ODOUR MANAGEMENT PLAN
FOR
NO FUSS LIQUID WASTE
UNIT 1 - 10 SMITH STREET, EMU PLAINS

Prepared for: Alyce Wing, No Fuss Liquid Waste Pty Ltd

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Benbow
ENVIRONMENTAL

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EXECUTIVE SUMMARY

This Odour Management Plan (OMP) has been prepared in context with the AS/NZS ISO 14001, *Environmental Management Systems – Specifications with guidance for use* and AS/NZS 14004, *General guidelines on principles, systems and supporting techniques*.

This plan provides the framework so that operations are undertaken with odour aspects and impacts of activities in mind to minimise potential to cause nuisance and harm to those potentially affected by the odour emissions from the subject premises. The OMP also serves to ensure that the No Fuss Liquid Waste commitments to minimise and reduce odour will be adhered to.

This plan also intends to achieve a continual cycle of improvement in managing environmental matters that surround the minimisation and mitigation of odour. The OMP enables this to happen in practice.

A brief summary and explanation of the objectives of the OMP are provided to assist No Fuss Liquid Waste management.

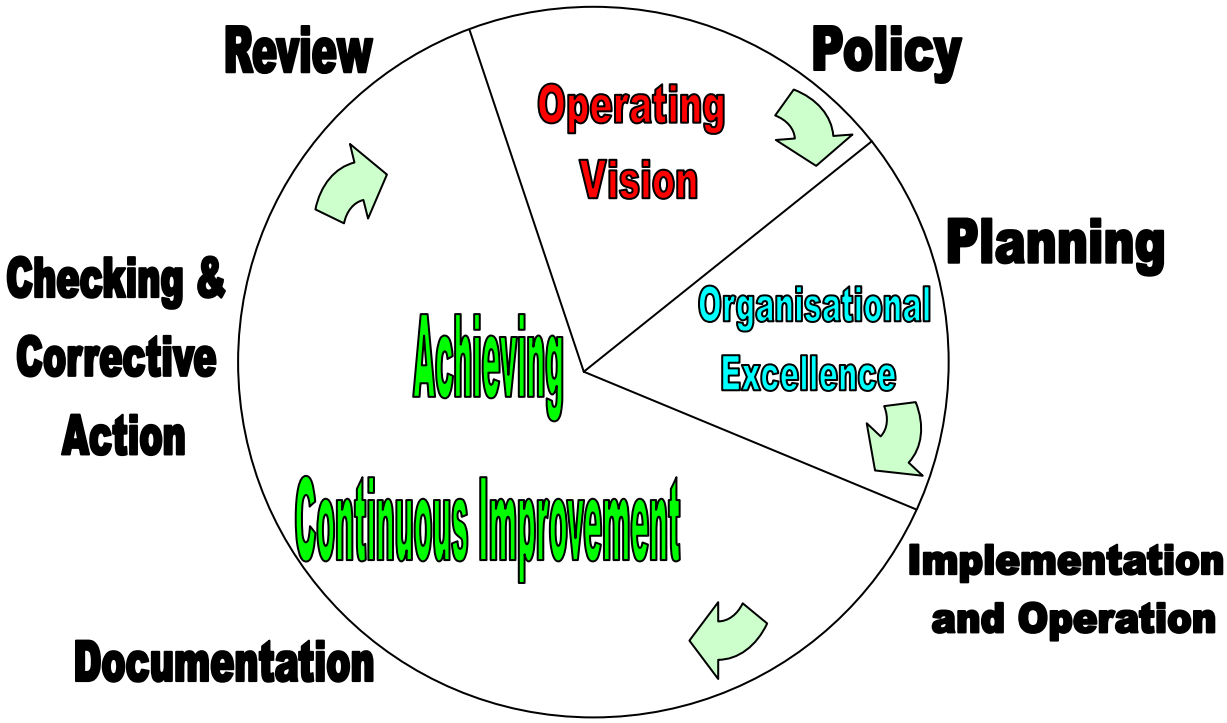
The objectives of the OMP are:

- Achieve compliance to regulatory requirements stipulated by Penrith City Council, EPA and DoPI;
- Apply best environmental practices within the economic constraints that exist within the community;
- Reduce unacceptable odour risks that could occur at the premises;
- Implement awareness to all personnel involved with the site activities to ensure the objectives of the OMP are achieved;
- Be proactive in addressing odour issues raised as a consequence of any internal or external audits, inquiries from regulatory authorities, and concerns from the community;
- Identify triggers to which contingency actions will be performed by No Fuss Liquid Waste management;
- Odour monitoring program, when determined to be required; and
- Practices established by No Fuss Liquid Waste to ensure that odour impacts caused by the subject premises are minimised down to as low as reasonably practicable.

The figure overleaf is the circle of improvement implemented in accordance with AS/NZS ISO 14001, which will be utilised by No Fuss Liquid Waste management to ensure that aspects on site that have been determined as sources of odour impacts are continuously improved through this OMP and its Odour Management Policy (included in this plan).

Commitments have been made by No Fuss Liquid Waste management that the objectives above will be achieved, maintained and adhered to continuously as part of the operational lifetime of the development.

Core Elements of AS/NZS ISO 14001 - Circle of Improvement



Reference: Vale, A., 1996, '*Environmental Awareness Training*'.

ABBREVIATIONS

DCC	Development Consent Conditions (or referred to as Notice of Determination)
DECCW	Department of Environment, Climate Change and Water
EPA	Environment Protection Authority
Council	Penrith City Council
DoPI	Department of Planning & Infrastructure
LALC	Local Aboriginal Land Council
NPWS	National Parks and Wildlife Service
NSW EPA	New South Wales Environment Protection Authority
OMP	Odour Management Plan
POEO Act	*Protection of the Environment Operations Act 1997*
RMS	Roads & Maritime Services

ODOUR MANAGEMENT POLICY

We, the management of No Fuss Liquid Waste Pty Ltd agree to ensure that all practices performed on the site will comply with this Odour Management Plan and other relevant legislative requirements (e.g. *Protection of the Environment Operations Act 1997* and *Environmental Planning and Assessment Act 1979*) to minimise the odour impacts of the site on the surrounding potentially affected communities and premises. We also agree to maintain inspection forms associated with the Odour Management Plan (OMP), sample copies of which can be found in Section 7 of the OMP. Complaint Records will be retained for the life of the operation. We agree to review the Plan at least every two years or more frequently if circumstances require. If required, we will submit the Plan or documents to Council.

We have set in place this system that will monitor, record, manage and review environmental impacts.

Upon Council request, access to the Inspection Forms would be granted and relevant discussion regarding compliance with the Plan would be undertaken. Access will be granted to the Council to inspect the Inspection Forms upon the management preferably receiving 48 hours' notice. Inspection will occur at the site, unless otherwise agreed between the management and Council. Council will pay its own costs of undertaking the inspection, unless otherwise indicated by Council acting within their rights under appropriate legislation.

We agree to abide by the requirements outlined in this Plan and all staff members/contractors employed by No Fuss Liquid Waste will be aware of this plan. Particular attention is provided to Section 4.1.3, which provides details of the proposed odour control system, with the associated comments of approval and conditions from NSW EPA regarding their review of the control system.

Where a legitimate problem exists or arises, site management will consult with Council and other relevant authorities to devise an adequate solution, bearing in mind commercial realities.

The Management of No Fuss Liquid Waste

Signed: ……

Date: ……

DOCUMENT CONTROL

Prepared by:	Position:	Signature:	Date:
Duke Ismael	Senior Environmental Engineer		17 December 2013

Reviewed by:	Position:	Signature:	Date:
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Approved by:	Position:	Signature:	Date:
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2	30 Aug 2013	Revision 2	R T Benbow	R T Benbow
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1	16 August 2013	No Fuss Liquid Waste & Turnbull Planning Int.	Benbow Environmental
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CONTENTS PAGE

TABLES PAGE

FIGURES PAGE

ATTACHMENTS

1. INTRODUCTION

Benbow Environmental has been commissioned by No Fuss Liquid Waste to prepare an Odour Management Plan for waste facility located at Unit 1 of 10 Smith Street, Emu Plains NSW.

The purpose of this Odour Management Plan (OMP) is to provide an accountable framework for the management and reduction of odour emissions from the premises, while recognising the needs of industry, government, the community and the need for the site to operate economically and efficiently. This OMP is designed to document site management practices and procedures that utilise the latest and most practical technologies available to minimise the impact of this facility on the environment, local residents and surrounding developments

1.1 PREPARATION OF ODOUR MANAGEMENT PLAN

This OMP is being prepared to ensure appropriate management of odour aspects and impacts occurs on site. The OMP has been developed to consider the management of odour impacts specific to the site, with consideration to its particular situation and using appropriate and practical management practices. The OMP will require periodic review and revision in order to respond to changes in best management practice and technology in the industry and changes in the built and natural environment surrounding the site.

This OMP covers the following aspects associated specifically with site operations:

- Planning in terms of Regulatory Authority requirements and legislation;
- Site-specific Odour Management Plan objectives and targets;
- Responsibilities of management and staff;
- Education of staff and contractors;
- Communications;
- Identify triggers for contingency measures using a non-conformance identification and corrective action procedure;
- Continued maintenance and monitoring; and
- Detailed procedures in a format for hands-on operations.

This OMP has been prepared to only address matters with respect to the odour impact potential of the subject site. This OMP has been prepared based on the structure of the Environmental Management Plans prepared by Benbow Environmental for various developments in the past 30 years. Details of the authors have been provided in the following section.

1.2 AUTHORS OF THIS PLAN

Duke Ismael is a senior environmental engineer from Benbow Environmental who has prepared numerous odour and air quality impact assessments. He has been employed at Benbow Environmental since February 2006, focusing on preparing assessments for a variety of industries from small-scaled projects such as charcoal chicken shop developments requiring an odour assessment from local council to large developments such as proposed poultry farms and mushroom/composting facilities. He also has been actively participating in preparation of preliminary/final hazard analyses, hazardous area zoning classification studies, fire safety studies, indoor air quality studies and other environmental-related studies. He has been recently involved in preparing the Environmental Management Plans for a few developments such as the proposed mushroom growing and composting facility in Oakdale NSW and is considered an extension of growing and sharing his knowledge and experience from preparing odour and air quality impact assessments.

R T Benbow is the founder of Benbow Environmental and is currently the principal consultant of firm, who has prepared a number of Environmental Management Plans for commercial and industrial developments in the past. He has been the principal consultant for the firm (since the beginning when it was known as Dick Benbow & Associates) for over 30 years and has worked for over 4,000 projects such as Environmental Impact Assessments, noise and air quality studies, chemical storage and handling, risk assessments, cleaner production and other environmental-related studies.

The curriculum vitae for these authors have been provided in Attachment 6.

2. SITE IDENTIFICATION

2.1 SITE LOCATION

The subject land is located at Unit 1 of 10 Smith Street, Emu Plains NSW (may also be sometimes referred to as 10-12 Smith Street). The existing site operates at Unit 1 of the premises, occupying the building located at the eastern part of the land. This unit operates the Septic Waste Treatment Facility. Another unit that operates parallel to this unit is the Oily Water Waste Treatment Facility (Unit 2), and is not covered by this plan.

Figure 2-1 provides the location of the subject site in local context, along with significant landmarks and features located in the area.

The land is located within the Local Government Area of Penrith City Council.

2.2 SITE DESCRIPTION AND LAND USE

The subject land is bounded by industrial premises to the north and south that are located along Smith Street. The site is bounded by premises located at Railway Street to the east and is bounded by Smith Street to the west, which is where the site entrance is located.

The land where the subject site is located is zoned as IN1 General Industrial under the Penrith Local Environmental Plan 2010 (LEP 2010, under Land Zoning Map – Sheet LZN_005). To the immediate north, south, east and west of the site are lands also zoned as IN1 General Industrial under the Penrith LEP 2010.

The authors of this report have visited the site on 1 May 2012. Rural activities were noted to be present along Old Bathurst Road. Inspection along Smith Street has found that odour was detected that was attributable to the dog grooming shop that was located south of the premises.

2.3 TERRAIN OF THE LOCAL REGION

The subject site is located in an area where the regional terrain is seen to be relatively flat. However, local changes in terrain were observed during the site visit, where elevation of the premises from the driveway was seen to be present. These, however, are not considered significant that it would provide any enhancements to the odour emission impacts from the premises.

Terrain within the regional location of the site is seen to gradually decrease towards the east where the Nepean River is situated. A slight increase in terrain is observed at approximately 1.1 km south-west of the intersection between Smith Street and Old Bathurst Road.

Figure 2-1: Location of the Subject Land in a Regional Context

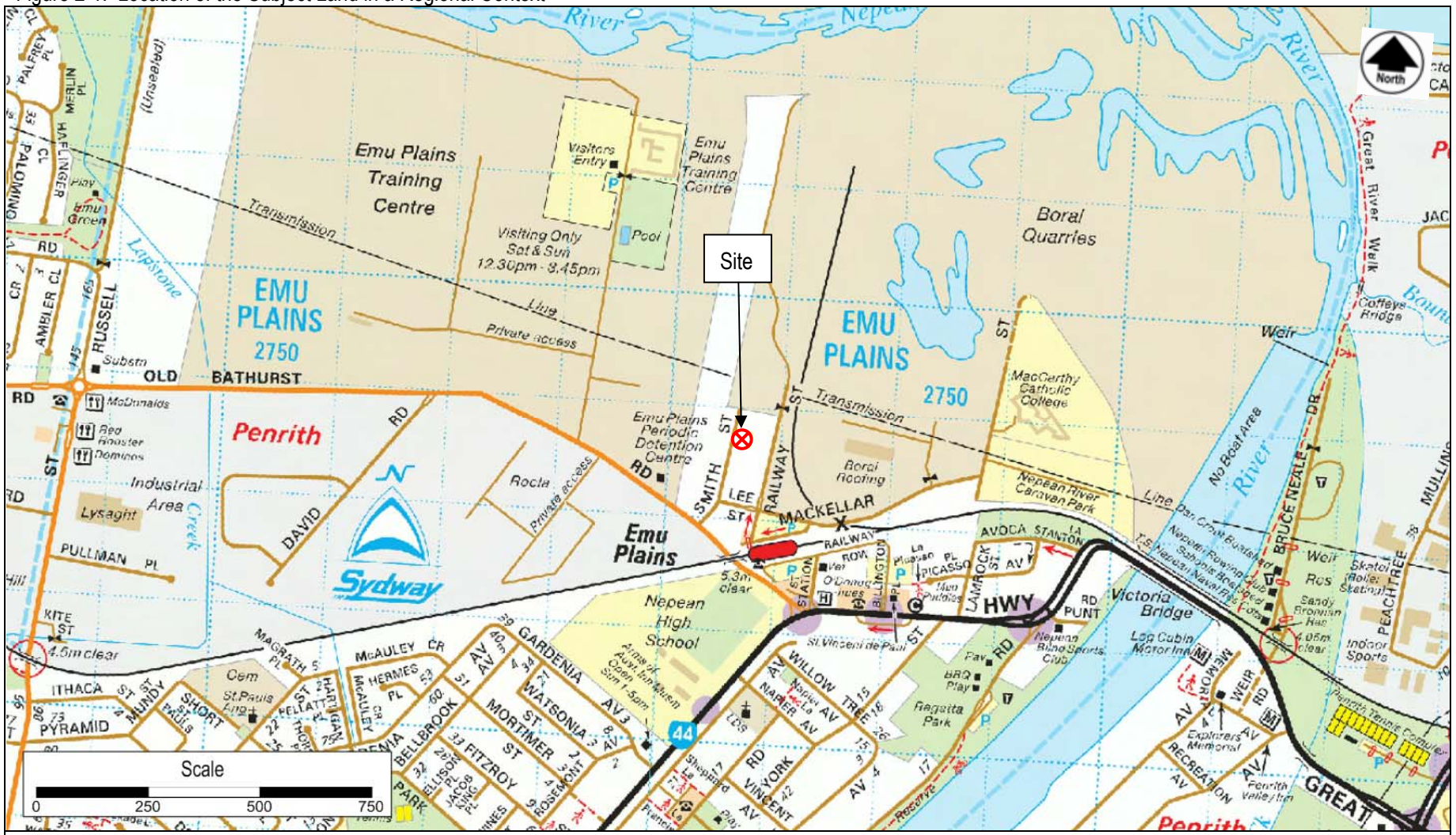


Image Source: © Sydways Publishing Pty Ltd – courtesy of Land and Property Information SIX Portal (www.lands.nsw.gov.au)

2.4 NEAREST IDENTIFIED SENSITIVE RECEPTORS

Table 2-1 provides the list of the nearest identified sensitive receptors that can be potentially affected by the odour impacts from the subject facility. These receptors were selected based on their proximity and directional bearing from the site.

