUENCY	CONDITION NUMBER	CHECKSHEET
1. Main Bio Filter Media Pressure:- • Manual Pressure gauge.	Manual Temperature Gauge.		Refer Task Description OMP 006 – Bio Filters Monitoring Procedures.	Daily.	Annual – gauges.	Condition 15 & 16	RMF 008 – Air Odour Resource Consent Monitoring Checklist.
2. Fan discharge and inlet flow to Main Bio Filter.	Extraction fan.	Fugitive odours.	Refer Task Description OMP 006 – Bio Filters Monitoring Procedures.	Annually (Contractor).		Condition 15 & 16	RMF 008 – Air Odour Resource Consent Monitoring Checklist.
3. Main Bio Filter Back Pressure monitoring:- • Pressure transmitter to SCADA (HRP2).		SCADA information.	Refer Task Description OMP 006 – Bio Filters Monitoring Procedures.	Daily.	Annual – transmitter.	Condition 15 & 16	RMF 008 – Air Odour Resource Consent Monitoring Checklist.
4. Main Bio Filter Media:- • pH. • Moisture.		Samples to Lab.	Refer Task Description OMP 006 – Bio Filters Monitoring Procedures.	Monthly.	N/A	Condition 15.	RMF 008 – Air Odour Resource Consent Monitoring Checklist.
5. Daily manual monitoring of Main Bio Filter:- • Weeds. • Leakage discharge. • Odour discharge.			Refer Task Description OMP 006 – Bio Filters Monitoring Procedures.	Daily.	N/A	Condition 15.	RMF 008 – Air Odour Resource Consent Monitoring Checklist.



**7.1.4.6 Drier Bio Filter (covered)**

STEPS	INPUTS	OUTPUTS	MONITORING TASK DESCRIPTION	MONITORING FREQUENCY	CALIBRATION FREQUENCY	CONDITION NUMBER	CHECKSHEET
1. Fan discharge and inlet flow to Drier Bio Filter.	Extraction fan.	Fugitive odours.	Refer Task Description OMP 006 – Bio Filters Monitoring Procedures.	Annually (Contractor).		Condition 15 & 16	RMF 008 – Air Odour Resource Consent Monitoring Checklist.
2. Drier Bio Filter Back Pressure monitoring:- <ul style="list-style-type: none"> <li>Manual Pressure Gauge.</li> <li>Pressure transmitter to SCADA (HRP1).</li> </ul>	Manual Pressure Gauge. Pressure Transmitter.	SCADA information.	Refer Task Description OMP 006 – Bio Filters Monitoring Procedures.	Daily.	Annual – gauge and transmitter.	Condition 16	RMF 008 – Air Odour Resource Consent Monitoring Checklist.
3. Drier Bio Filter Media:- <ul style="list-style-type: none"> <li>pH.</li> <li>Moisture.</li> </ul>		Samples to Lab.	Refer Task Description OMP 006 – Bio Filters Monitoring Procedures.	Monthly.	N/A	Condition 15 & 16	RMF 008 – Air Odour Resource Consent Monitoring Checklist.
4. Daily manual monitoring of Drier Bio Filter:- <ul style="list-style-type: none"> <li>Leakage discharge.</li> <li>Odour discharge.</li> </ul>			Refer Task Description OMP 006 – Bio Filters Monitoring Procedures.	Daily.	N/A	Condition 15 & 16	RMF 008 – Air Odour Resource Consent Monitoring Checklist.

## 7.2 Pictorial Views of Rendering Plant Odour Extraction Control Systems



**Outside Raw Material Bin**



**Outside Raw Material Bin – Roof Retracted**





**Wetside Extraction Ducting – above Inside Raw Material Bin**



**Wetside Extraction Ducting – exiting building to Wetside Cooling Tower**



**Dryside Extraction Ducting – exiting building to Trash Cyclone, Dryside Water Cooling Scrubber and Wetside Cooling Tower**



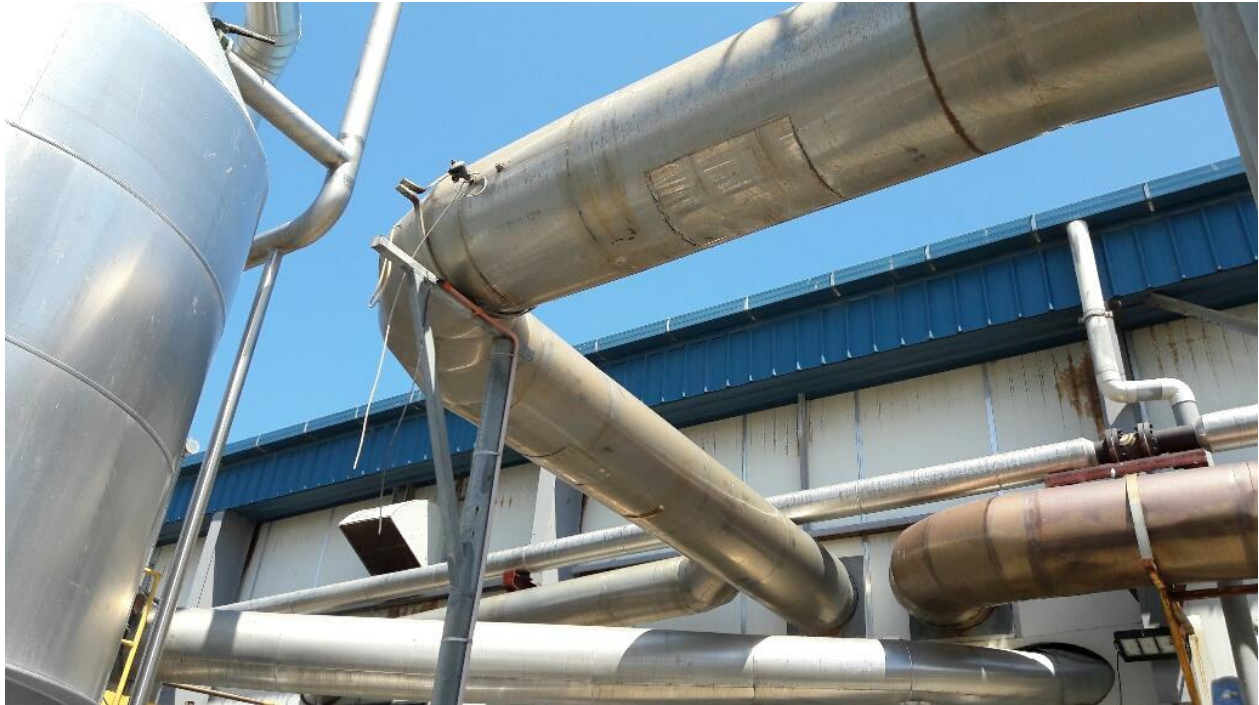
7.3 **Pictorial View of Wetside Odour Control Systems to Main Bio Filter (uncovered)**