Table 2-1: Nearest Potentially Affected Receivers Considered

Receptor ID	Address	Direction from the Nearest Boundary Point	Approximate Distance from the Nearest Boundary Point (m)
R1	McCarthy Catholic College 69-75 Mackellar Street, Emu Plains	NE	601
R2	1-9 Lamrock Street, Emu Plains	SE	443
R3	9 Railway Row, Emu Plains	SE	337
R4	17 Railway Street, Emu Plains	SE	100
R5	39 Gardenia Avenue, Emu Plans	SW	648
R6	1 Old Bathurst Road, Emu Plains	NW	616

The locations of these receptors are shown in an aerial photograph provided in Figure 2-2.

Figure 2-2: Site Location and the Nearest Potentially Affected Receptors

Legend:
Receptor Locations

Image Source: Land and Property Information © 2008
SIX Portal (www.lands.nsw.gov.au)

2.5 LOCAL METEOROLOGY

The nearest weather monitoring station within proximity to the subject site is the Penrith Lakes AWS (Station No. 67113) operated by the Bureau of Meteorology (BoM). This monitoring station is located approximately 2.4 kilometres north-west of the subject site. Data at this monitoring station are logged hourly and was used in accordance with the NSW EPA air dispersion modelling guidelines.

Analysis of the 2011 data from this station, as well as the selected long term meteorological data (2007-2011) is presented in the following sections. This has been provided, in order to show insight on the likely meteorological conditions experienced in the local region of the site location.

2.5.1 Atmospheric Stability

The "stability" of the atmosphere is a classification used to describe the structure of the atmosphere in terms of temperature, specifically, how temperature changes in the atmosphere with altitude. Classification is often done according to the Pasquill-Gifford classification system that consists of six stability class groups, shown in Table 2-2. The class "A" describes an atmosphere where the air is well-mixed and there is little hindrance of dispersion into the atmosphere. At the other end of the scale is class "F", which describes conditions under which temperature inversions would occur, where winds are calm or absent and air close to the earth's surface cannot rise into the atmosphere due to the presence of warmer air layers above. The classes in between A and F indicate changing degrees of stability due to variations in temperature in the atmosphere.

Table 2-2: Pasquill-Gifford Stability Class System

Stability Class	Description
A	Extremely Unstable
B	Unstable
C	Slightly Unstable
D	Neutral
E	Slightly Stable
F	Very Stable

Table 2-3 and Table 2-4 present the statistical information for the Penrith Lakes meteorological file. An annual average wind speed of 2.1 m/s was determined for the Penrith Lakes meteorological file. The tables show that the primary wind directions were from the south followed closely by winds from the south-west. Winds were least likely to originate from the east.

Worst case dispersion conditions for emissions would occur during F-class stability conditions – generally associated with still / light winds and clear skies during the night time or early morning period (stable conditions).

Analysis of the referenced site-specific meteorological data indicates the F-class dispersion conditions were present for approximately 15.3% of the time in the Penrith Lakes (2011) meteorological file, suggesting a potential risk of enhanced impacts due to this weather condition.

Looking at Table 2-4, it can be seen that stability class frequencies in the meteorological file are not biased towards giving enhanced dispersive conditions. Stability class D is the most frequent, with an occurrence of approximately 44%. Stability classes A, B, and C, which offer the best dispersion conditions, occur with frequencies of 13.2%, 6.3% and 12.4% respectively.

Table 2-3: Wind Direction/Stability Class Frequency Distribution (Count) for Penrith Lakes 2011

Frequency Distribution (Count)							
Direction (Blowing From)	Stability Class						
	A	B	C	D	E	F	Total
N	243	128	210	490	109	240	1420
NE	60	38	74	230	95	138	635
E	44	7	31	197	60	91	430
SE	74	33	52	328	89	50	626
S	282	119	308	921	121	168	1919
SW	216	123	229	955	153	262	1938
W	90	50	86	364	86	211	887
NW	126	45	76	301	53	157	758
Total	1135	543	1066	3786	766	1317	8613

Table 2-4: Wind Direction/Stability Class Frequency Distribution (Percentage) for Penrith Lakes 2011

Frequency Distribution (Percentage %)							
Direction (Blowing From)	Stability Class						
	A	B	C	D	E	F	Total
N	2.82	1.49	2.44	5.69	1.27	2.79	16.49
NE	0.70	0.44	0.86	2.67	1.10	1.60	7.37
E	0.51	0.08	0.36	2.29	0.70	1.06	4.99
SE	0.86	0.38	0.60	3.81	1.03	0.58	7.27
S	3.27	1.38	3.58	10.69	1.40	1.95	22.28
SW	2.51	1.43	2.66	11.09	1.78	3.04	22.50
W	1.04	0.58	1.00	4.23	1.00	2.45	10.30
NW	1.46	0.52	0.88	3.49	0.62	1.82	8.80
Total	13.18	6.30	12.38	43.96	8.89	15.29	100.00

2.5.2 Wind Rose Plots

Wind rose plots show the direction from which the wind is coming using triangles known as "petals". The petals of the plots in the figure summarise wind direction data into 8 compass directions i.e. north, north-east, east, south-east, etc.

The length of the triangles, or "petals", indicates the frequency with which wind blows from the direction presented. Longer petals for a given direction indicate a higher frequency of wind from that direction. Each petal is divided into segments, with each segment representing one of the six wind speed classes.

The proportion of time for which wind speed is less than speeds in the first class (ie. 0.5 $m.s^{-1}$), when speed is negligible, is referred to as calm hours or "calms". Calms are not shown on a wind rose as they have no direction, but the proportion of calms for the period under consideration is noted under each wind rose.

The concentric circles in each wind rose are the axes that denote wind frequencies. In comparing the plots it should be noted that the axes varies between wind roses, although all wind roses are the same size. The frequencies shown in the first quadrant (top-left quarter) of each wind rose are stated beneath the diagram.

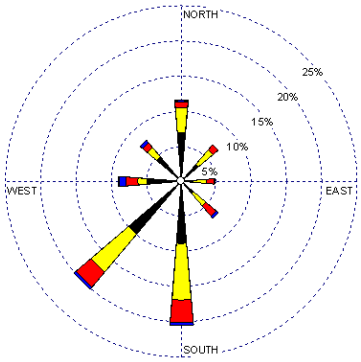
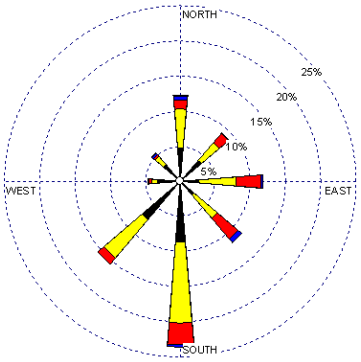
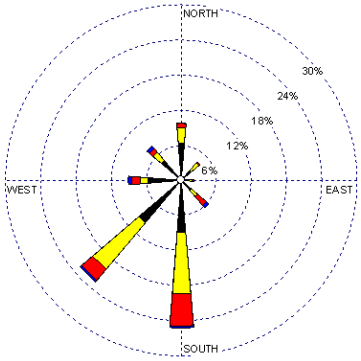
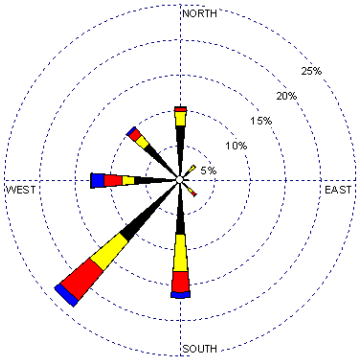
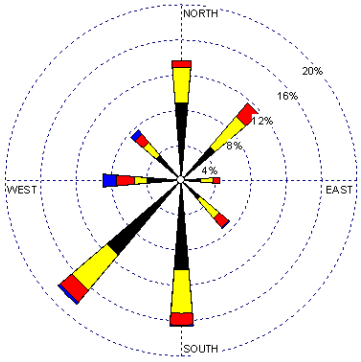
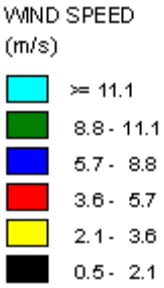
2.5.3 Local Wind Trends

At Penrith Lakes, Figure 2-3 shows that south and south westerly winds dominate over the course of the year, with frequencies of approximately 21% and 20% respectively. All other directions contribute winds with frequencies of approximately 12% or less. During the summer period, Figure 2-3 shows that low to moderate winds frequently blow from the south (23%), south-west (16%), north (13%) and east (12%) directions. Winds from the south (25%) continue to prevail in autumn, followed by winds from the south-west (23%). Low to moderate winds are seen during winter blowing from the south-west (24%), south (17%) and west (13%). In spring, low to moderate winds frequently blow from the south-west (18%), south (17%), north (14%), and north-east (12%).

Similarly, the long-term data in Figure 2-4 shows that south and south westerly winds dominate throughout the year, with frequencies of approximately 20% and 18% respectively. All other directions contribute wind with frequencies of approximately 13% or less. Winds from the south (24%) also dominate in summer in the long-term, followed by winds from the south-west (15%). During the autumn season, winds also frequently blow from the south (22%) and south-west (19%). Similar to what is observed from the 2011 data, long term data shows that low to moderate winds are seen during winter blowing from the south-west (25%), south (17%) and west (14%). In spring, low to moderate winds frequently blow from the south (18%), south-west (16%), north (14%), and north-east (11%).

Average wind speed values for the 2011 data ranges from 1.9 m/s (winter) up to 2.5 m/s (summer). Calms were observed to range from 6.3% (summer) to 19.0% (winter). The long term data however has average wind speed values that range from 2.3 m/s (autumn) up to 2.9 m/s (summer). Calms were observed to range from 4.4% (summer) to 12.8% (winter).

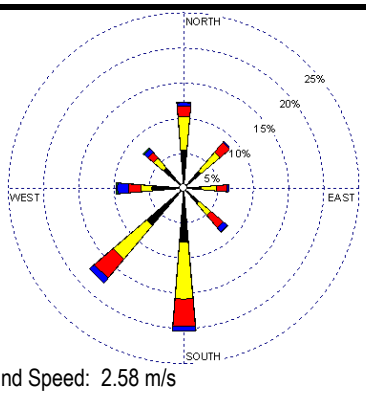
Figure 2-3: Wind Rose Plots for the Bureau of Meteorology Station - Penrith Lakes (2011)

All Seasons	Summer (December – February)
 Average Wind Speed: 2.11 m/s Calms Frequency: 12.55 % Axis Frequencies: 5%, 10%, 15%, 20%, 25%	 Average Wind Speed: 2.46 m/s Calms Frequency: 6.28 % Axis Frequencies: 5%, 10%, 15%, 20%, 25%
Autumn (March – May)	**Winter (June – August)**
 Average Wind Speed: 2.08 m/s Calms Frequency: 12.89 % Axis Frequencies: 6%, 12%, 18%, 24%, 30%	 Average Wind Speed: 1.93 m/s Calms Frequency: 19.02 % Axis Frequencies: 5%, 10%, 15%, 20%, 25%
Spring (September – November)	**Legend**
 Average Wind Speed: 2.00 m/s Calms Frequency: 11.64 % Axis Frequencies: 4%, 8%, 12%, 16%, 20%	

Note: Calms are defined as wind events that occur at a wind speed of equal to or less than 0.5 m/s.

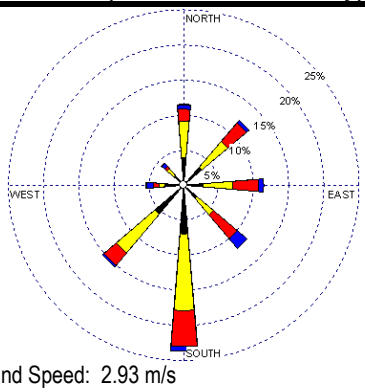
Figure 2-4: Wind Rose Plots for the Bureau of Meteorology Station - Penrith Lakes (Long-Term 2007-2011)

All Seasons



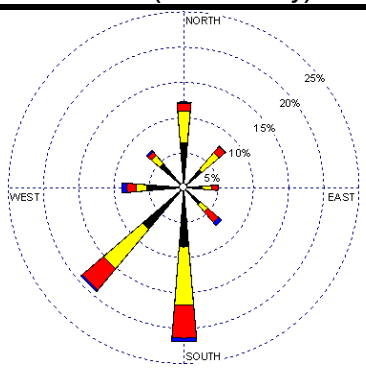
Average Wind Speed: 2.58 m/s
Calms Frequency: 8.81 %
Axis Frequencies: 5%, 10%, 15%, 20%, 25%

Summer (December – February)



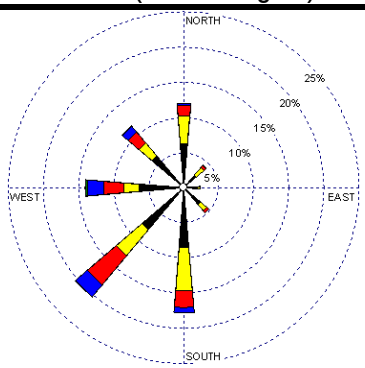
Average Wind Speed: 2.93 m/s
Calms Frequency: 4.40 %
Axis Frequencies: 5%, 10%, 15%, 20%, 25%

Autumn (March – May)



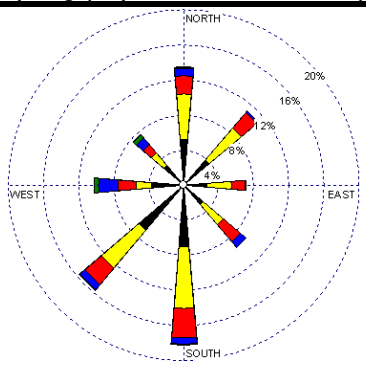
Average Wind Speed: 2.25 m/s
Calms Frequency: 10.73 %
Axis Frequencies: 5%, 10%, 15%, 20%, 25%

Winter (June – August)



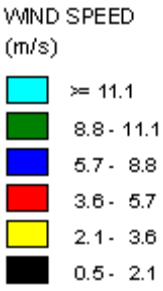
Average Wind Speed: 2.36 m/s
Calms Frequency: 12.82 %
Axis Frequencies: 5%, 10%, 15%, 20%, 25%

Spring (September – November)



Average Wind Speed: 2.78 m/s
Calms Frequency: 7.12 %
Axis Frequencies: 4%, 8%, 12%, 16%, 20%

Legend



Note: Calms are defined as wind events that occur at a wind speed of equal to or less than 0.5 m/s.

2.6 SITE SPECIFIC OPERATION ACTIVITIES

The following listed provides the fundamental business operational activities carried out to benefit its own and as its contribution to the community as a waste management facility:

- Delivery of septic waste into a holding tank, which is connected to;
- The solids separation using the conveyor belt screen;
- Collection of larger filtered solid objects into tank;
- Collection of liquid sewerage into aeration tank;
- Disposal of solid objects into landfill; and
- Disposal of liquid sewerage into Sydney Water sewerage system.