**Wetside Extraction Ducting Exiting Building**



**Wetside Process Vapours to Wetside Cooling Tower**



**Wetside Process Vapours Inlet to Wetside Cooling Tower:- Transmitter (HRT5)**





**Exhaust from Wetside Cooling Tower (Manual Temperature Gauge)**



**Exhaust from Wetside Cooling Tower – Transmitter:- Temperature (HRT4)**



**Wetside Cooling Tower Condensate Outlet**



**Odour Condensate Temperature Gauge**





**Waste Heat Evaporator**



**Exhaust from Main Bio Filter Fan to Main Bio Filter**

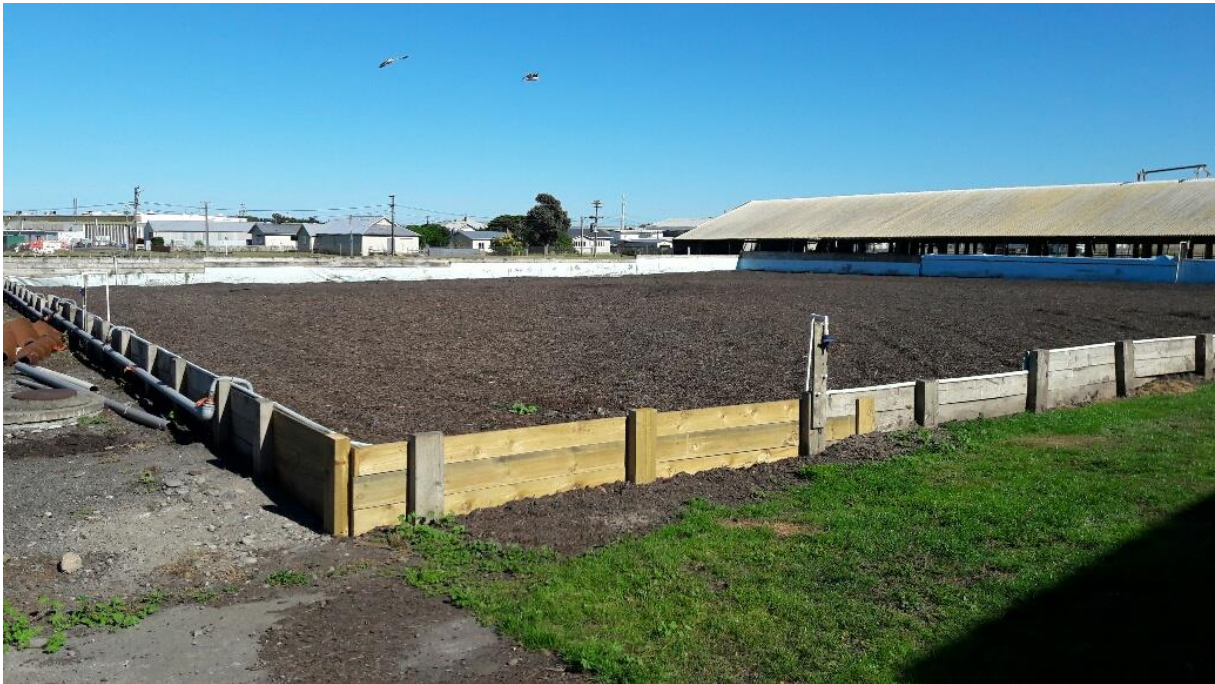


Location of Odour Condenser Temperature Gauge



Concrete Extraction Ducting to Main Bio Filter



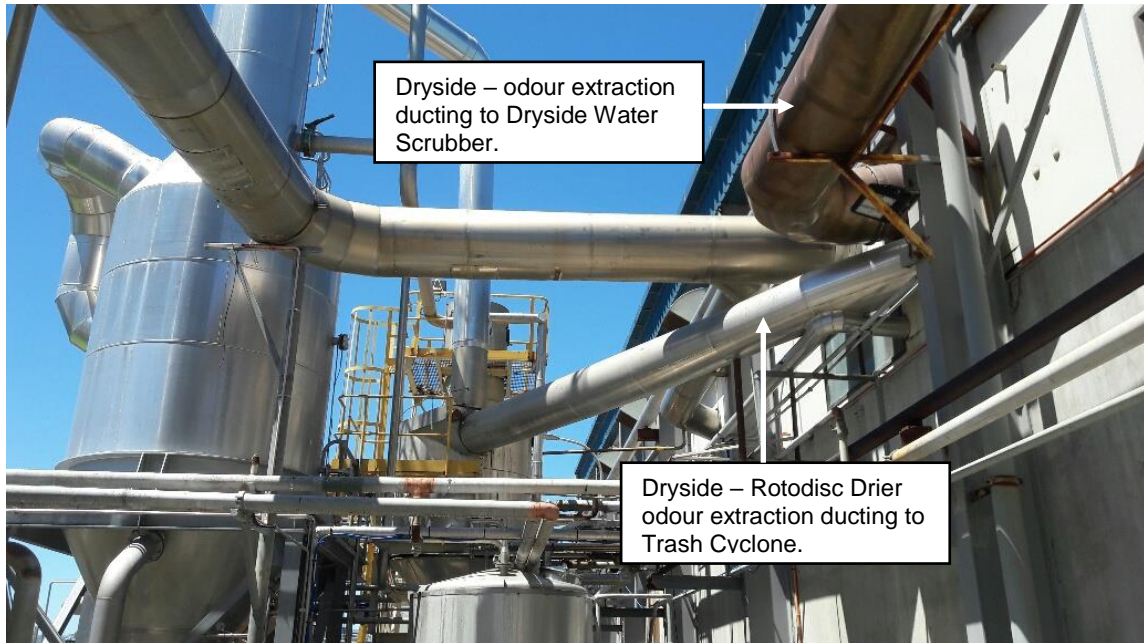


**View of Main Bio Filter**



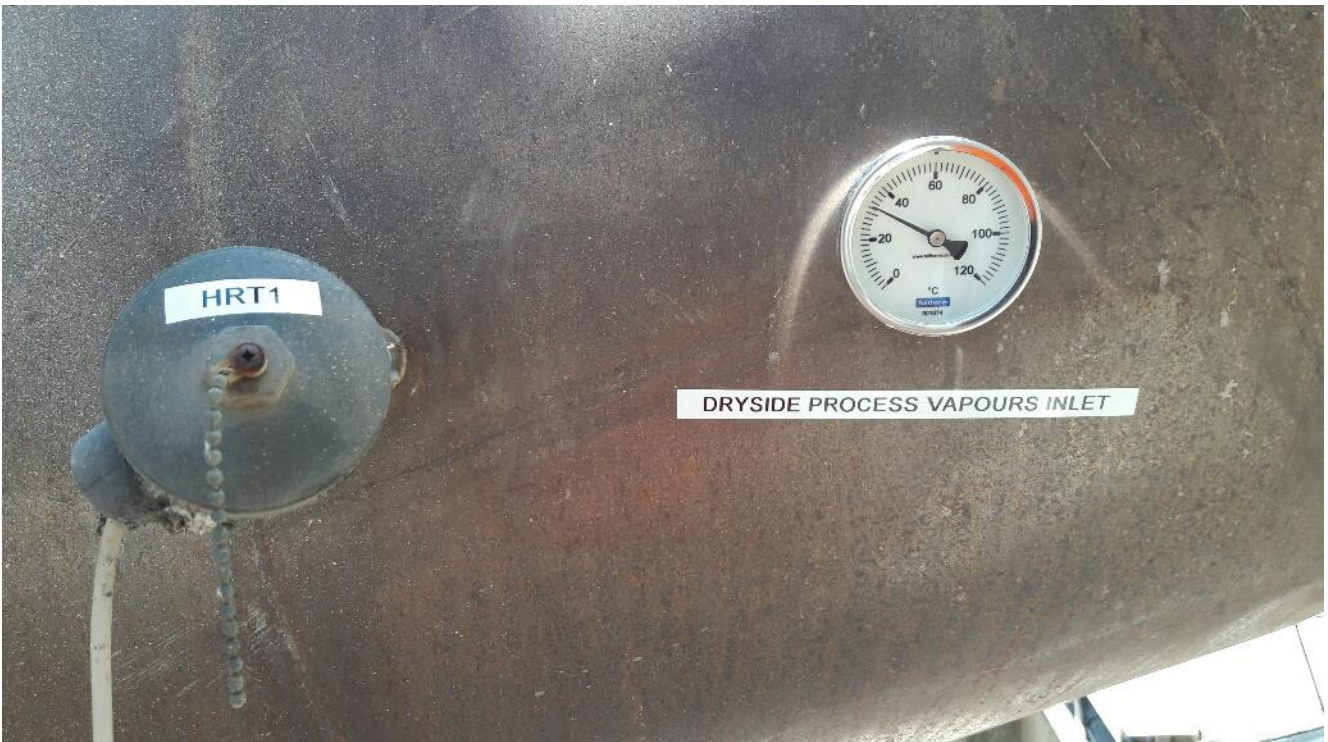
**View of Main Bio Filter (looking South)**