In addition to the core activities above, the following was also implemented which are considered as part of the odour control operations:

- Operation of a two-stage biofiltration system, which is capable of removing >95% of the odorous gases;
- Operation of a spray system during delivery in Unit 1, which releases fine mists of odour neutralising agents; and
- Operation of the Intermittent Odour Neutralising Spraying system at the entrance of the premises.

The operations carried out on site are simply the delivery of septic waste into the facility, to convert septic waste into solid waste and liquid sewerage. Solid waste is accumulated into a bin stored within the Unit 1 building, which is disposed of by an external contractor to a landfill. The liquid sewerage is disposed as Sydney Water liquid sewerage, as part of an agreement between No Fuss Liquid Waste and Sydney Water.

Odour emissions have been determined to emanate from all operations conducted within the building, except for the hose connection point which is exposed to the outdoor area. Fugitive odour emissions from activities revolving around the hose connection point may be considered minimal, but is considered unquantified at this stage.

3. COMPLIANCE REQUIREMENTS

The planning requirements that affect the operation of the site include any development consent conditions and relevant State and Federal Legislation. As development consent conditions for this facility will not be issued prior to the development approval, these have not been included in this report.

3.1 LEGISLATIVE AND REGULATORY REQUIREMENTS

The following key NSW legislation is of primary relevance to environmental (specifically odour) management of the site.

1. Protection of the Environment Operations Act 1997

The majority of this legislation is administered by the NSW EPA.

Failure to show reasonable care for planning to prevent, implement and monitor environmental matters can incur company and individual liability.

Changes to legislation or regulations during operations would require "corrective action" to review and assess the impacts of the legislation on the management of environmental emissions (in the case of this plan, odour) from the site operations and activities. Affected procedures would be required to be modified accordingly.

3.1.1 Objective of Pollution Control Legislation

In an attempt to simplify the legislation, the principal objective of the legislation is to avoid causing harm to those situated within proximity to the site. For the purpose of this plan, harm can be caused by odour as per the following extracts from the Act:

"Air pollution" means the emission into the air of any air impurity.

> *While "air impurity" includes smoke, dust (including fly ash), cinders, solid particles of any kind, gases, fumes, mists odours, and radioactive substances.*

The following clauses of this Act have most relevance to the site:

- *Clause 124 Operation of plant*

  The occupier of any premises who operates any plant in or on those premises in such a manner as to cause air pollution from those premises is guilty of an offence if the air pollution so caused, or any part of the air pollution so caused, is caused by the occupier's failure:

  (a) to maintain the plant in an efficient condition, or

  (b) to operate the plant in a proper and efficient manner.

- *Clause 126 Dealing with materials*

  (1) The occupier of any premises who deals with materials in or on those premises in such a manner as to cause air pollution from those premises is guilty of an offence if the air pollution so caused, or any part of the air pollution so caused, is caused by the occupier's failure to deal with those materials in a proper and efficient manner.

  (2) In this section:

  ***deal** with materials means process, handle, move, store or dispose of the materials.*

  ***materials** includes raw materials, materials in the process of manufacture, manufactured materials, by-products or waste materials.*

- *Clause 127 Proof of causing pollution*

  To prove that air pollution was caused from premises, within the meaning of sections 124 – 126, it is sufficient to prove that air pollution was caused on the premises, unless the defendant satisfies the court that the air pollution did not cause air pollution outside the premises.

The objectives of this Act need to be well understood by all employees of the No Fuss Liquid Waste management.

3.2 NSW EPA APPROVAL REQUIREMENTS

In March 2013, the following requirements were issued to No Fuss Liquid Waste by the NSW Environment Protection Authority (NSW EPA) in order to obtain the General Terms of Approval (GTA). The requirements mainly revolved around the need to undertake a pollution reduction program to upgrade the odour controls for the septic waste facility at Unit 1. These requirements have been provided in Attachment 7.

In summary, the following requirements were originally requested, which has been extracted from Attachment 7:

> *"A written report must be prepared by the consultant detailing the findings and recommendations from the odour investigations. The report must include (but not be limited to) the following information:*
>
> - *Complete engineering details including drawings on proposed works demonstrating that all waste loading, unloading and treatment activities conducted at the facility will be undertaken in a fully enclosed building, or through implementation of suitable facilities such that all odours from various point sources, such as from tanker unloading operations, screens, collection pits and sumps, storage tanks, sedimentation tanks and clarifiers etc, are captured and directed to appropriate air pollution control equipment (e.g. caustic scrubber) for treatment prior to discharge to atmosphere.*
> - *Detailed specifications, operational controls and maintenance protocols (and where available, manufacturer's performance guarantees) of proposed odour control equipment such as a caustic scrubber.*
> - *Location, dimension and elevation of the discharge point (stack) serving the scrubber.*
> - *Detailed management protocols to attenuate potential fugitive odour emissions.*
> - *Information on methods to be employed to monitor proper and efficient operation of the caustic scrubber (e.g. monitoring devices fitted with audible and visual alarms to monitor liquor flow rate, pump pressure, redox potential, etc)*
> - *Provide the emission rates in terms of odour units (determined by techniques compatible with EPA procedures). Sampling and analysis techniques for individual or complex odours and for point or diffuse sources, as appropriate should be used.*
> - *Reference should be made to Approved Methods for the Modelling and Asssessment of Air Pollutants in NSW (EPA, 2005); Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (EPA, 2006); Technical framework: Assessment and management of odour from stationary sources in NSW (EPA, 2006); Technical Notes: Assessment and management of odour from stationary sources in NSW (EPA, 2006).*
> - *Estimate the resulting ground level concentration of odours. Where necessary (e.g. for potentially significant impacts and complex terrain effects), use an appropriate dispersion model to estimate ambient pollutant concentrations. Discuss choice of model and parameters with the EPA."*

The pollution reduction program, which was proposed to consist the extract above, was not undertaken. Benbow Environmental was engaged by No Fuss Liquid Waste to consult with NSW EPA, with the assistance from Odour Control System and Bioaction Pty Ltd, in order to obtain written approval of the proposed odour control system. The system proposed is not a caustic scrubber, but rather a two-stage biofiltration system which is capable of reducing odours of up to >95%.

The general objective of these requirements is to improve the overall odour reduction performance of the system(s) put in place to reduce the odour impact potential of the subject site. Section 4.1.3 provides details of the proposed odour control system to which No Fuss Liquid Waste commits to install, operate and maintain, which meets the objectives of the pollution reduction program to upgrade the facility's odour control system. This section also provides the comments of approval and the associated conditions from NSW EPA regarding the system.

3.3 PROVISIONS FROM THE DEPARTMENT'S ENVIRONMENTAL MANAGEMENT PLAN GUIDELINE

The "Guideline for the Preparation of Environmental Management Plans" prepared by the Department of Infrastructure, Planning and Natural Resources provides guidance in preparing Environmental Management Plans to be submitted to the Department.

The operations conducted by No Fuss Liquid Waste at the subject site are considered to be 'small' in size, and therefore in accordance with the Environmental Management Guideline, the following information has to be provided:

1. Template EMP and checklist format
2. Site based – categorise environmental and controls under each site
3. Issues based – categorise environmental impacts and controls under environmental headings

Point 1 of the above has been provided as Attachment 8. This checklist shall be used by No Fuss Liquid Management to ensure that daily activities are conducted according to the provisions listed in the checklist, which are based on the requirements for installation and maintenance of the odour control system proposed.

Given that only one site is being managed as part of this management plan, and only one environmental aspect (which is odour) is required to be addressed in this plan, only one of the Small Project Odour Management Activities and Controls Table was prepared to address Points 2 and 3 above. This has been provided as Attachment 9.

4. ODOUR ASPECTS AND IMPACTS

By definition of ISO 14001, "environmental aspects" need to be identified and when used in context for the preparation of this OMP, these are equivalent to aspects on site that generate odour emissions for the purpose of preparing a plan to reduce and mitigate these emissions.

An environmental aspect is defined in ISO 14001, 3.3 as:

> *'An element of the organisation's activities, products or services which can interact with the environment'.*

For the purpose of this plan, the environmental aspects (which would be referred to as the "odour impact aspects" of the development) are those that generate odour emissions which can interact with the surrounding community or nearest affected receptors.

An environmental impact is defined as:

> *'Any change to the environment whether adverse or beneficial, wholly or partially resulting from an organisation's activities, products or services'.*

The OMP enables site operators to manage the aspects and impacts listed to be assessed, and any reviews on the existing control methods made as required - for example, upon complaints made by resident, statutory authorities or as a consequence of an audit of the site, a corrective action procedure can be implemented to rectify the issues raised.

4.1 ODOUR MANAGEMENT

4.1.1 Site-Specific Odour Aspects and Impacts

The following odour aspects and impacts of the site have been simplified, given the simplistic nature of operations carried out on site. These aspects and impacts were identified based on the description of operations provided in Section 2.6.

4. Aspect 1: Odour emissions from the delivered septic waste material;
5. Aspect 2: Odour emissions during the operations, or at the failure of equipment at the following function areas:
   - Delivery Holding Tank;
   - Conveyor Belt Screen;
   - Aeration Tank; and
   - Septic Waste Solids Storage Bin.
   - Equipment for discharge to Sydney Water sewerage.
6. Aspect 3: Non-conformance to operational procedures on site, leading to excessive odour emissions.

7. Aspect 4: Corrective actions to implement for rectifying issues identified in Aspects 1 to 4.

4.1.2 Odour Management Controls and Measures

At Unit 1 of the No Fuss Liquid Waste site, the following odour management controls and measures were implemented to date (see Section 4.1.1 for the list of aspects):

8. Aspect 1:
   - ► Odour mitigation and prevention controls and measures implemented on-site, which include:
     - Installation and operation of the proposed odour control system (see Section 4.1.3);
     - Sealing of the building;
     - Installation of plastic strips for the capture of odour emissions during delivery;
     - Delivery trucks have their loads enclosed to prevent release of odour; and
     - General cleanliness of the site.
9. Aspect 2:
   - ► Odour mitigation and prevention controls and measures implemented on-site, which include:
     - Installation and operation of the proposed odour control system (see Section 4.1.3);
     - Sealing of the building;
     - Installation of plastic strips for the capture of odour emissions during delivery;
     - Delivery trucks have their loads enclosed to prevent release of odour; and
     - General cleanliness of the site.
10. Aspect 3:
    - ► Operational and safety procedures and measures, including:
      - On-site operational procedures; and
      - Shadow-scheme by Operations Manager(s).
11. Aspect 4:
    - ► Odour mitigation and prevention measures, which include:
      - Procedures outlined in the Odour Management Plan (see Section 7).

Site operational and safety procedures exist on site and are currently being utilised to ensure that all activities and equipment are carried out and used correctly. These would be supplied by No Fuss Liquid Waste upon request.

The shadow-scheme is attributed to the size of the business, given that the operations manager(s) has the preference to be able to oversee all operations on site. Also, due to its size, also conduct the activities undertaken by the employees and is part of the shadow-scheme process established.

Procedures have been included in this plan in order to address Aspect 4. Aspect 4 includes contingency measures when significant odorous events or when failure of controls and measures occur on site.

4.1.3 Proposed Two-Stage Biofiltration Odour Control

Unit 1, with a total capacity of 953m^3, primarily receives effluent liquid waste and as such has the propensity to release sulphurous gases through anaerobic digestion. The fugitive gas is hydrogen sulphide due to a high molecular weight and as such, has poor dispersion.

Details have been provided on the 12th December 2013 for a proposed odour control system for Unit 1. For further details, refer to Attachment 1.

The system is a two-stage treatment system which is able to remove 90% to 95% of odours in the primary filtration stage. The subsequent processes result in the removal of up to 99% of source gases. The FOHE300 Data Sheet provides a description of the Odour Control Unit (OCU) as per Attachment 2. The P&ID, ducting and location of the systems are detailed in Attachment 3, Attachment 4, and Attachment 5 respectively.

The factors taken into account when designing the OCU are:

- Ducting from characterisation of gases in Unit 1 and their potential to create fugitive emissions;
- Total volume in Unit 1 and air changes determining the total capacity of the system;
- Identifying fugitive odour point sources during reception of waste, processing and storage;
- Designing the extraction duct to optimise transfer of odorous gases to the OCU; and
- The high degree of variability in the odours generated over an average weekly operation impacting the performance of the OCU.

Following constituted advice, the resulting FiltaOdor FOH300 system is as follows:

- The OCU system has a biological filter as the primary treatment;
- Application of an activated carbon polisher on each vessel for untreated gases and to deal with gas concentration variances such as receiving and shutdown;
- The system will operate in positive pressure;
- An extraction fan is located on a control skid mounted prior to the filter vessels that is controlled by a variable speed control (VSD);
- The ducting was designed to specifications detailed in the Attachment 1; and
- The design rationale is to extract from specific points at a volume and flow velocity depending on the characteristics and concentration of the odorous gases.

A review of this odour control system has been established by the NSW Environment Protection Authority, wherein an advice was provided on 16 December 2013. The following comments were provided:

1. *The system is appropriately designed and engineered to allow for the efficient capture of all odour sources. This may include, but not necessarily limited to:*
    a. *The provision of local exhaust ventilation (LEV) to capture odours at the source;*
    b. *Appropriate sizing of filter vessels to meet optimal contact times between foul air and filtration media whilst still being able to supply adequate capture velocities at the various odour point sources; and*

   c. *The provision of suitable filtration media to adequately capture the odorous compounds associated with the sources being treated.*
2. *An allowance has been included in the design of the system to prevent odorous releases upon breakthrough (saturation) of filtration media. A two-stage filtration system may allow for the monitoring of filter saturation whilst preventing the release of foul air to the environment in the event of breakthrough. (A single stage system is unlikely to adequately allow for this management measure).*
3. *Consideration is given to performance and verification testing for any proposed system. Including the assessment of potential air quality impacts.*
4. *The system is supported by suitable management and monitoring plans and/or procedures that adequately address:*
   a. *Monitoring of filter bed saturation and bed change out;*
   b. *The prevention of unwanted odour releases during system upset conditions or during system maintenance or shutdown; and*
   c. *The prevention of unwanted odour releases during non-operational periods where residual odour sources may remain.*
5. *The system is operated and maintained appropriately.*

No Fuss Liquid Waste management would commit to the provisions from NSW EPA as listed above. The Odour Management Policy provided in this EMP declares that No Fuss Liquid Waste will adhere to the provisions above and shall ensure that no odour impacts would occur at the nearest potentially affected receptors.

In addition to the system above, two spraying systems are being operated to reduce the amount of odour observed from the operations inside the unit. The spray system inside Unit 1 releases fine mists with odour neutralising agents and is only used to deposit and contain the odorous fumes inside the facility. A spraying system is installed near the entrance of the premises, which is used to promote a pleasant hedonic tone to the odour released from the facility. Although these can be considered as ancillary compared to the two-stage biofiltration system proposed, these systems would be maintained in an attempt to further reduce the odour from the facility.

4.1.4 Odour Monitoring

Odour monitoring encompasses the following:

- On-going plan to record any enquiries, complaints and feedback received on site; and
- Monitoring of odour using scientific techniques and services to meet regulatory compliance requirements and to provide surety of the odour impacts using a scientific method.

A Complaints and Feedback Register is required to be used and shall include the following:

- Name of complainant;
- Location of complainant;
- Date and time of complaint;
- Weather conditions prevailing at the time of complaint;
- Any process operation existing at the time of complaint; and

- Steps taken to remedy any reason which may have contributed to the complaint.

Any scientific odour monitoring requirements need to meet the following guidelines:

- NSW Environment Protection Authority's "Approved Methods and Guidance for the Sampling and Analysis of Air Pollutants in New South Wales".

This has been introduced as part of the OMP.

4.1.5 Housekeeping Practices

The site is required to be kept clean at all times, in order to prevent issues with build-up of odorous residues outside Unit 1 and on any surfaces where odour can be retained.

Hence, daily cleaning is implemented and has been committed by site management. Additionally, monthly inspections are carried out to identify housekeeping related problems.

4.1.6 Pest, Weed and Vermin Control

Pests and vermin within the facility will be controlled by a number of measures. These include the covering of rapidly biodegradable organics such as grass clippings, food, animal wastes and organic sludges. The food and animal origin organics can be stored in moisture- and vermin-proof bins. These bins will be located on concrete and will be fully bunded.

If outbreaks of pests or vermin were to occur, deterrence and eradication measures will be undertaken or incorporated as part of housekeeping or corrective action procedures.

4.1.7 Site Security

The site will be secured after operating hours by means of security gates and a wire-mesh fence on the front gate. All other boundary points are surrounded by building structures, which would be extremely difficult to jump over or pass through to gain access.

In addition, security/safety cameras have been installed on site for monitoring purposes.

These provisions could be used as part of the investigation procedure, when required and if necessary.

4.1.8 Disposal of Waste and Contaminated Products

Waste and contaminated products that can be accepted on site are converted into solid waste as the appropriate material state for disposal. These wastes are kept in bins and are situated within the building to prevent odour impacts, as well as stormwater contamination and other environmental-related issues.

These wastes are disposed-off appropriately by an external waste contractor and are sent to landfill.

4.1.9 Maintenance of Facility and Equipment

The facility and its equipment on site will be maintained regularly in accordance with the equipment specifications, which will be a part of the maintenance procedures. Inspections of the facility and equipment will be conducted during regular housekeeping inspections unless otherwise recommended by equipment specialists.

4.1.10 Stock Controls

Stock will be controlled by monitoring the materials received on site and the materials dispatched from the site. Forms and documentation are kept by the administration office to keep records of incoming materials.

These can be utilised as part of the investigation procedure, when required and if necessary.

4.1.11 Internal Review of the OMP

Internal reviews would be carried out by the Operations Manager(s) and the rest of the management team on site. Internal reviews have been recommended to be carried out:

- Once a year; and
- When deemed required, due to:
  - Changes in operations;
  - Changes in staff (if required);
  - Changes in equipment or critical site employees; and
  - Other changes that are anticipated to increase or decrease the odour impact potential of the site.

4.1.12 Complaints and Feedback Register

A copy of a Complaints and Feedback Register has been included in this OMP. This will be used by No Fuss Liquid Waste upon receipt of feedback, complaints, and other enquiries related to odour impacts.

5. IMPLEMENTATION AND OPERATION

5.1 ORGANISATION

The responsibility in terms of odour management is held by the Operations Managers, who would also be responsible for managing the day-to-day operations on site. These Operations Managers of the site are as follows:

- Alyce Wing
- Steven Utloy

Given the size and scale of the site, the two nominated managers listed above are responsible for all management aspects conducted at the site, including the environmental / odour management aspects of the business. Any new tasks or management roles required to be established or fulfilled would be taken upon by these managers, including any odour-related incidents.

Management will need to ensure that those coming onto site have understood the relevance and objectives of the OMP and will be carrying out their activities in accordance with the odour management plan and the approved consent conditions.

Having the full commitment of contractors and their staff is imperative for the high level of success intended from the use of this plan.

5.2 TRAINING

It is essential that the site management thoroughly understand the contents of this OMP and be competent in the objectives, consent conditions, applicable legislation, the environmental aspects and impacts of all operations and the procedures. A lack of understanding results in failure to comply with procedures, and could potentially lead to incidents that have environmental impacts as the associated effect or consequence.

Therefore, site management will determine the level of competency necessary for staff and contractors coming to site to ensure their environmental objectives and statutory responsibilities are met.

Training will need to be assessed on a periodic basis for staff while contractors would be assessed on a job-by-job basis. All relevant procedures should be discussed until a level of understanding has been reached and a degree of competence has been demonstrated by the staff member or contractor involved to the site operator's satisfaction.

This "training" shall be conducted by site management prior to those persons entering the site areas. Records of staff and contractor's training such as "competency certificates" for each of the procedures would be completed and would be filed with the environmental procedures manual, which is, effectively signing off on their understanding and agreement to abide by the procedures.

Key factors are awareness and tests of competency for any procedures that staff and contractors are required to use. Activities should be monitored and staff and contractors assessed on their training. Any issues or non-compliances with the OMP should be addressed with the management or supervisors.

Shortfalls could be addressed by specific on-site training. Updates and reviews should also be conducted in the case of complaints or after any changes in the OMP, in particular, a change in, management, procedures, site operations or legislation.

5.3 COMMUNICATIONS

The management need to actively participate in voluntary and open communications with relevant stakeholders when required. Stakeholders include community groups, contractors, regulatory authorities, non-regulatory agencies and the State Government.

5.3.1 Community Relations

A procedure has been developed for communicating with the residential community in a manner that highlights the site operator's concern for both their amenity and the local environment. This also ensures that any enquiries or complaints are effectively logged and actioned. This will be established with the Complaints and Feedback Register (included in this plan).

5.3.2 Regulatory Authorities

Communications with regulatory authorities, such as the Council, shall occur on an as-needed basis for the compliance with consent conditions. All communications with regulatory authorities concerning environmental matters are to be noted and records of any subsequent actions appropriately filed.

A typical method of reporting would be an annual environmental review to include all environmental monitoring for the site. Records and documentation resulting from the implementation of the OMP, such as inspection forms, records and community complaints should also be included in the annual reporting.

Site management would also be required to report to regulatory authorities for any additional reporting and/or testing requirements requested. This will be established as "on the need" basis, upon issue of a notice or request.

5.3.3 Internal Communication

The site management is to establish simple yet effective communication channels for an effective implementation of the environmental management system. Typical methods of communication that may suit the size of the operation include meetings and notice boards and the use of tool box sessions which are highly effective. Currently, site management upholds an existing environmental management plan, and are also utilising verbal communication as the most effective method, given the size of the site and its operations.

Document control and written communication would be necessary when new contractors or employees are trained or changes are made to the OMP or any other matters that affect the holistic odour management of the site.

6. MONITORING AND CORRECTIVE ACTIONS

6.1 MONITORING AND MEASUREMENT

A practical and useful monitoring program has been prepared for the waste facility operations on site. The results from such programs are aimed at safeguarding the surrounding community from the facility's odour impact potential.

6.1.1 Compliance Objectives

The primary objectives of the monitoring and measurement programs are to:

- Ensure that relevant environmental legislation is not breached by operations, specifically by ensuring that:
  - Odour emissions or impacts are minimised;
  - Safeguards put in place are kept maintained and used as required; and
  - Ensure that inductions and awareness training are established for staff and contractors.

A monitoring and test plan is presented on the following page.

6.1.2 Monitoring and Test Plan

Table 6-1: Odour Monitoring and Test Plan

Aspect	Person Responsible	Frequency	Process	Documentation	Relevant References
Odour	Alyce Wing or Steve Utloy	Upon installation of the two-stage biofiltration odour control system. Installation will take 3 days to complete.	Installation of the odour control system	Documentation from installer, supplier, and manufacturer	NSW EPA "Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in New South Wales"; *Protection of the Environment Operations Act 1997*
		As described in maintenance documentation	Maintenance of the odour control system	Documentation from supplier, and manufacturer	
		When a failure of the two-stage biofiltration system occurs	Failure of the odour control system	Documentation from maintenance company, supplier, and/or manufacturer	
		Upon commissioning of operations and every month after the commissioning date for 12 months.	Review of the Odour Management Plan	Complaints Register Form, Corrective Action Form	
		Following complaint or operation modification (i.e. "trigger event").	Initiate investigation as per Complaint Response Procedures	Complaints Register, Complaint. Response Form	

Table 6-1: Odour Monitoring and Test Plan

Aspect	Person Responsible	Frequency	Process	Documentation	Relevant References
		When requested by regulatory authority	Odour monitoring	Odour monitoring report produced by a suitably qualified consultant	NSW EPA "Approved Methods and Guidance for the Sampling and Analysis of Air Pollutants in New South Wales"; *Protection of the Environment Operations Act 1997*
General Management, Housekeeping and Improvements	Alyce Wing or Steve Utloy	Weekly, and when deemed required	Site Inspection	Site Inspection Checklist Corrective Action Requests	*Protection of the Environment Operations Act 1997*
		Daily	Cleaning Activities and Housekeeping	N/A	*Protection of the Environment Operations Act 1997*

6.2 CORRECTIVE AND PREVENTATIVE ACTIONS

This section of the OMP details non-conformance with the OMP, corrective and preventative actions. A mechanism for corrective and preventative action shall be established to ensure that errors and deficiencies through the monitoring program are effectively logged, promptly resolved and improvements implemented.

6.2.1 Request for Corrective Action

Corrective Action Requests (CARs) should be issued and processed using the Corrective Action Request form (CAR) presented in Section 7.6 Corrective Actions are an ideal way to demonstrate and account for any issues and improvements with the OMP. This form can be initiated by site management or staff, and should be passed to the appropriate staff or contractors responsible for the source of the non-conformance. Different events often initiate a CAR being raised, some typical ones follow:

- Council or other regulatory agency direction or request;
- Detection of non-conformances;
- Audit verified non-conformance;
- Public complaints;
- Periodic meetings; and/or
- Opportunity for improvement process.

Records shall be maintained by the site management for all relevant events (including the above listed items) and ensuring that CARs are actioned within a reasonable time frame.

6.3 NON-CONFORMANCES

A system has been established for the detection, prevention and control of non-conformances to the OMP using the procedures and the Corrective Action Request (CAR) form. These systems incorporate the monitoring program and auditing schedule, and would also be triggered by any changes in legislation or the operations.

Non-conformances encompass all triggers for contingency measures, and to account for a corrective action that rectifies the identified triggered contingency.

6.3.1 Responsibility to Review Non-Conformances

Non-conformances shall be reviewed by site management who will coordinate the appropriate corrective and preventative actions to address the respective non-conformance. Site management will then inform any staff or contractors who are affected by significant non-conformances about the subsequently required actions.

6.4 RECORDS

Records relating to non-conformances, and their corrective and/or preventive action request forms, are maintained by site management. Other types of records, such as environmental monitoring results or correspondence between any regulatory authorities, shall also be maintained by site management.

These records would be kept in the office on site and would be compiled, as access to these records may be required time-to-time by stakeholders and by regulatory authorities.

Public complaints registers are to be maintained in a separate document titled "Complaints and Feedback Register".

6.4.1 Inspection and Audit Reports

Reports and records concerning any environmental audits and regular inspections of the operations should also be maintained and archived.

7. PROCEDURES AND PLANS

The set of procedures (provided as follows) form a vital component of the odour management plan for the site. Therefore these need to be able to be effectively used by all staff or contractors at No Fuss Liquid Waste. Upon the first issue of the OMP, a review of this plan would be established by site management following a usage period of 12 months.

This plan and the procedures it contains are designed to help staff and contractors carry out activities in the following ways:

- Provide prescriptive procedures where appropriate to minimise odour-related nuisance, harm or other unacceptable impacts;
- Provide guidelines for staff and contractors to enable them to assess and implement the best strategy to minimise odour impacts; and
- Increase awareness for the management, staff, contractors and visitors of the site.

The following procedures also assist management in the following ways:

- Identify events which have the potential to increase the risk of statutory breaches arising from odour emission incidents, or to cause significant business interruption;
- Provide guidelines for minimising the potential for odour impact; and
- Establish, equip and train the staff and contractors that management can be relied upon with the capability of dealing with anticipated events.

It is important to note that some of the procedures included in this plan refer to other environmental aspects such as noise and stormwater. Although not relevant in this plan, these have been included to ensure that best practice is implemented on site. It is also possibly considered that identification of noise and stormwater issues could lead to an unforeseen odour issue, thus making the consideration of these aspects relevant in some cases.

PROCEDURE NO.	7.1	DATE:	17 December, 2013
PREPARED BY:	Benbow Environmental	ISSUE NO.:	1
SUBJECT:	7.1 ODOUR CONTROL MANAGEMENT		

7.1.1 Relevant Legislation and Source Documentation

- *Protection of the Environment Operations Act* (1997);
- NSW EPA 'Technical framework – Assessment and Management of Odour from Stationary Sources in NSW (November 2006);
- NSW EPA "Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales" (August 2005).

7.1.2 Sources of Odour

The primary sources of odour risk on the site are:

1. Delivery Holding Tank;
2. Conveyor Belt Screen;
3. Aeration Tank;
4. Septic Waste Solids Storage Bin; and
5. Equipment for discharge to Sydney Water sewerage.

7.1.3 Management of Sources

Odour emissions are simply monitored, controlled and managed by No Fuss Liquid Waste management, given the size of the business operations.

With the implementation of the Odour Management Plan, the accountabilities and responsibilities assigned to the management is effectively established to ensure that the well-being of the surrounding premises and nearest receptors are looked-after in terms of odour impact, harm or nuisance.

7.1.4 Maintenance

All equipment needs to be maintained on a regular basis. These would be maintained as per the equipment's specifications, instructions by the supplier, or when it is deemed required based on the usage of the equipment and its lifespan.

7.1.5 Odour Complaints

When an odour complaint is received, site management would report and log the complaint in the Complaints Register. The Request for Corrective Action procedure shall then be established immediately after to repair or restore the operations to its original condition wherein emissions are minimal.

Given that the sources are limited to three areas, actions undertaken as part of the Request for Corrective Action procedure would provide ease in establishing the focus to identify the cause(s).

7.1.6 Identification of New Sources of Odour on Site

New sources of odour are only identified if changes to the operation have been established on site. This is typically incorporated in new developments and therefore these circumstances are excluded from this procedure.

If any other sources of odour have been identified on site, these need to be recorded and be incorporated / implemented as part of the Odour Management Plan. Amendments may also be required to be included into the Air/Odour Impact Assessment prepared for the site, and relevant regulatory authorities would also need to be notified. A new development application to the relevant authority may be required to obtain approval for these new sources.

Alternatively, these sources would be required to be eliminated or removed due to these not being part of the scope of this plan or the examined development.

PROCEDURE NO.	7.2	DATE:	17 December, 2013
PREPARED BY:	Benbow Environmental	ISSUE NO.:	1
SUBJECT:	7.2 WASTE MANAGEMENT		

7.2.1 Relevant Legislation and Documentation

- *Protection of the Environment Operations Act (1997)*; and
- Trade Waste Licence.

7.2.2 Sources of Waste

The primary sources of waste from the facility are listed below.

Solid Waste:
- Septic waste solids.

Liquid waste:
- Septic waste material (raw material);
- Sydney Water sewerage.

7.2.3 Avoidance/Corrective Actions

Site management will:

- Dispose all solid and liquid waste according to POEO regulations and agreement with relevant stakeholders;
- Dispose waste other than recyclable materials to the local landfill facility;
- Engage suitable licensed contractor(s) to remove nominated/identified waste(s) from the site;
- Ensure that adequate bunding is installed in areas holding liquid waste (e.g. delivery holding tank) or waste bins with potential leakages of liquid;
- Ensure that leakages of liquid from bins are to be removed immediately when these are observed; and
- Ensure that relevant employees are aware of the waste management and recycling initiatives on the site. Waste collection procedures are to be included in the relevant work instructions.

PROCEDURE NO.	7.3	DATE:	17 December, 2013
PREPARED BY:	Benbow Environmental	ISSUE NO.:	1
SUBJECT:	7.3 GENERAL MANAGEMENT		

7.3.1 Relevant Legislation and Documentation

- *Protection of the Environment Operations Act (1997)*

The following environmental aspects are considered to have minimal environmental risks and hence do not require detailed procedures.

7.3.2 Maintenance and Site Inspection

- Items of plant and equipment whose smooth running affects the environment need to be maintained as per manufacturers' recommendations; and any plant or equipment that is not operating to specification should be investigated and the problem eliminated. This includes trucks delivering / picking up from the site.
- Regular site inspection would be conducted by the management or a delegated trained staff member to ensure good housekeeping is in place. A site inspection checklist has been developed and provided in Section 7.8.