#### 7.4 Pictorial View of Dryside Odour Control Systems to Main and Drier Bio Filters



**Dryside Extraction Ducting Exiting Building**



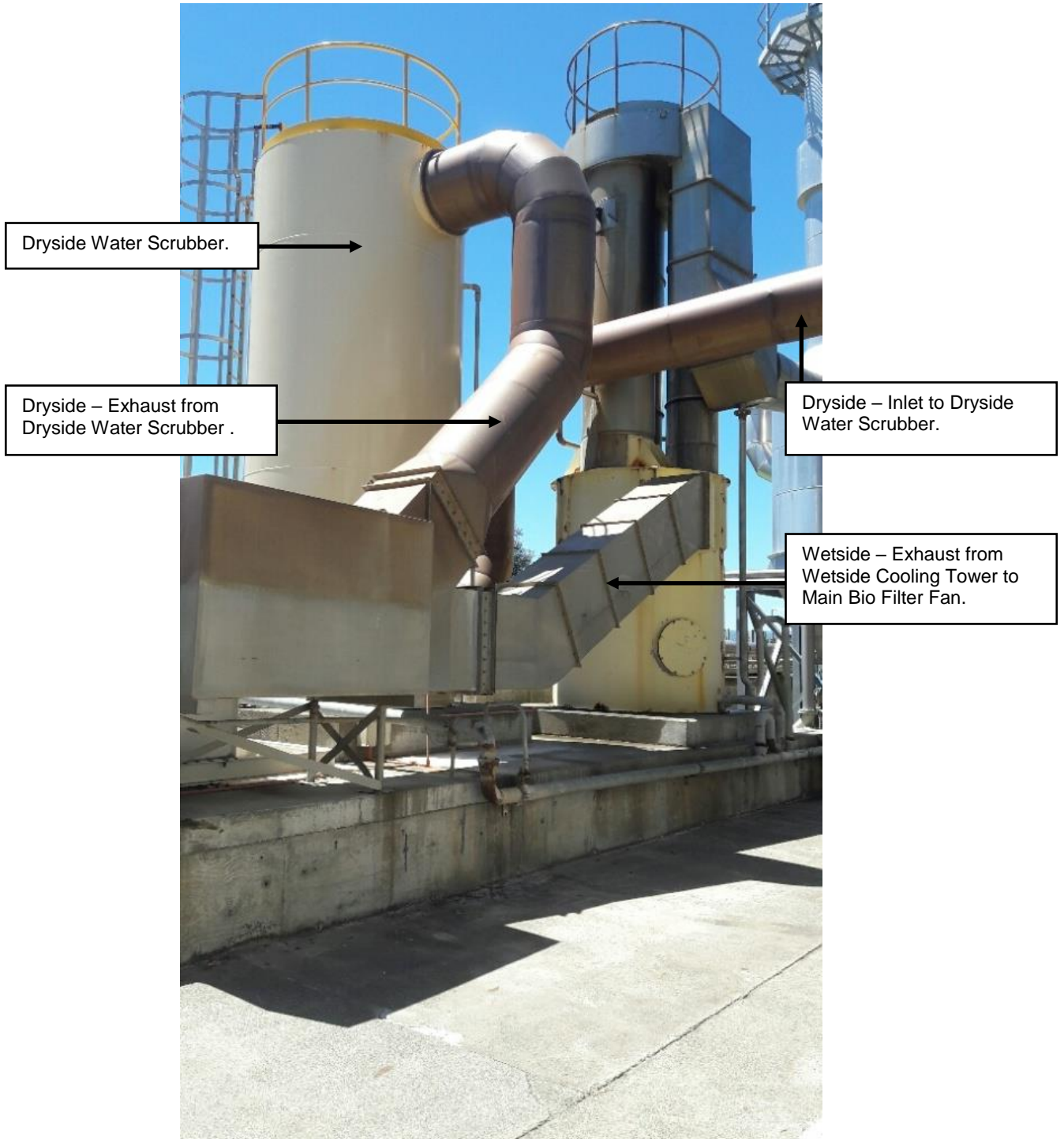


**Dryside Process Vapours Inlet to Dryside Water Scrubber – Transmitter (HRT 1)**

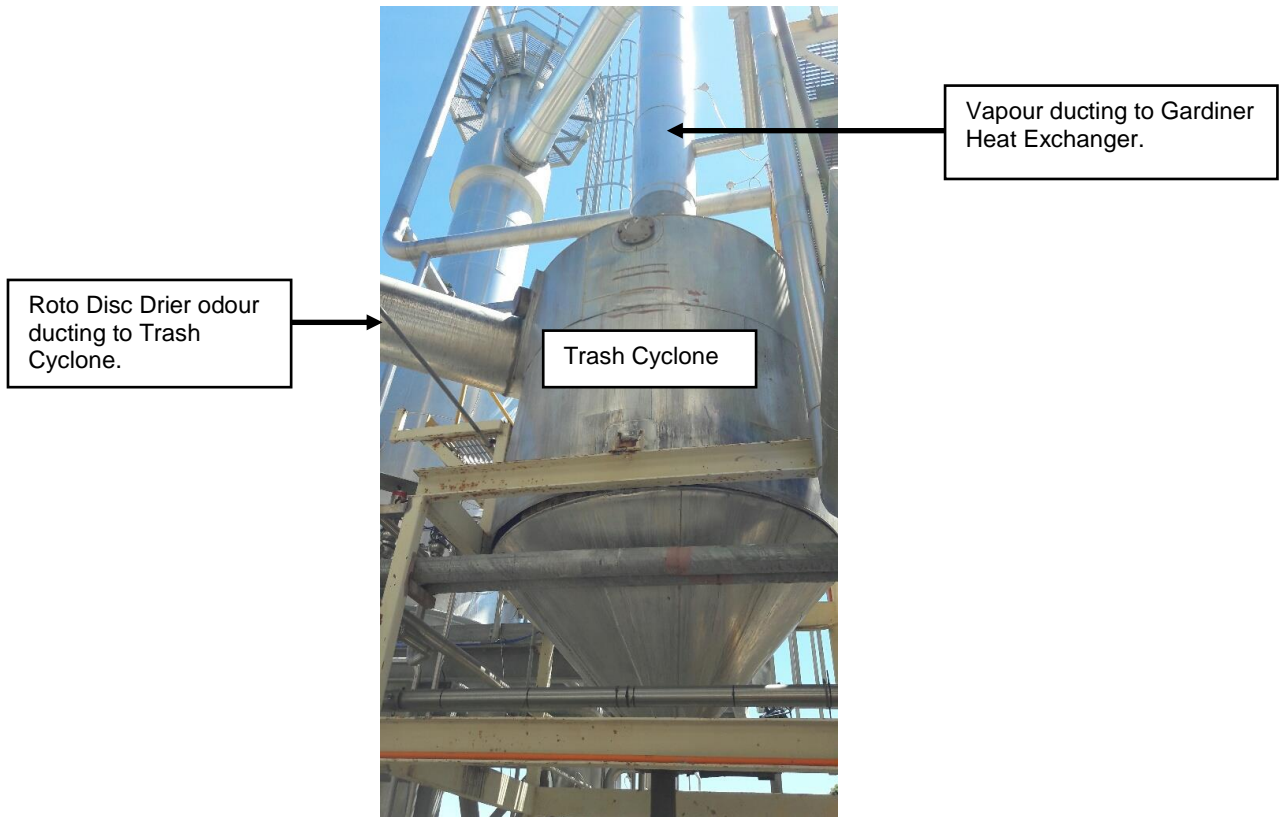


**Dryside Water Scrubber Exhaust Outlet – Transmitter (HRT2) to Main Bio Filter Extraction Fan**





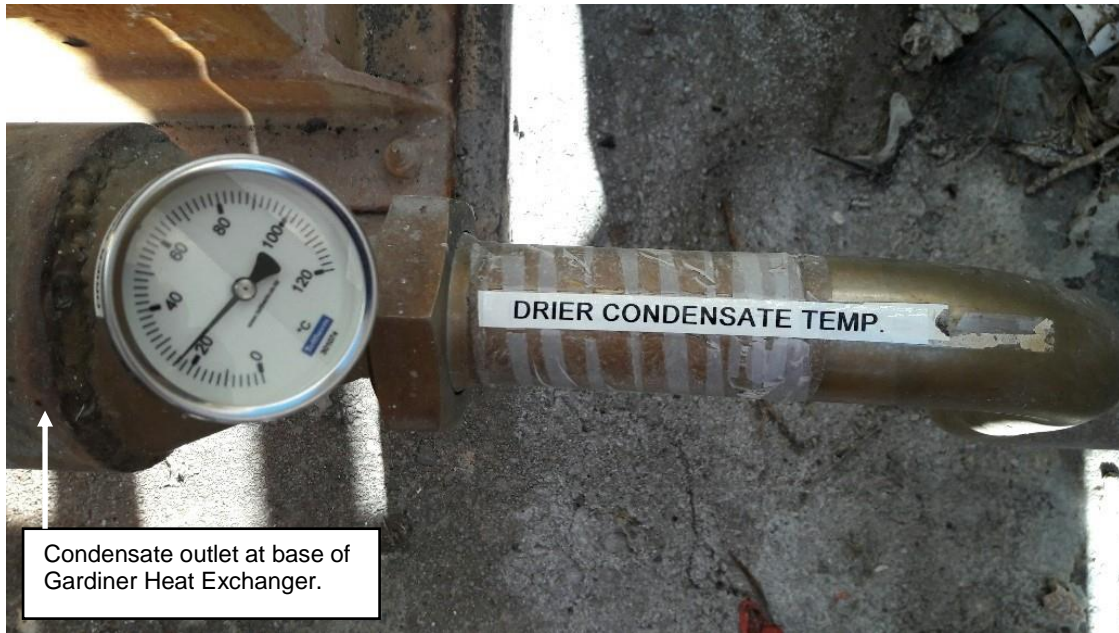
**Dryside Extraction Ducting to Dryside Water Scrubber**