7.3.3 Chemical Storage

- Chemicals shall be stored and contained in accordance with relevant Australian Standards including the use of an approved bunding material to store chemicals on site. WorkCover MSDS information for all chemicals is to be maintained at the site at all times. Only minor storage of chemicals is anticipated.

7.3.4 Landscaping and Aesthetics

- All landscaping shall be maintained in a good condition;
- No waste materials from the site to be deposited on any public road, footpath, public place or Council owned property without the approval of the Council; and
- Lighting used on site is to be directed in a manner so that no nuisance is caused to adjoining properties or to drivers on surrounding streets.

PROCEDURE NO.	7.4	DATE:	17 December, 2013
PREPARED BY:	Benbow Environmental	ISSUE NO.:	1

SUBJECT: 7.4 COMPLAINT RESPONSE

The purpose of this procedure is to ensure that a "complaints oriented" process is in place to focus on the type, date, time and origin of the complaint, together with "feedback" to the complainant regarding (if appropriate) investigation of the complaint and any remedial action arising from the complaint.

Public complaints registers are to be maintained in a separate document titled "Complaints Register".

7.4.1 Procedure

- Complete the Complaint Response Form. The following information is mandatory:
  - Name of Complainant;
  - Location of complainant;
  - Date and time of complaint;
  - Weather conditions prevailing at the time of complaint;
  - Any process operations existing at the time of complaint; and
  - Telephone Number
- Complaint investigated by site management or staff and action appropriate to the circumstances taken.
- Advise Council if required.

Appropriate actions may include, but not limited to the following:

- Investigation in to the arrival of trucks during the period in question. If vehicle arrivals were in breach of site operational environmental and odour management plan, remedial action must be taken e.g. Inform the vehicle driver(s) of the breach of site conditions and request for compliance in the future.
- Where complaints relate to excessive odour:
  - Advice the complainant that investigation will be initiated immediately and ask the complainant to note the time and nature of the odour when the issue reoccurs.
  - From the time the complaint is lodged, conduct regular weather monitoring so that upon reoccurrence of the issue, the weather conditions can be checked to confirm the likelihood of the odour to originate from the site.
  - If the likelihood is high, appropriate tests / measurements at the location of the complaint (similar time of day) can be conducted. Compare results with previous measurements (if available) and where an increase has occurred, further investigate sources, recommend remedial action for preparation of an action plan.
- On completion of the action plan ensure that complainant is fully informed of remedial measures and the Complaint Register updated.

COMPLAINTS & FEEDBACK REGISTER

Complaint Register Reference No.	Date	Time	Logged by (name)	Complainant Name	Type of Complaint O/ D/ N/ P Other	Investigated (date)	Action Taken (Date)	Complainant Informed (Date)	Complaint management procedure completed (Signature and date)

NO FUSS LIQUID WASTE – ODOUR COMPLAINT RESPONSE FORM

REF: 01 REV: 1 PAGE 1 OF 2

COMPLAINT REGISTER REFERENCE NO:……

DATE: .....……TIME:…….....AM/PM

COMPLAINTS RECEIVED BY:…….....

NAME OF COMPLAINANT:……..TELEPHONE NO:.…… .....

ADDRESS: .....

DETAILS OF COMPLAINT:

DATE OF OCCURANCE:……TIME AM/PM:…….....

WEATHER DATA CHECK: Estimate weather conditions from observed Site Climate Records or Meteorological data from a relevant Bureau of Meteorology Station.

Where L/M/S = Low/Medium/Strong, and Wind direction is monitored on an 8 points scale of N, NE, E, SE, S, SW, W, NW.

External Temp ^{o}C	Rel. Humidity (%)	Wind Direction	Wind Speed L/M/S	Odour L/M/S	Equipment Condition

LOCATION OF THE EVENT: .....

PROCESS OPERATIONS AT TIME OF COMPLAINT:.....

PARTICULAR DETAILS RELATING TO THE COMPLAINT: .....

.....

CORRECTIVE AND PREVENTATIVE ACTION:

COMPLAINT INVESTIGATED BY: .....

RESULTS OF INVESTIGATION: .....

.....

.....

.....

.....

.....

.....

ON COMPLETION OF CORRECTIVE AND PREVENTATIVE ACTION:

LETTER SENT TO COMPLAINANT YES NO N/A DATE: .....

WORK PRACTICE MODIFIED YES NO N/A DATE: .....

COMPLAINT RESPONSE COMPLETE: .....

PRINT NAME

SIGNATURE:..... .....

DATE: ..... TIME: .....AM/PM

PROCEDURE NO.	7.5	DATE:	17 December, 2013
PREPARED BY:	Benbow Environmental	ISSUE NO.:	1

SUBJECT: 7.5 INCIDENT REPORTING

This procedure is aimed to ensure that all significant off-site environmental impacts (including odour) are reported to Council and/or NSW EPA within 24 hours of occurrence. It is the responsibility of the management to notify such incidents.

7.5.1 Procedure

- After incident has been actioned in an appropriate manner, complete the 'Environmental Incident Report'. A Corrective Action Request should be initiated if necessary; and
- Ensure all details are recorded, and the appropriate authorities have been notified.

NO FUSS LIQUID WASTE - ENVIRONMENTAL INCIDENT REPORT

REF: 01 REV: 1

DATE: ..... TIME: .....AM/PM

TYPE OF INCIDENT

☐ SPILLS ☐ STORMWATER POLLUTION

☐ DANGEROUS GOODS ☐ NOISE

☐ WASTE ☐ AIR EMISSIONS

☐ OTHERS Details:……

PERSON/S WHO WERE RESPONSIBLE FOR THE INCIDENT

EMPLOYEE/CONTRACTOR NAME: .....

COMPANY: ……..

TRUCK DRIVER: NAME: ..... REGO: .....
(IF APPLICABLE)

ACTION TAKEN (FOR SPILLS):

POWDER = PICK-UP AND PLACED IN CONTAINER

LIQUID FORM
A: BUNDED _____
B: REPORTED TO _____
C: SPILL KIT USED _____

OTHER ACTIONS: _____
_____
C.A.R INITIATED? Y/N

REPORTED BY: ..... SIGNATURE: ……..
PRINT NAME

REPORTED TO: ……. SIGNATURE: ……..
PRINT NAME

DATE: ..... TIME: .....AM/PM

PROCEDURE NO.	7.6	DATE:	17 December, 2013
PREPARED BY:	Benbow Environmental	ISSUE NO.:	1

SUBJECT: 7.6 REQUEST FOR CORRECTIVE ACTION

The Corrective Action Request form can be used to request for corrective action regarding non-compliance with the OMP. For corrective actions related to external (public) complaints, the Complaint Response Form should be used.

- Corrective Action Request (CAR) forms shall be kept and overseen by management;
- Forms shall be issued to appropriate personnel with control over the source of the non-conformance;
- The issuing of the CAR form shall be initiated by any of the following events, if considered justified:
  - NSW EPA, Council, or other regulatory agency direction or request;
  - In-house detection of non-conformances or near miss or incident, e.g. truck arriving outside scheduled times; or
  - Audit verified non-conformance; and
- Records shall be maintained by management, who shall also be responsible for defining, implementing and maintaining Corrective Action procedures.

NO FUSS LIQUID WASTE

CORRECTIVE ACTION REQUEST

SUBJECT:

Name of personnel requesting corrective action: Date Logged:

_____ _____

Personnel responsible for action: Completion Date:

_____ _____

Outline of the 'Initiating Event' (with the reference number if applicable) and necessary corrective actions (to be filled out by those requesting action):

Actions taken to fulfil the requirement of the corrective action:

Corrective action complete:

Signature : Date:

PROCEDURE NO.	7.7	DATE:	17 December, 2013
PREPARED BY:	Benbow Environmental	ISSUE NO.:	1

SUBJECT: 7.7 COMMUNICATION PROCEDURE

Liaison between site management and all neighbours can be helpful in communicating information for the purpose of managing complaints. Open lines of communication help in identifying problems, verifying complaints and successfully applying relevant remedies to minimise the impact of site operations on neighbours.

The objective of this procedure is to encourage open communication between site management and all groups with which the site operators interface. This includes neighbours, community groups, Council, processor, regulatory authorities and non-regulatory agencies, and other industries.

7.7.1 Procedure

Site management shall deal with the neighbouring community in a manner that highlights the company's concern for both their amenity and the local environment. Upon receipt of an enquiry the following shall occur:

- Record in Diary or Log Book:
  - Name of Caller;
  - Address/Employer (if appropriate);
  - Telephone Number; and
  - Details of Enquiry.
- Refer caller to site management who are able (and authorised) to discuss the subject of the enquiry with the caller;
- If on-site personnel are not available then a message shall be taken; and
- An authorised staff member requests detail of the information required by the caller and details this in diary/log book.

A quick response to the enquiry directly (if possible) is preferable, or agree to send out official correspondence which effectively answers the caller's request for information.

Site management shall foster open communications with other stakeholders to ensure issues are addressed as soon as practicable.

- Site management shall liaise with Council to evaluate what communications are required to ensure any environmental and odour management issues are addressed promptly;
- Review this procedure once in the first 12 months of operations and as required thereafter; and
- Review this procedure if significant changes to stakeholders occur.

7.7.2 Avoidance/Corrective Actions

Site management will:

- Inform neighbours of any problems causing an unavoidable excessive odour incident, what is being done to rectify it and give some indication on how long neighbours will be impacted (e.g. if there is a mal-absorption problem);
- In the event of any dispute, participate and co-operate with the mediation process that can be convened by Council;
- Where a complaint is found to be justified, gather relevant evidence and identify and implement strategies to remedy the problem;
- Evaluate the risk of further problems and recommend further action;
- Inform the complainant of the outcome of the investigation, as well as the action that has been taken to avoid future problems if a justified complaint has been registered; and
- Inform processor of complaints (if required).

PROCEDURE NO.	7.8	DATE:	17 December, 2013
PREPARED BY:	Benbow Environmental	ISSUE NO.:	1

SUBJECT: 7.8 WORKPLACE INSPECTION

1. PURPOSE

The purpose of this procedure is to set out the process relating to Workplace Inspections of the site in relation to the organisation's odour emission aspects and the OMP.

2. RESPONSIBILITIES

- Operations Manager(s)
- Management Employee

3. REFERENCES

- *Protection of the Environment Operations Act 1997*

4. DEFINITIONS

Workplace Inspections

Inspections conducted by site personnel using the environmental checklist provided to assess the housekeeping standard of the facility.

Environmental Harm

Any direct or indirect alteration of the environment that has the effect of degrading the environment and, without limiting the generality of the above includes any act or omission that results in pollution. (Ref: POEO Act)

Due Diligence

The systematic identification of the environmental risks and liabilities associated with an organisation's sites and operations.

5. PROCEDURE

- A Site Inspection Checklist is provided overleaf to be completed and recorded on a monthly basis. This information is used to accurately determine compliance and ensure due diligence. It is also used to determine whether action needs to be taken to rectify issues that have arisen that may have the potential to cause environmental harm.

- Action must be taken for any checklist areas identified as not satisfactory or answered as "No".

- Actions required shall be undertaken in accordance with the *Corrective and Preventative Actions Procedure.*

- The Operations Manager(s) is responsible for ensuring that any actions required are implemented. The appropriate column of the checklist to indicate that these actions have been adequately undertaken is also the responsibility of the Operations Manager(s) or by a management employee.

- The Site Inspection shall cover all production and external areas including:
  - Outdoor area of Unit 1;
  - Within Unit 1 building;
  - Delivery holding tank;
  - Conveyor belt screen;
  - Aeration tank;
  - Septic waste solids storage bin;
  - Equipment for discharge to Sydney Water sewerage;
  - Office areas; and
  - Other areas on site requiring additional attention.

- The Site Inspection Checklist shall be updated as required. No Fuss Liquid Waste may prefer to update the checklist so it is more specific to each area.

6. COMPLAINTS/ INCIDENTS

Any complaints received or incident occurrences in relation to general site maintenance or housekeeping shall be handled in accordance with the *Complaints Response or Incident Reporting Procedures*.

7. RECORDS

All records are to be documented and maintained.

NO FUSS LIQUID WASTE – SITE INSPECTION CHECKLIST

Inspected by:…… Inspection date & time:……..

Recent weather conditions since last inspection:

…….

AREAS		OBSERVATION (tick applicable boxes)	REMARKS
TWO-STAGE BIOFILTRATION ODOUR CONTROL SYSTEM			
General housekeeping		Satisfactory	
		Excessive (abnormal) odour released	
		Cracks / leaks detected	
		Abnormal noise detected	
		Others:……	
		Others:……	
		Others:……	
Corrective Actions (if required):			
OUTDOOR AREA & FRONT GATE			
General housekeeping		Satisfactory	
		Excessive (abnormal) odour	
		Excessive litter scattered	
		Poor draining/excessive standing water	
		Others:……	
		Others:……	
		Others:……	
Corrective Actions (if required):			
DELIVERY HOLDING TANK AREA			
General housekeeping		Satisfactory - generally clean and orderly	
		Excessive litter scattered	
		Abandoned or leaking waste bins	
		Excessive (abnormal) odour	
		Others:……	
		Others:……	
		Others:……	
Corrective Actions (if required):			

CONVEYOR BELT SCREEN AREA			
General housekeeping		Satisfactory	
		Room left open	
		Waste bin leaking	
		Excessive (abnormal) odour	
		Bin too full	
		Others:……	
Corrective Actions (if required):			

AERATION TANK AND ITS LOCATION			
General housekeeping		Satisfactory	
		Recyclable waste not segregated	
		Excessive litter scattered	
		Others:……	
Corrective Actions (if required):			

SEPTIC WASTE STORAGE BIN AND ITS LOCATION			
Tank integrity and bunding		Satisfactory	
		Bunding cracks or shows sign of cracking	
		Tank leaking	
		Bunded area full with rainwater	
		Bunded area contaminated with debris	
		Excessive odour	
		Others:……	
Dam quality		Satisfactory	
		Insufficient aeration	
		Excessive odour	
		Excessive litter	
		Signs of pollution	
Corrective Actions (if required):			

DISCHARGE POINT TO SYDNEY WATER SEWERAGE AND ITS AREA			
General housekeeping		Satisfactory	
		Signs of chemical/fuel leak or spill	
		Excessive litter scattered	
		Others:……	
Corrective Actions (if required):			

OFFICE AND ADMINISTRATION AREAS			
General housekeeping		Satisfactory	
		Excessive (abnormal) odour	
		Excessive litter scattered	
		Poor draining/excessive standing water	
		Others:……	
		Others:……	
		Others:……	

Corrective Actions (if required):			
OTHERS – SPECIFY AREA NAME			
General housekeeping		Satisfactory	
		Excessive (abnormal) odour	
		Excessive litter scattered	
		Poor draining/excessive standing water	
		Others:……	
		Others:……	
		Others:……	
Corrective Actions (if required):			
OTHERS – SPECIFY AREA NAME			
Chemical Storage		Stored correctly?	
Training		All staff trained in OMP?	
Stormwater drains		Clear of waste?	
Spill kits		Assessable and complete?	
Corrective Actions (if required):			
NEXT INSPECTION DUE IN 28-31 DAYS. DATE:……/……/…….			

PROCEDURE NO.	7.9	DATE:	17 December, 2013
PREPARED BY:	Benbow Environmental	ISSUE NO.:	1

SUBJECT: 7.9 POLLUTION CONTROL EQUIPMENT MAINTENANCE

1. PURPOSE

To ensure correct and regular maintenance of the pollution control equipment installed at the site so as to minimise non-compliance for all environmental emissions from the site.

2. RESPONSIBILITIES

- Operations Manager(s)
- Management Employee
- All Staff

3. DEFINITIONS

Pollution Control Equipment

Devices used to prevent or minimise the discharge of contaminants, including noise, air emissions, and contaminants to surface water, groundwater, natural waterways that causes pollution. In this particular case, only odour emissions were required to be controlled and therefore Pollution Control Equipment only refers to the control of odour.

Stormwater

Surface runoff from roof, and outdoor yard areas.

Air Pollution

The emission into the air of any air impurity including smoke, dust (including fly ash), cinders, solid particles of any kind, gases, fumes, mists, odours and radioactive substances (Ref: POEO Act).

Preventative Maintenance

A series of routine procedures and activities, including adjustments, replacements and basic cleanliness, which forestall machine breakdowns. The purpose is to try to identify and resolve potential problems before they occur.

4. REFERENCES

- Protection of the Environment Operations Act 1997
- Development Consent Conditions
- Site Environment Protection Licence

5. PROCEDURE

This procedure applies to all pollution control equipment at the site.

All pumps, piping and valves associated with the above equipment are also considered to be pollution control equipment that needs to be maintained according to this procedure.

- All pollution control equipment is to be regularly tested and maintained to ensure compliance with regulations and to minimise likelihood of contribution to a pollution incident. Maintenance intervals are to be as specified by the supplier's operations and maintenance manual for each item of equipment. Procedures detailing these intervals and the levels of maintenance required should be incorporated by the Operations Manager(s) into the existing preventative maintenance procedure.

- A schedule / register of maintenance for pollution control equipment is to be implemented and maintained to ensure correct operation of equipment. This procedure will be updated with any changes in pollution control equipment or alterations in operations at the site.

- Prompt repair or replacement of defective equipment found during routine maintenance inspections shall be undertaken. A supply of spare parts for equipment that requires frequent repair shall be maintained to ensure prompt attention. Any corrective actions required that cannot be undertaken immediately shall be undertaken in accordance with the Request for Corrective Action Procedure. A sample schedule / register is provided following this procedure.

- Suitably trained personnel shall carry out all maintenance and inspection operations. Site management shall regulate the competency of such personnel.

5.1 POLLUTION CONTROL EQUIPMENT

Pollution control equipment includes all noise enclosures or physical controls, any wastewater treatment equipment including sumps, pumps and separators, bunding, stormwater and erosion controls and air pollution controls including dust collection and extraction systems and associated equipment.

The following is recommended for all pollution control equipment on site:

- Conduct regular visual inspections of all components to identify any abnormalities, potential malfunctions or leaks.
- Conduct periodic testing of all components for structural soundness according to manufacturer's specifications.
- Regularly inspect the extraction emissions generated and empty the bins or filters for appropriate disposal.
- Inspect all items for potential safety or environmental hazards.

5.2 BUNDED AREAS

- Conduct regular visual inspections of all components to identify cracks or leaks.
- All bunding shall be kept free of clutter, litter and other items.
- Inspect all items for potential safety or environmental hazards.

5.3 SPILL KITS

Conduct regular visual inspections to ensure:

- Spill kits are in the correct locations as specified on the site emergency plan;
- Spill kits are not obstructed and are easily accessible;
- All items are available (spill kits are fully replenished); and
- Spill kits are clearly labelled.

5.4 STORMWATER SYSTEM

- Conduct regular visual inspections of all components to identify any potential malfunctions or leaks. This would include visual inspection of pipes, pumps, storage tanks and bins, pressure vessels, pressure release valves, process and material handling equipment and stormwater management devices.

- Undertake visual inspections of all stormwater pollution control devices including gross pollutant traps in drains, surface drains and the stormwater isolation valve for sediment, debris and litter. Ensure that these devices are free of these items.

- Stormwater isolation valves shall be regularly inspected and cleaned of all debris. Regular testing is required to ensure the valve is working correctly. Seals and valve seals should be included on pollution control equipment maintenance schedules.

6. COMPLAINTS/ INCIDENTS

Any complaints received or incident occurrences in relation to pollution control equipment shall be handled in accordance with the *Complaints Response and Incident Reporting Procedures*.

7. RECORDS

All records are to be documented and maintained.

NO FUSS LIQUID WASTE PTY LTD
POLLUTION CONTROL EQUIPMENT MAINTENANCE
SUBJECT: Maintenance Schedule / Register

MAINTENANCE SCHEDULE			
EQUIPMENT NAME	RECOMMENDED FREQUENCY	DUE DATE	CHECK COMPLETE (SIGN & DATE)

FAULTY ITEMS REQUIRING ATTENTION: _____
_____
_____
_____

EXPECTED ACTION REQUIRED:

.....

.....

.....

CPAR No.(s): _____

Name : Signature : Date:

8. ODOUR MANAGEMENT CHECKLIST, IMPLEMENTATION SUMMARY AND THE ACTION PLAN

The odour management checklist and the requirement implementation summary are two pieces of information required as part of the "Guideline for the Preparation of Environmental Management Plans" prepared by the Department of Infrastructure, Planning and Natural Resources.

An odour management checklist has been provided as Attachment 8.

Attachment 9 below provides a summary of the odour management activities and controls for the subject site, as per the Department's Environmental Management Plan Guideline. The summary also provides specific details such as start dates, completion dates, frequency, contingency measures and other details.

The following action plan is to be established by the management of No Fuss Liquid Waste:

- Install the proposed Odour Control System, upon receipt of approval from the consent authority;
- Review the Odour Management Plan within 3 months from the receipt of approval by utilising the plan to ensure that it is effective for use in managing and mitigating the odour impacts of Unit 1 and its operations. The review shall include improvements and additions to the Revision 3 of this plan issued to No Fuss Liquid Waste;
- Use the Odour Management Plan to ensure that regulatory compliance is achieved; and
- Adhere with the odour monitoring and test plan as outlined in Table 6-1.

9. STATEMENT OF COMMITMENTS

This Odour Management Plan has been prepared to ensure that all practices are performed to comply with the relevant legislative requirements such as the *Protection of the Environment Operations Act 1997* and *Environmental Planning and Assessment Act 1979*.

No Fuss Liquid Waste agrees that the following commitments would be made with regards to the provisions of this Plan:

- Maintain the use of this Odour Management Plan throughout the life of the development;
- Install and maintain the two-stage odour control system outlined in this plan. Further details are provided in Section 4.1.3 and the corresponding attachments;
- Ensure that the following requirements from NSW EPA are upheld at all times throughout the life of the development:
    - *The system is appropriately designed and engineered to allow for the efficient capture of all odour sources. This may include, but not necessarily limited to:*
        - *The provision of local exhaust ventilation (LEV) to capture odours at the source;*
        - *Appropriate sizing of filter vessels to meet optimal contact times between foul air and filtration media whilst still being able to supply adequate capture velocities at the various odour point sources; and*
        - *The provision of suitable filtration media to adequately capture the odorous compounds associated with the sources being treated.*
    - *An allowance has been included in the design of the system to prevent odorous releases upon breakthrough (saturation) of filtration media. A two-stage filtration system may allow for the monitoring of filter saturation whilst preventing the release of foul air to the environment in the event of breakthrough. (A single stage system is unlikely to adequately allow for this management measure).*
    - *Consideration is given to performance and verification testing for any proposed system. Including the assessment of potential air quality impacts.*
    - *The system is supported by suitable management and monitoring plans and/or procedures that adequately address:*
        - *Monitoring of filter bed saturation and bed change out;*
        - *The prevention of unwanted odour releases during system upset conditions or during system maintenance or shutdown; and*
        - *The prevention of unwanted odour releases during non-operational periods where residual odour sources may remain.*
    - *The system is operated and maintained appropriately.*

Signed by:

Name & Signature: ……

Date: ……

10. LIMITATIONS

Our services for this project are carried out in accordance with our current professional standards for site assessment investigations. No guarantees are either expressed or implied.

This report has been prepared solely for the use of No Fuss Liquid Waste Pty Ltd, as per our agreement for providing environmental services. Only No Fuss Liquid Waste Pty Ltd is entitled to rely upon the findings in the report within the scope of work described in this report. Otherwise, no responsibility is accepted for the use of any part of the report by another in any other context or for any other purpose.

Although all due care has been taken in the preparation of this study, no warranty is given, nor liability accepted (except that otherwise required by law) in relation to any of the information contained within this document. We accept no responsibility for the accuracy of any data or information provided to us by No Fuss Liquid Waste Pty Ltdfor the purposes of preparing this report.

Any opinions and judgements expressed herein, which are based on our understanding and interpretation of current regulatory standards, should not be construed as legal advice.

ATTACHMENTS

Attachment 1: Letter of Advice from Bioaction Pty Ltd

Bioaction Pty Ltd
PO Box 4143, Lake Haven NSW 2263
Unit 9/18 Arizona Rd, Charmhaven NSW 2263
P: +61 (02) 2 43935603 E: enquiries@bioaction.com.au
Emission & Odour Filtration Solutions

11 December 2013

Odour Control Systems (Aust) Pty Ltd
PO Box 179
Islington NSW 2296

Attention: Dale Strachan

Re: **No Fuss Liquid Waste Pty Ltd – Odour Control System**

Dale,

In response to our site visit on Tuesday 10th December 2013 to No Fuss Liquid Waste and the data provided by their consultants we would like to make the following observation that form the basis for our proposed design.

- There are two distinct process areas that handle different wast types which generate distinctly different fugitive odours. These odours are impacted by the type of liquid waste collected and level a biological digestion at the source of the waste.
- Unit 1 receives primarily effluent liquid waste and as such has the propensity to release sulphurous gases through anaerobic digestion. The most fugitive gas being hydrogen sulphide due to high molecular weight and as such has poor dispersion.
- Unit 2 receives primarily oily liquid waste that tends to have a much slower rate of digestion at the liquid source. These hydrocarbons are not considered highly odorous but generate high levels of volatile organic compounds (VOC's). These VOC's are highly dispersible.
- The data provided by Benbow Environmental detail the total capacity for Unit 1 – 953m^3 and Unit 2 – 775m^3. They have provided a series of calculations in regard to air changes to determine the total capacity of a suitable odour control unit (OCU)
- Upon reviewing the site there are a number of factors that needed to be taken into account:
    - Characterisation of the gases in Unit 1 and 2, and their potential to create fugitive emissions that would impact local businesses and general public. As such the system and particularly the ducting needs to reflect these variances.
    - The total volume in both units and the determined air changes determines total capacity of the system. What is has not been taken into account is the reduction of the total air volume by the static vessels in both units.
    - Identifying the fugitive odour point sources during receiving the waste, processing and storage.
    - Designing the extraction duct to optimise transfer of odorous gases to the OCU. Particular attention is paid to the open vessels as opposed to closed vessels.
    - There is a high degree of variability in the odours generated over an average weekly operation caused by nightly and weekend shutdowns which will impact the performance of the OCU.
- It is our opinion that a single air change each hour with targeted extraction points designed to remove at a much higher flow velocity will provide adequate removal of fugitive gases.

	UNIT 1	UNIT 2
Total Unit Air Volume (Benbow Environmental)	953 m^3	775 m^3
Total Unit Air Volume (Bioaction)	1345.1 m^3	991.1 m^3
Static Vessels Volume	132 m^3	191.5 m^3
Total Volume @ 1 x Air Change per Hour	1213.1 m^3	799.6 m^3
Total Volume @ 1 x Air Change per Hour	336.9 LPS	222.1 LPS
Total Volume @ 1 x Air Change per Hour	559 LPS	
Total Proposed OCU System Capacity (Min)	600 LPS	
Revised Air Change per Hour	1.07	
Key Odour Points	Disposal Point Screen Filtering Train 2 x Primary Holding Tanks Inspection Tank	Disposal Point DAFF Unit
Extraction Flow		
Primary Duct to OCU	600 LPS @ 8 m/s	
Area 1 - Disposal, screen and filtering train	200 LPS @ 15 m/s	
2 x Primary Holding Tank	100 LPS @ 12 m/2	
Inspection Tank	50 LPS @ 12 m/s	
DAFF Unit		200LPS @ 12 m/s

Proposed OCU System

- FiltaOdor FOH300 Hybrid Biofilter System x 2 (see data sheet attached)
- The proposed OCU system has a biological filter as the primary treatment to remove >95% of the odorous gases and an activated carbon polisher on each vessel to treat the balance of the untreated gases and to deal with gas concentration variances such as receiving and shutdown. A hybrid OCU system optimises the treatment train process. The system will operate in positive pressure.
- An extraction fan is located on a control skid mounted prior to the filter vessels that is controlled by a variable speed control (VSD).
- The ducting will be designed to the specifications detailed prior where the flow and flow velocity is controlled initially be duct size with adjustable flow control dampers to balance the flows across the extraction points as detailed in the attached design drawing.
- The design rationale is to extract from specific points at a volume and flow velocity depending on the characteristics and concentration of the odorous gases.

Thank you for the opportunity to review this project and should you or your client have any questions then please do not hesitate to contact me directly.