**Drier Extraction Ducting to Trash Cyclone**



**Vapours to Gardiner Heat Exchanger**

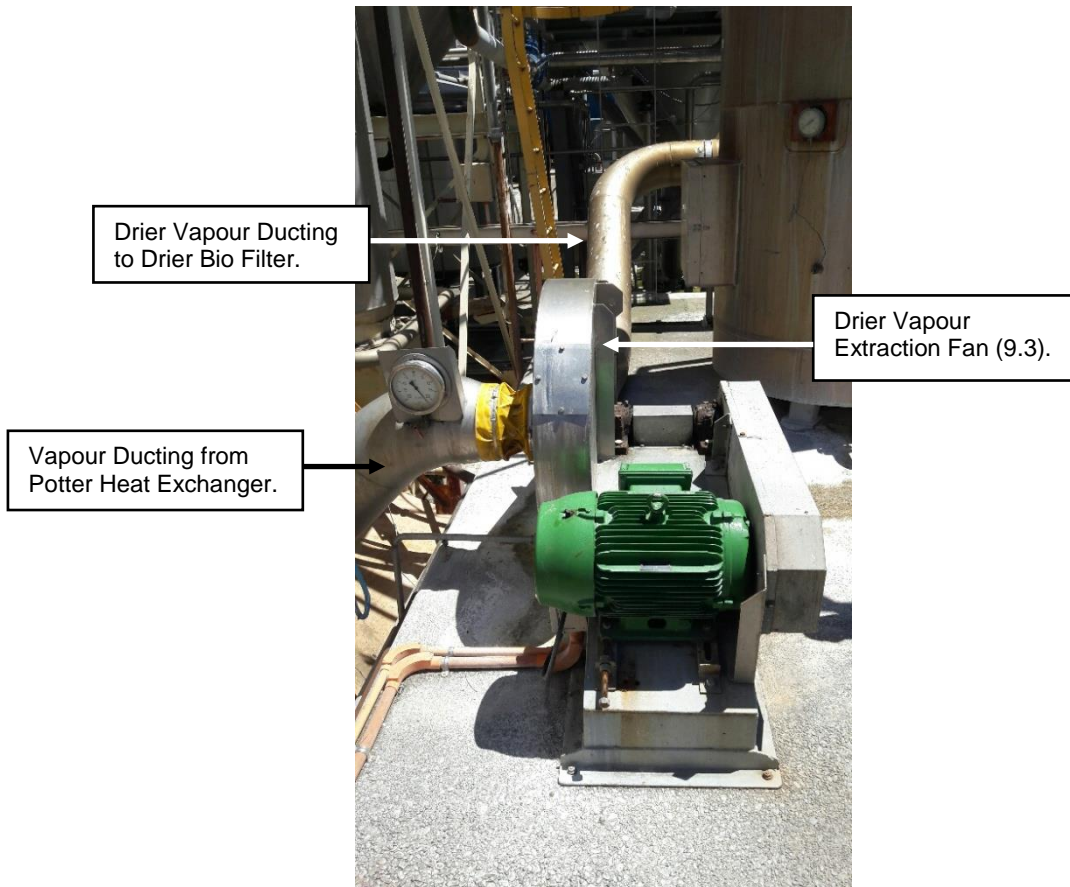


**Drier Condensate Temperature Gauge = Condensate to Drain**

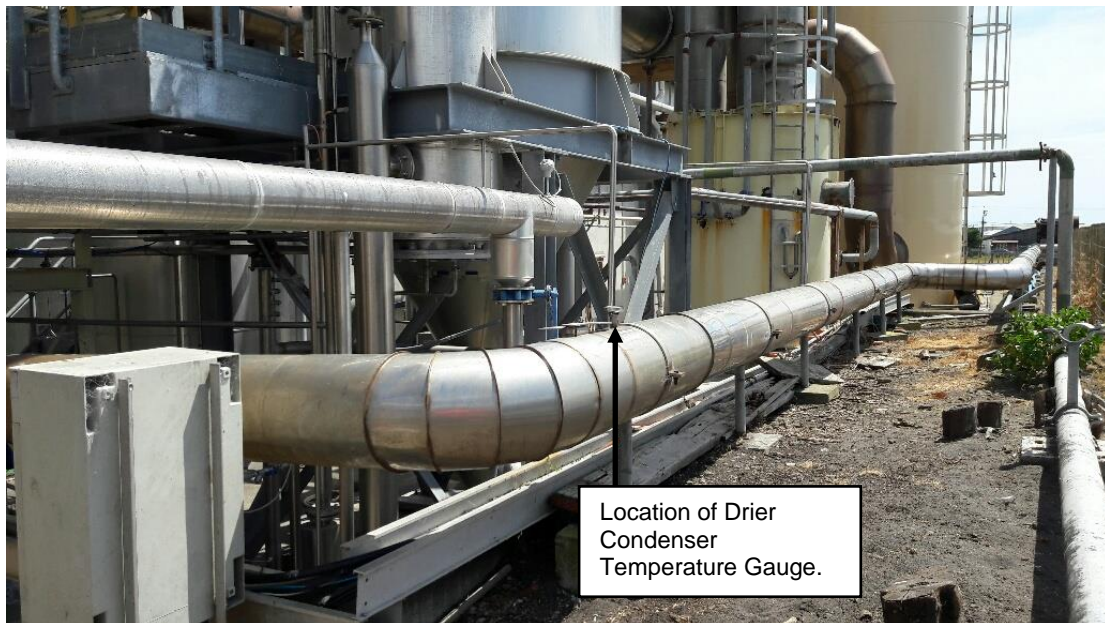


**Dryside Vapours to Potter Heat Exchanger**





**Drier Extraction Fan – Vapours to Drier Bio Filter**



**Drier Vapour Ducting to Drier Bio Filter**



**Drier Condenser Temperature Gauge**



**Drier Vapour Ducting entering Drier Bio Filter**





**Drier Bio Filter**



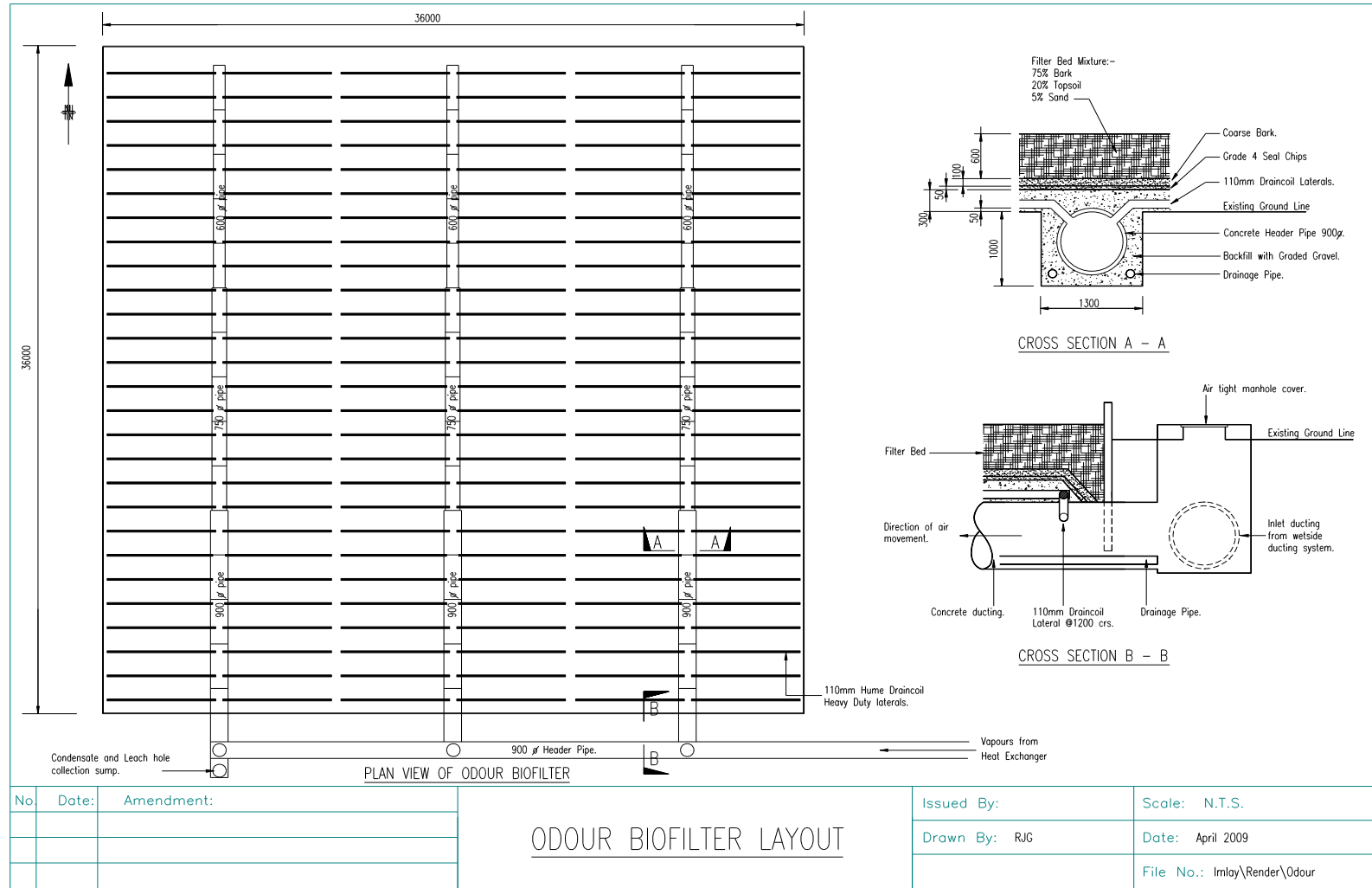
**View of Drier and Odour Bio Filters**



**SCADA System – Continuous Monitoring of Consent Conditions**



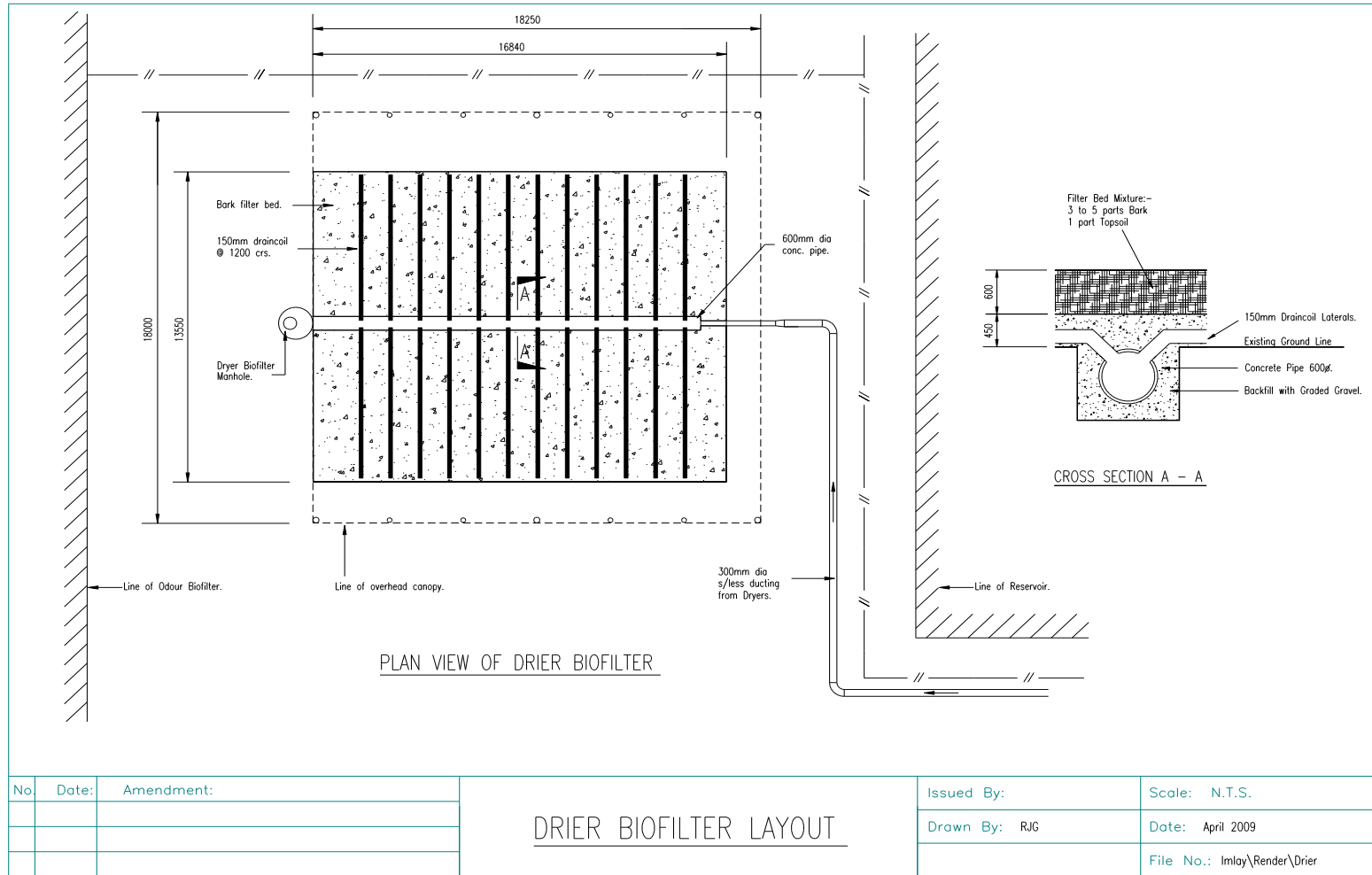
**7.5 Main Bio Filter Layout (uncovered)**







7.6 Drier Bio Filter Layout (covered)





## 7.7 Complaints Process

### 7.7.1 Complaints (Conditions 7, 21, 26 & 27)

In the event of any complaints and mechanical breakdowns (incident) received by AFFCO Imlay the following must be carried out:-

#### Contact MWRC (Condition 21):-

- (a) Contact MWRC representative within 2 hours of the complaint and/or mechanical breakdown (incident) occurring;
- (b) Advise what action is to be taken;
- (c) Forward a report to the MWRC representative detailing the cause of the complaint. The report must be received within **5 working days** of MWRC being notified.