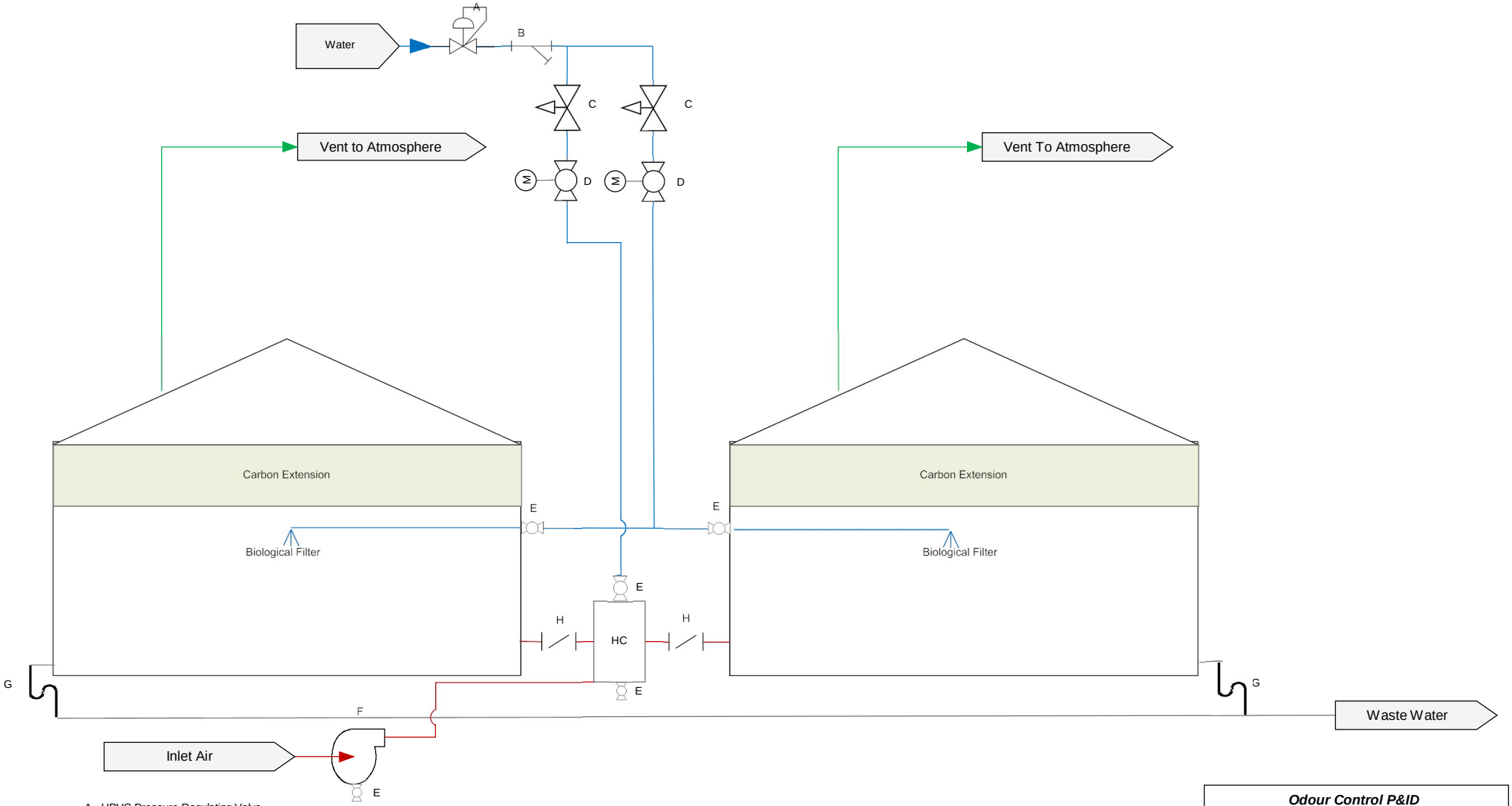
Kind regards,

Bioaction Pty Ltd

Function	Description		Measurement	Unit
FILTER TYPE	FiltaOdor FOHE300 Hybrid Biofilter			
REQUIREMENTS	Average Flow		300	LPS
			1080	M3/h
	Maximum Flow		350	LPS
			1260	M3/h
	H2S Concentration (max)		300	PPM
FUNCTIONAL DESCRIPTION	The system is a two-stage treatment system using biological technology in the primary filtration stage to remove 90-95% and a secondary polishing and buffer filter using absorption technology. Hazardous gases are extracted form the source using a blower fan and the air is forced through a humidification system to raise the relative humidity (RH) to > 95%. The gas diffuses through the moist organic media filter bed where the contaminates are biologically oxidised. Moisture within the filter bed is maintained and controlled by an irrigation system. Treated ait then flows directly and evenly through a secondary filter mounted directly above the primary filter. A broad activated carbon media is used to treat any resulting gases to achieve >99% removal of source gases.			
BIOLOGICAL MEDIA	FiltaOdor uses a unique hydrophobic micropore filtration media with high adsorptive properties for efficient mass transfer of organics and oxygen from inlet gases into the liquid phase. This highly robust media has an exceptionally large surface area for biomass distribution and is sufficiently porous to prevent high pressure loss.			
	SPECIFICATIONS			
	Media Volume		9.17	m3
	Media Mass		3.20	tonne
	Empty Bed Residence Time (EBRT) @ Average Flow		30.5	Sec
	Mass Loading		343	m3/m2
	Pressure Drop		<500	pa
	PROPERTIES	**Organic Media**	**Mineral Media**	**Unit**
	Volume	90	10	%
	pH	5.9 – 6.5	6.0 – 7.0	
	Cation Exchange	200-300	1142	meq/L
	Carbon	45-52	N/A	%
	Water Holding Capacity	30-50	15-20	v/v
	Air Filled Porosity	>60	>40	%
	Surface Area	20,000	2,000	m2/m3 (est)
	Bulk Density	350	1400	Kg/m3
ABSORPTIVE MEDIA	The media used is a performance activated carbon for the combined removal of traces of acid gases such as Hydrogen Sulphide (H2S), Sulphur Dioxide (SO2) and Hydrochloric Acid (HCl). This product operates efficiently in atmospheres where a stoichiometric level of oxygen is present to allow chemisorption to occur. It retains an excellent physical resistance to attrition ensuring consistent pressure loss in service.			
	SPECIFICATIONS			
	Media Volume		.920	m3
	Media Mass		504	Kg
	Empty Bed Residence Time (EBRT)		3.06	Sec @ 300LPS
	Pressure Drop		65	Pa
	CTC adsorption (base)		60	Min %
	Butane adsorption (base)		23	Min %
	Total ash content (base)		12	Max %
	Moisture content (product)		15	Max %
	Apparent density (product)		530	Kg/m3
	Ball pan hardness (base)		95	Min %
	H2S adsorption capacity		0.15	Min g H2S/cm3
	Particle size tolerance (pellet)		10	± %
	PROPERTIES			
	CTC adsorption (product)		40	%
FILTER VESSEL	FiltaOdor FOH300 Hybrid Biofilter is a modular design to assist international and domestic freight logistics. The system is preloaded with media and the individual vessels can be located at the point of construction.			
	DIMENSIONS			
	Diameter (overall) – 2100mm			
	Height (Filter Vessel) - 4900mm			
	Height (overall including vent stack) – 5100mm			
	Overall Footprint including Skid – 2100mm W x 3000mm H			
	CONSTRUCTION			
	Filter vessels are constructed from is P300 High Density Polyethylene (HDPE) material, which is made from UV-impregnated resins, and are resistant, and are UV stabilized through the material. They have a high chemical-resistant to provide significant design life expectation and are suitable for all climatic conditions. Construction follows DVS technical codes on plastic			

	joining DVS 2202 / 2210. Jointing construction is butt-welded and extrusion welded. The vessel is constructed on a galvanised skid arrangement for transport, lifting and installation.		
	MATERIAL SPECIFICATION		
	Specific Gravity	0.95	g/cm2
	Max Continuous Operating Temp.	80	^{o}C
	Max Short Term Operating Temp	100	^{o}C
	Tensile Strength	22	Mpa
	Hardness	63	Rockwell M
	Co-efficient of thermal expansion	150-230	m/(m.k) x 10≈6
	Dielectric Strength	45	KV/mm
	Surface Sensitivity	>10^{14}	Ohms
	Relative Abrasion Loss by Sand Slurry	500	
	PENETRATIONS		
	All duct and pipe penetrations - HDPE		
	Screw inspection hatches - HDPE		
	Irrigation pipe – Schedule 80 UPVC		
	VESSEL AND LID CONNECTION		
	Double bell arrangement to secure both sides of the vessel wall of the lower vessel. Polyurethane seal inside the bell structure. Located with pre-drilled bolts (stainless steel) through three wall thicknesses		
DUCT AND PIPE SIZE	Inlet Duct – 250mm @ 8 m/s		
	Vent Duct – 250mm with 160 reduction cone @15 m/s		
	Waste Line – 100mm		
	Irrigation Inlet – 15mm		
HUMIDIFICATION	A humidifier chamber is located prior to the inlet to the primary filter plenum. Misting sprayers are located in the chamber to saturate untreated gas to >95% RH. Misting sprayers operate at low-pressure water supply and are accessed by camlock fitting that has a local shutoff valve to isolate supply. The chamber is mounted to the control skid and supplied by the water supply loom. Humidification runs in sequence with fan operation and is controlled by an automated ball valve with a pressure and flow control valve in the supply line. An indicator light is located on the control panel to show operational status as well as a rotameter in the supply line indicating flow and flow parameters.		
	Number of mist sprayers – 1		
	Water usage/mist sprayer – 5ltrs/hour		
	CONSTRUCTION		
	Chamber – uPVC		
	Inlet Duct – uPVC		
	Outlet Duct – uPVC		
	Mist Sprayers – PVC		
	Mist Lance – uPVC		
	Camlock Access – HDPE		
	Isolation Valve – uPVC		
	Water Supply Line – uPVC Schedule 80 Pipe		
	Flexible Hose – High pressure UV stable		
IRRIGATION	The filter bed is irrigated to maintain correct moisture levels within the filter media to optimise biomass stability and colonisation. The irrigation assembly is located on the filter bed surface and accessed through the inspection hatch. A wobbler sprayer is mounted in the assembly to provide a heavy droplet to avoid transference to the vent duct and an uneven spray pattern to minimise preferential pathways. It operates daily controlled by a timer that contrls an automated ball valve with a pressure and flow control valve in the supply line. An indicator light is located on the control panel to show operation status as well as a rotameter in the supply line indicating flow and flow parameters.		
	Number of Wobbler sprayers – 1		
	Water usage/mist sprayer – 100ltrs/hour		
	Typical daily Operation – 1 hour/day		
	CONSTRUCTION		
	Wobbler Sprayer– PVC		
	Mist Lance – uPVC		
	Isolation Valve – uPVC		
	Water Supply Line – uPVC Schedule 80 Pipe		
	Flexible Hose – High pressure UV stable		
CONTROL LOOM	Irrigation and Humidification is centrally controlled at a loom located on the control skid to simplify management and maintenance. The control loom controls the pressure and flow of water supply. Unions connect all the fittings and the automated valves are plugged to the electrical control panel.		
	CONSTRUCTION		
	Piping – uPVC Schedule 80 Pipe		
	Primary shutoff valve – 15mm uPVC Ball Valve		
	Pressure Control Valve		
	2 x Automated Ball Valve – 15mm uPVC Spears Ball Valve with 240VAC Actuator		
	2 x Flow Control Valve – 15mm uPVC Spears Needle Valve		
	2 x Flow Rotameters with flow parameter indicators		

	Y Strainer Filter
	Mounting – Galvanised
CONTROL PANEL	Electrical Control Panel is mounted to the control skid for local control. It has a manual ON/OFF/AUTO switch operation. Indicator lights show operational status including irrigation and humidification supply.
	Control Panel – Powder Coated Steel IP65 Rated
	Power Requirements – 240VAC 10A
	Variable Speed Control – Automation Direct 1.5kw
	2 x Circuit Breakers
	1 x Local Relay
	1 x Client Relay (remote operation)
	Ben Timer Control
	ON/OFF/REMOTE Switch
	Switch Indicator Light
	Irrigation Control Valve ON/OFF Light
	Humidifier Control Valve ON/OFF Light
	Optional – PLC Duty/Standby Fan Operation
FAN	Fan/s are mounted on the control skid and can operate in positive or negative pressure. The standard fan provided is corrosion and spark-proof.
	Fan Type – Seat 20
	Specified Flow – 260LPS
	Maximum Flow – 500LPS @ 750pa
	Specified Pressure Drop – 750pa
	Inlet Size – 160mm
	Outlet Size – 160mm
	Fan Support – Stainless Steel
	Fan Mount – Vibration Mounts to Galvanised Steel Strut
	Motor Brand - TECO
	Motor Size – 1.1kw
	Power – 415VAC
	Rating – IP66
	Protection – Ex ‘n’
	Cable – Shielded Cable to Control Panel
	Duct Connection – Flexible Coupling with Stainless Steel Clamps
OVERALL WEIGHT	Biofilter - 4030kg
	Absorption Filter - 684kg
	Control Skid - 150kg
	Total - 4864kg
INSTRUMENTS	Pressure Differential Gauge – Dwyer Magnehelic
	Rotameter (Humidifier)
	Rotameter (Irrigation)
INSTALLATION REQUIREMENTS	Concrete Slab Engineered to System Loading (Layout and Dimensions Provided)
	Potable or Recycled Water
	Wastewater Line with 300mm Water Seal Fitted
	Power - 240VAC 10A with Individual Circuit Protection
OPTIONAL ITEMS	Standby Fan with PLC Upgrade
	Stainless Steel fans
	H2S Continuous Monitoring
	Humidifier Sensor
	Duct Noise Attenuator
	Irrigation and Inspection Hatch Access Platform
	Vandal-proof Security Structure

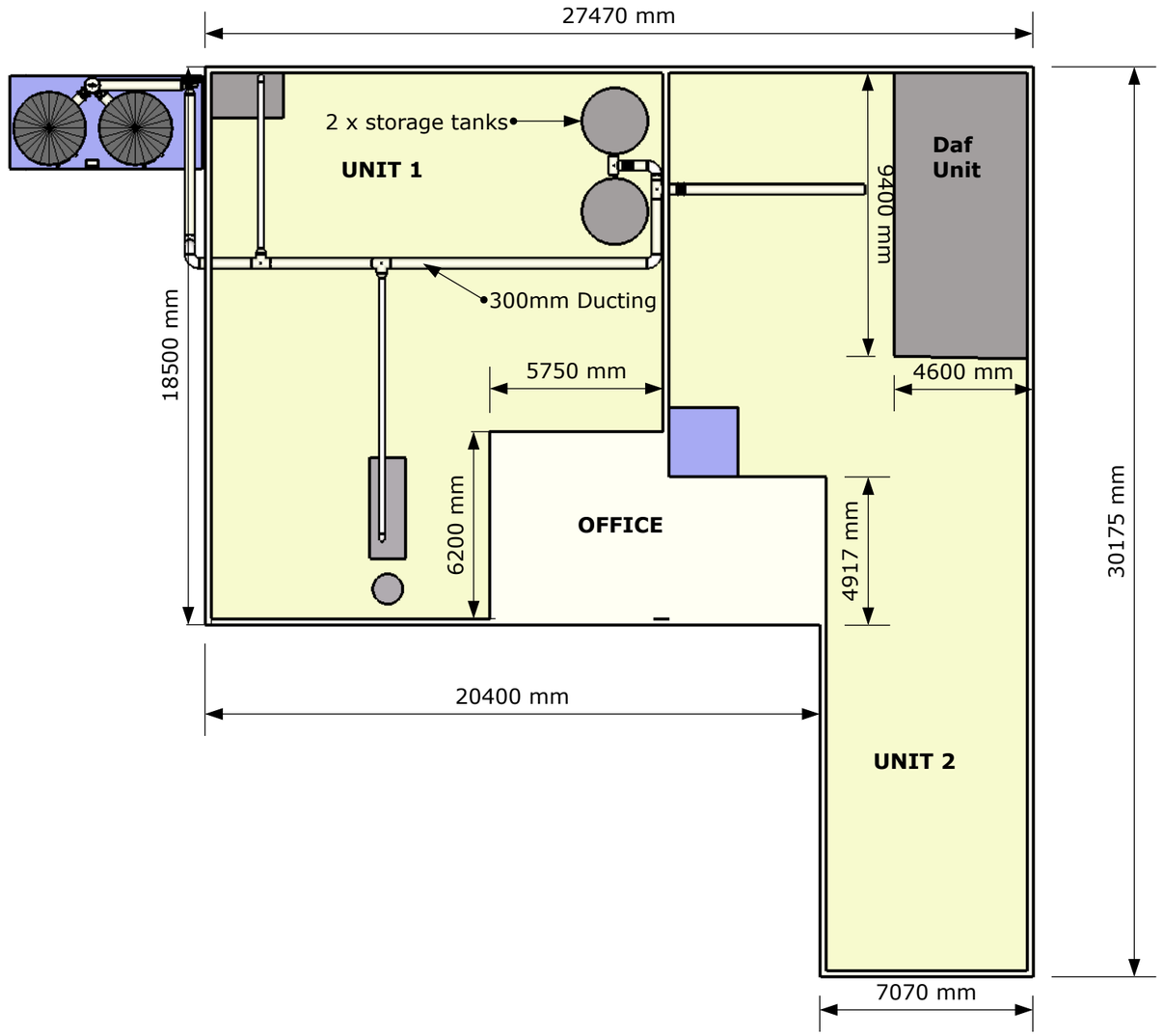


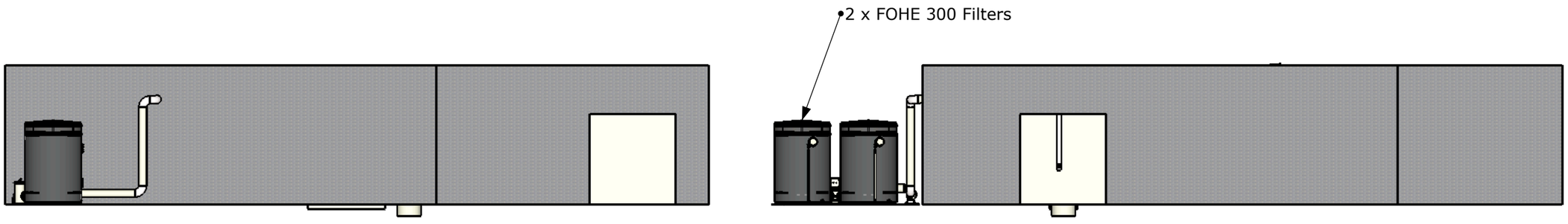
A - UPVC Pressure Regulating Valve
B - UPVC In Line 'Y' Strainer
C - UPVC Needle Valve
D - UPVC Actuated Ball Valve
E - UPVC Manual Ball Valve
F - Poly Fan IP65 EX 'N'
G - 100 mm PVC Water Seal
H - Flow Damper

Odour Control Systems

bioaction
sustainable environmental solutions

Odour Control P&ID			
Hybrid BioFilter (Extension) x 2 Positive Pressure			
DRAWN	CHECKED	DATE	DRAWING NO.
SB	LB	11/12/13	FOHEx2