#### Independent Person Investigation (Condition 7):-

- (a) An independent person (Armourguard - Whanganui) must be engaged to investigate odour complaints within 30 minutes of receiving notification from the either AFFCO Imlay and/or MWRC.
- (b) A written report must be forwarded to AFFCO Imlay and MWRC within 24 hours. The report must contain whether the odour compliant was considered to be offensive and/or objectionable beyond the boundary fence.
- (c) An independent person (Armourguard - Whanganui) must use the FIDAL factors when determining the adverse effect of objectionable odours.

#### AFFCO Imlay Investigation (Condition 27) (NOTE:- actioned only if the independent person is unavailable):-

- (a) Investigate the most likely cause of the odour;
- (b) If the source of the odour is substantiated (source is AFFCO Imlay), remedial action must be implemented to ensure mitigation measures are designed to prevent and/or minimise the risk of odour reoccurring.
- (c) AFFCO Imlay must investigate and take measures to respond to any complaint received. Complaints can be received by either phone, email or via website. Where possible an initial response must be provided to the complainant within 24 hours of that complaint being received.
- (d) A Complaint Report must be sent to the complainant within one week of receiving a complaint.



### Complaint Report Content (Condition 27d):-

The Complaint Report must contain the following information:-

- (a) Complaint Number;
- (b) Name and address of complainant;
- (c) Location where the complaint occurred;
- (d) Date and time of odour complaint;
- (e) Wind speed and direction;
- (f) Description of odour;
- (g) Source of odour;
- (h) Corrective / preventive actions.

### Complaint Register (Condition 26 & 28):-

A Complaints Register must be maintained. The Complaints Register must contain the following information:-

- (a) Complaint Number;
- (b) Name of complainant;
- (c) Complainant address;
- (d) Date of complaint;
- (e) Time of complaint;
- (f) Cause and associated comments;
- (g) Substantiated complaint;
- (h) Unsubstantiated complaint.

A copy of the Complaints Register must be provided to the MWRC upon request. The Complaints Register must include in the Annual Review Report provided to the MWRC by AFFCO Imlay.

### Complaint Report Filing:-

The Complaint Report is to be filed in the 'Imlay Environmental Log' located on:-

*S:Drive\Complaint\Current Season eg. 2017 – 2018\Reports.*

Each Complaint Report is to be assigned a number which corresponds to the Complaint Register number (order of entry).

### Validated Offensive or Objectionable Odours (Condition 8):-

If MWRC confirms that validated offensive or objectionable odours have occurred, AFFCO Imlay must investigate the potential source and provide a report to MWRC within 24 hours.

The report must contain:-

- What caused the odour;
- What remedial action has been taken to stop the odour and prevent it from re-occurring.



Where a permanent remedial action cannot be implemented immediately, the report must provide a timeframe for implementation and detail what measures are to be implemented in the interim to minimise future potential offensive / objectionable odours. This action must be added to the Mitigation Table.

### **Persistent Validated Offensive or Objectionable Odours (Condition 9)**

If validated offensive or objectionable odour effects are present continuously or are present intermittently for more than 24 hours MWRC may issue a written notice to AFFCO Imlay requesting cessation of processing within the Rendering Plant. Re-processing will not commence until MWRC are satisfied that affective corrective action measures have been implemented.

### **7.8 Community Liaison Group Meeting (Condition 22 & 23)**

AFFCO Imlay must ensure a Community Liaison Group (CLG) Meeting is held annually in March of each year and/or at the request from a CLG member. If requested by a CLG member that meeting must take place within 4 weeks of that request being issued.

AFFCO Imlay must appoint a dedicated person for convening CLG Meetings. That person is:-

Ricky Gowan (Compliance Manager).

AFFCO Imlay must invite the following persons to the CLG Meeting:-

- All submitters.
- One IWI representative from:- Tupoho; Nga Tangata Tiaki O Whanganui; Tama Upoko.
- One representative from MWRC.
- One representative from WDC.

Topics of discussion must include the Complaints Register for the period from the last CLG Meeting.

### **7.9 Odour Phone (Condition 24)**

AFFCO Imlay maintains a dedicated direct 24 hour Odour Phone number. Calls to this phone are monitored by AFFCO Imlay Office staff who inform the site contact person with all necessary details surrounding the odour complaint. That site contact person is:-

Ricky Gowan (Compliance Manager)

Back-up:- Cindy Woon (Compliance Auditor)

The AFFCO Imlay Odour Phone number is:-

- 06 349 2435 (Direct Dial).
- 06 349 2400 (Press 4 to leave a message).

The AFFCO Imlay odour phone number must be published in the White Pages of the Wanganui Telephone Book; published in Wanganui Newspapers every three months from the commencement of the permit.

The AFFCO Imlay odour phone number is displayed on signage outside the site for public viewing.





### 7.10 AFFCO Webpage (Condition 25)

AFFCO Imlay has a dedicated environmental section within the AFFCO New Zealand Ltd webpage ([www.affco.co.nz](http://www.affco.co.nz)). The environmental section includes the following:-

- 24 hour contact name and phone number for receipt of complaints;
- Email address for lodging complaints with the permit holder;
- Copy of the consent and approved management plans;
- Copy of other consents in relation to the site;
- Latest annual Air Odour Report;
- Copy of a plan showing the location of all consented operational activities on site.

### 7.11 Rendering Plant / Extraction System Maintenance (Condition 19b)

The MWRC Consents Monitoring Team must be notified of any maintenance work which may result in odour release to the atmosphere at least **12 hours prior to the works commencing**.

### 7.12 Operating Temperatures (Condition 20)

Rendering vessels must be operated at the lowest temperature possible and must not be operated above 100°C. Refer Rendering Task Descriptions relating to the Decanter Liquid Phase Tank.

Meat and Bone Meal temperatures are set as customer requirements for sterile and non sterile Meat and Bone Meal. Refer Rendering Task Descriptions relating to Meat and Bone Meal temperature requirements.

The temperature of rendering vessels and dryers must be continuously monitored and recorded. Refer to SCADA system located in the Rendering Office.

### 7.13 Monthly Odour Surveys (Condition 29)

An independent person (Armourguard – Whanganui) must carryout monthly odour surveys around the boundary of AFFCO Imlay (external perimeter). Monitoring must occur when the Rendering Plant is fully operational.

The outcome of those monthly odour surveys must be recorded.

AFFCO Imlay must investigate the cause of any significant odours detected during each survey and must implement necessary remedial action within 48 hours of detection.

A record of each monthly odour survey and associated remedial actions must be included in the Annual Review Report.



#### 7.14 Annual External Audit (Conditions 31 & 32)

##### Odour Control Systems:-

AFFCO Imlay must engage the services of an IQP on an annual basis to undertake a thorough review of odour control systems.

The review must include a thorough examination of the following:-

- Extractions systems (record vacuum pressures).
- Cooling systems (record temperatures).
- Bio Filter systems (record vacuum and temperatures).
- Existing monitoring data.
- Downwind odour assessments.
- Take samples for analysis.

The Annual External Audit Report must be included in the Annual Review Report as required by Condition 35.

Any remedial actions stipulated in the Annual External Audit Report must be actioned within 6 weeks of the report being issued.

##### Gas Fired Boiler:-

AFFCO Imlay's Gas Fired Boiler must be tuned and tested on an annual basis (prior to 30 April annually) to maintain efficient combustion of fuel.

This report must be included in the Annual Review Report as required by Condition 33.

#### 7.15 Annual Review Report (Condition 35)

AFFCO Imlay must prepare and forward an Annual Review Report summarising Odour Management performance.

The Annual Review Report must be forwarded to MWRC by 1 June of every calendar year.

The Annual Review Report must include (but is not limited to):-

- (a) any updates to the Mitigation Table (Condition 3).
- (b) a summary of all Bio Filter performance.
- (b) a copy of the Log as required in Condition 20.
- (c) a copy of the process operating temperatures.
- (d) a summary of notifications made to MWRC (condition 24).
- (e) a copy of notes recorded during the annual CLG Meeting.
- (f) a summary of odour complaints received and outcome of investigations.
- (g) a summary of enclosed equipment vacuum results.
- (h) Instrument calibration records.
- (i) a production summary for the Rendering Plant over the previous 12 month period.
- (j) a summary of the breaches identified in the previous years annual report along with evidence of undertaking remedial work (to commence 1 June 2019)



**8. TASK DESCRIPTIONS**

- TAS OMP 001:- Raw Material Monitoring Procedures.
- TAS OMP 002:- Wetside Odour Extraction Monitoring Procedures.
- TAS OMP 003:- Dryside Odour Extraction Monitoring Procedures.
- TAS OMP 004:- Wetside Odour Extraction to Main Bio Filter Monitoring Procedures.
- TAS OMP 005:- Dryside Odour Extraction to Main and Drier Bio Filters Monitoring Procedures.
- TAS OMP 006:- Bio Filters Monitoring Procedures.

**9. SYSTEM CONTROL POINT SUMMARY – RESOURCE CONSENT MONITORING**

RESOURCE CONSENT CONDITIONS	TEST(S)	PROCEDURE REFERENCE FOR TESTS	SPECIFICATION / CRITICAL LIMITS	CORRECTIVE ACTIONS	RESPONSIBILITIES / AUTHORITIES	RECORDS
Raw Material (Conditions 13 & 34).	Soft Offals:- <ul style="list-style-type: none"> <li>• Age</li> <li>• pH</li> <li>• Temp</li> </ul> Hard & soft offals mix:- <ul style="list-style-type: none"> <li>• Age</li> </ul> Hard Offals:- <ul style="list-style-type: none"> <li>• Age</li> </ul>	OMP 001 – Raw Materials Monitoring Procedures.	<6 hours from kill. ≤pH4.5 <20°C  <24 hours from kill.  <48 hours.	Soft offal is transported off site to an alternative destination.	Rendering Supervisor  Plant Manager	AFFCO Imlay Rendering Operations Log – RMF 009
Wetside Odour Extraction (Conditions 18a; 19a; 19c)	Vacuum Pressures	OMP 002 – Wetside Odour Extraction Monitoring Procedures.	≥100Pa No leaks	Investigate possible cause.  Contact maintenance department.	Rendering Supervisor  Plant Manager	Air Odour Resource Consent Checksheet - RMF 008.  SCADA System.



RESOURCE CONSENT CONDITIONS	TEST(S)	PROCEDURE REFERENCE FOR TESTS	SPECIFICATION / CRITICAL LIMITS	CORRECTIVE ACTIONS	RESPONSIBILITIES / AUTHORITIES	RECORDS
Dryside Odour Extraction (Conditions 18a; 19a; 19c)	Vacuum Pressures	OMP 003 – Dryside Odour Extraction Monitoring Procedures.	≥100Pa	Investigate possible cause.  Contact maintenance department.	Rendering Supervisor  Plant Manager	Air Odour Resource Consent Checksheet - RMF 008.  SCADA System.
Wetside Odour Extraction to Main Bio Filter (Conditions 5 & 14)	Temperatures	OMP 004 – Wetside Odour Extraction to Main Bio Filters Monitoring Procedures.	<b>Extraction System:-</b>  <40°C (temp).  <b>Waste Heat Evaporator (WHE):-</b>  ≥100kPa (pressure)  >95% full  <40°C vapour temp.	Investigate possible cause.  Contact maintenance department.	Rendering Supervisor  Plant Manager	Air Odour Resource Consent Checksheet - RMF 008.  SCADA System.
Dryside Odour Extraction to Main Bio Filters (Conditions 5 & 14)	Temperature and vacuum pressure.	OMP 005 – Dryside Odour Extraction to Main Bio Filters Monitoring Procedures.	<40°C (temp).  ≥100kPa (pressure)  Pre cooled inlet air ≤35°C for 95% of the time.	Investigate possible cause.  Contact maintenance department.	Rendering Supervisor  Plant Manager	Air Odour Resource Consent Checksheet - RMF 008.  SCADA System.





RESOURCE CONSENT CONDITIONS	TEST(S)	PROCEDURE REFERENCE FOR TESTS	SPECIFICATION / CRITICAL LIMITS	CORRECTIVE ACTIONS	RESPONSIBILITIES / AUTHORITIES	RECORDS
Bio Filters (Conditions 15 & 16)	Bed Media Pressure	OMP 006 – Bio Filters Monitoring Procedures.	≥100Pa	Investigate possible cause.  Contact maintenance department.	Rendering Supervisor  Plant Manager	Air Odour Resource Consent Checksheet - RMF 008.  SCADA System.
	Media Moisture		50 to 65% dry weight basis			
	Static Back Pressure		<150mm/ug			
	Fugitive odours		Nil			
	pH		≥5.0			
	Minimum bed depth		700mm			
	Visual inspection for weeds		Nil			
	Visual inspection for leaks		Nil			