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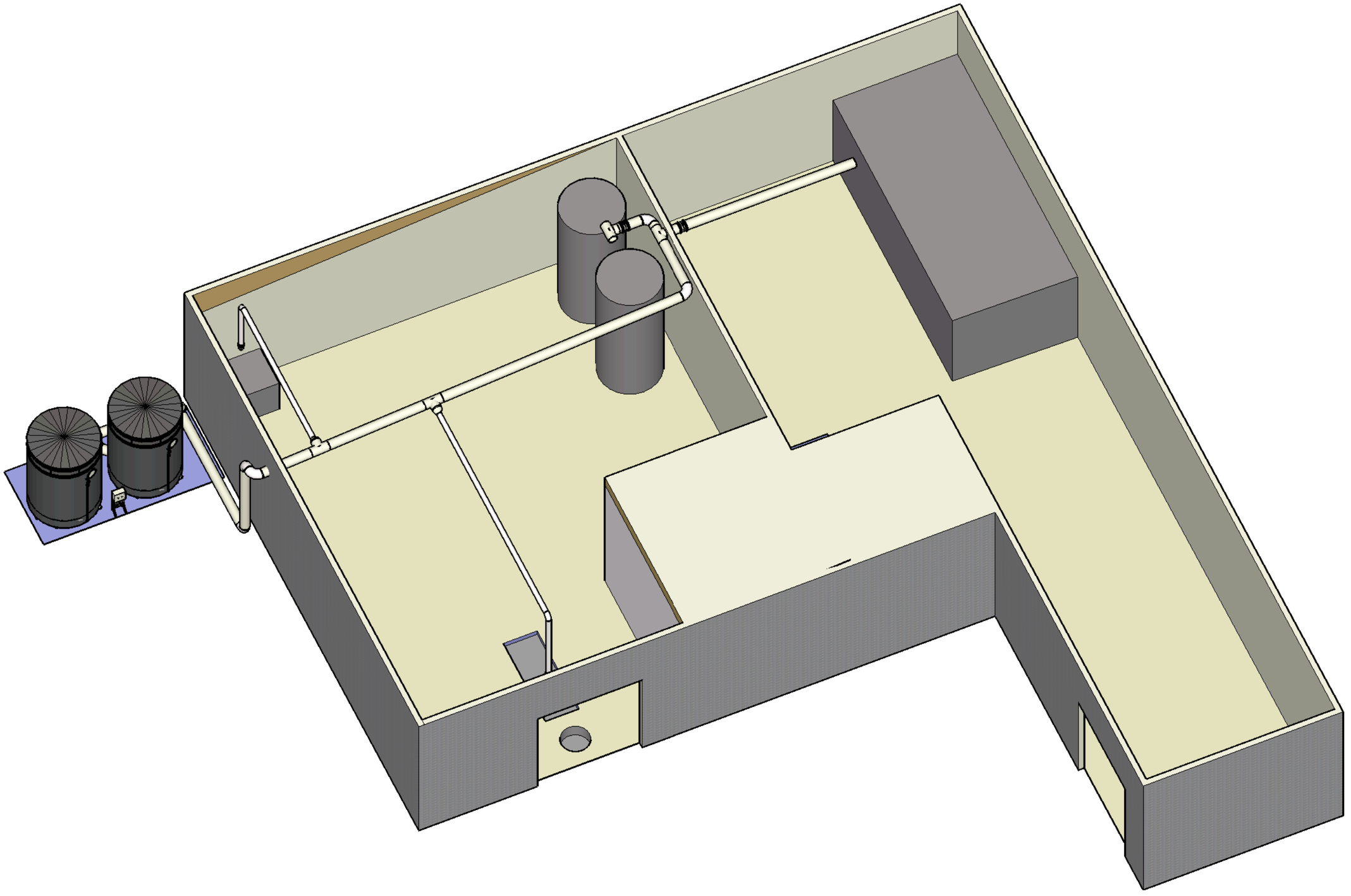

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Benbow ENVIRONMENTAL

CURRICULUM VITAE OF RICHARD T BENBOW

Professional Qualifications:

- Environmental Engineer.
- Bachelor of Science (Engineering) With Merit.
  University of New South Wales, Sydney, Australia.
- Numerous post graduate studies in acoustics, vibration, air pollution, public health engineering, process controls, liquid waste treatment and solid waste management.
- Numerous professional development studies in risk assessment, hazard analysis, hazardous areas, dangerous goods and odour management.
- Private study project on Causes and Predictions of Overpressure and Ground Vibration from Blasting.

Professional Associations:

- Member of the Environment Institute of Australia.
- Member of the Australian Acoustical Society.
- Member of the Clean Air Society of Australia and New Zealand (CASANZ).
- Associate member of the Australian Institute of Occupational Hygienists.
- Affiliate member of the ACGIH.
- Member of Australian Institute of Dangerous Goods Consultants (AIDGC).

Employment:

- Principal Consultant of Dick Benbow & Associates Pty Limited since 1983 now trading as Benbow Environmental.
- 1980-1982 employed as Environmental Engineer at Farley & Lewers and Readymix Farley.
- 1974-1980 employed as Project Engineer for 1.5 years and then as an Environmental Engineer at Rheem Australia.
- 1970-1974 employed as Product Development Engineer at Fowler Rex.
- 1965-1970 employed as Trainee Mechanical Engineer with St Regis ACI.

Accreditation:

- Acoustics - DBA is a member firm of the Association of Australian Acoustical Consultants (AAAC). RT Benbow was the past Vice- Chairman of AAAC for a 6 year period.
- Chemicals - Accredited Dangerous Goods Consultant Classes 2, 3, 4, 5, 6.1, 8 & 9. R T Benbow was founding Vice President and wrote the Code of Practice on Ethics.
- Occupational Dust - Mines Inspection Division.
- Asbestos Assessments
- Contamination through the Environment Institute of Australia.

Areas of Expertise: - Over 36 years experience of environmental engineering and occupational hygiene.
Over 4,000 projects completed in Environmental Impact Assessments,
Noise Investigations, Air Emission Studies, Odour Control, Cleaner Production Studies, Occupational Dust Studies, Engineered Dust Controls, Chemical Storage and Handling, Hazardous Areas, Cleaner Production for the Poultry Industry, Blasting Practices, Environmental Management and Auditing, Risk Hazard Analyses and Environmental Site Assessments for contamination, strategies for management of contaminated groundwater, specifically asbestos contamination, remediation and validation.

Project Experience Specialist Industries:

- Major Hazard Facilities;
- Chemical Manufacturing;
- Pharmaceutical;
- Food Manufacturing;
- Paper Recycling Mills;
- Kraft Paper Manufacturing;
- Ink Manufacturers;
- Motor Sport;
- Poultry Industry;
- Drum Reconditioning;
- Mining, Quarrying and Cement Manufacture;
- Rail Industry;
- Foundries
- Production of building products including plasterboard, bricks, fibre cement, concrete pipes, and fibreglass insulation;
- Dangerous Goods Warehousing;
- Waste Recycling of numerous materials;
- Consumer Products;
- Cogeneration Plants;
- Tissue Manufacturing;
- Wood Yards for Paper Manufacture;
- Hazardous Area Installations;
- Land Use Planning – Noise, Odour, Air and Risk;
- Major outdoor entertainment events; and
- Galvanising Industry.

Significant Projects:

- Energy - Acoustic Studies:
  - 25 MW gas turbine powered by coal bed methane;
  - BHP Collieries – Energy D evelopments Ltd coal bed methane conversion plants at Appin & Douglas Park;
  - 4.6 MW Cogen & HRSG plant at Visy Smithfield 1986;
  - 154 MW Closed Cycle Cogen Plant for Sithe Energy and Visy at Smithfield (now Marubeni);
  - Concept noise designs for 6Cogen plants tendered successfully by Downer; and
  - Detailed noise design for Downer EDI's 394 MW Combined Cycle Cogen Plant at Huntly, NZ, MHI three stage steam turbine.
- Processing Plants:
  - Visy Pulp and Paper, Tumut Mill:
    - Acoustic design of aspects of Stage 1 and in 2006 Stage 2; and
    - Plant features Power boiler, recovery boiler, woodyard, all processes associated with paper production.
  - Glass Beneficiation Plant;
  - Resource Recovery Project for Earth Care Resource Recovery Centre at Maldon;
  - Metal Recycling Sites;
  - Timber Recycling at Ingleburn;
  - Tyre Materials Recovery at Smithfield;
  - ABC Tissues, Wetherill Park Tissue Mill:
    - EIS and detailed noise and air emission designs.
  - Redox:
    - EIS and detailed risk assessment for a 21,000 tonne chemical storage facility.
  - Ingal Civil Products:
    - EIS for a world's best practice galvanising plant.

Significant Projects (cont.):

- Hyne Timber:
  - Detailed acoustic design for Tumbarumba Mill, a world's best practice facility.
- Alcoa Yennora:
  - EIS for Rotary Furnace.
- Licensing of two Major Hazard Facilities;
- Badgerys Creek Waste Facility EIS; and
- ISO 14001 EMP for CQMS Razer.

Examples of Projects:

- Grease Trap Waste Recycling Depot at Padstow - acoustic design, evaluation of odour control.
- Sanitary landfill site in Newcastle – acoustic design.
- Grease Trap Waste Recycling Depot at Quakers Hill - acoustic & odour control designs.
- Quakers Hill Sludge Dewatering Plant for Sewerage Treatment Plants - acoustic & odour control designs.
- Penrith STP - acoustic design of stage 6 expansion.
- Blue Mountains - acoustic compliance tests on Water Board tunnel construction.
- Odour assessment study of a large, private waste recycling depot at Campbelltown.
- Proposed putrescible landfill site at Badgery's Creek - environmental assessments of dust emissions, noise, odour and truck noise studies for major EIS.
- Acoustic design of Amcor's APM Packaging Smithfield, Scoresby & Adelaide Plants.
- Design of dust controls for PWD quarrying of rock with seams of asbestos form mineral.
- Channel Seven - design of acoustic studios.
- Channel Seven - noise management of helipad.
- EDI Rail-environmental audits of Rail Maintenance Sites.
- Reckitt & Colman-dust studies.
- Pratt Group-detailed plant design.
- Multiboard Packaging - part of James Manville Group - noise and air emission studies.
- Finding a solution to wind generated noise on a 250m high TV transmission tower.
- Monitoring helicopter noise for a major television studio.
- Traffic noise studies for large landfill tip site at St. Marys. Dust and operational noise also investigated.
- Major Sydney concrete plant - truck noise, process noise and dust studies.
- Dust control studies for major quarries in Sydney and regional areas.
- Specialist consultant to the Australian quarrying industry on respirable quartz.
- Design of aluminum ingot milling facility for Comalco Australia (now AARP). Residents 80m from facility, 45 dB(A) night-time noise level achieved.
- Coca Cola - occupational noise studies.
- Smorgon Plastics - occupational noise studies.
- Smorgon Glass - community noise.
- Vinidex Tubemakers - community noise.
- Formica - styrene emissions.
- Selley's – noise studies.
- Visyboard – noise studies.
- Fielders Bread – noise studies.
- Tip Top Bakery – occupational studies.
- Flint Inks – development application.
- APCS – hazard analyses.
- Redox - EIS
- Incitec – occupational hygiene.
- Devro.
- Tyre recycling sites for Carbon Polymers.
- Pyrolysis plant for Clean Tech.
- Noise impact study for 150 MW cogeneration centre.
- Chemical storage designs for over 80 sites.
- Preliminary and Final Hazard Analysis for Parbury Technologies, Trend Laboratories and Sika Australia.
- Safety Management Plan for Parbury Technologies.
- Environmental Audits of Villante Industries' sites for purchase by HSP.
- Noise Impact Assessment for night-time truck haulage at CSR Readymix, Penrith site.
- Submission and approval of dangerous goods licence applications to WorkCover Authority for over 300 sites throughout NSW.
- DA – Statement of Environmental Effects:
  - Elite Plating
  - Tremco Australia
  - Trend Laboratories
  - Molybond Laboratories
  - Epirez
  - ABC Tissue Products
  - Anzpac Services
  - Parbury Technologies
  - Valvoline
  - Wakefield Park Motor Racing Circuit
- Prepared Environmental Monitoring Programmes:
  - Trend Laboratories
  - Tremco Australia
  - Visy Paper Pty Ltd
  - Johnson & Johnson Pacific
  - Procter & Gamble

Examples of Projects (cont.):

Soil and Groundwater Contamination Management

For specific clients, soil and groundwater contamination studies are undertaken. These studies include Phase I and Phase II environmental site assessments and have extended to include remediation and validation. Refer also to the separate document detailing the hazardous substances audits and management of asbestos.

A number of sites have been decontaminated and one of our major achievements has been in developing strategies for groundwater containment and removal. Alternate solutions are devised in association with other specialists, liaison with regulatory authorities is undertaken.

Numerous Phase I and prelease occupancy condition reports have been undertaken. Examples of recent projects include assessment and remediation of 3 industrial sites at Auburn, a major educational facility in Sydney, industrial land purchase site at Maryborough, change of land use at The Oaks and groundwater management at Girraween.

Computer Software:

- Acoustics-Concawe, ENM, SoundPlan
- Traffic Noise - UK DOE, USA FHWA
- Odour - Ausplume, CALPUFF
- Chemicals - CCINFO, Silver Platter OSHROM
- TNO's Effects 2.1

Expert Witness Land & Environment Court and Supreme Court:

- Expert evidence on noise, odour, blasting effects and dust control.
- Expert witness in NSW Supreme Court on Odour.
- Expert witness on Occupational Dust in Dust Diseases Tribunal.

Seminars:

Technical papers presented at the following:

- University of New South Wales 1980 Topic: Engineered Noise Control.
- National Symposium on Industrial Deafness held at University of Armidale 1981 Topic: Engineered Noise Control.
- Newcastle University 1982 Topic: Practical Noise Control.
- UNSW - Course lecturer on Ground Vibration and Air Blasting 1985.
- National conference of Australian Institute of Occupational Hygienists 1989 Topic: Engineering development in occupational dust control.
- Noise Control Seminar for Environmental Protection.
- Department of Hong Kong Nov 1992.
- Paper on occupational dust programme Future Safe 1994.
- Paper on occupational noise control for WorkCover Authority 1996.
- Noise Control Seminar for Hong Kong Institute of Acoustics and Environmental Protection Department Aug 1999.
- Asbestos Management, AIOH Annual Conference 2008.
- Quantitative v Qualitative Risk Management, AIOH Annual Conference 2008.

Patents and Inventions:

- Asbag and Asbestos Management System in association with Air Space Management Australia (ASMA).
- Odour Enclosure for tunnel ventilated poultry sheds achieving 57% reduction in odour.

Contact Details:

Benbow Environmental
PO Box 687, PARRAMATTA NSW 2124

Phone: (02) 9890 5099
Fax: (02) 9890 5399
Email: dbenbow@benbowenviro.com.au
Website: www.benbowenviro.com.au

CURRICULUM VITAE OF DUKE ISMAEL

Professional Qualifications: BE (Chemical) University of Sydney

Employment History:
Benbow Environmental (Feb 2006 to present)
Biotec Solutions (2005 Industrial Experience)
QENOS (2004 Industrial Experience)

Areas of Expertise:
Air Quality and Impact Assessments
Environmental Audits
Fire Safety Studies
Hazardous Area Zoning Studies
Occupational Hygiene Assessments
Risk Hazard Analyses
Greenhouse Gas

List of Projects Involved:

- Environmental Impact Statement – Barca Metals (Picton)
- Environmental Impact Statement – Glass Recovery Services (Penrith)
- Statement of Environmental Effects – Sims Metal (Girraween)
- Air Impact Assessment – Jemena Pty Ltd – QLD Gas Compressor Station
- Air Impact Assessment – Enerflex Process Ltd – Gas Pipeline in Oman
- Air Impact Assessment – Industrial Galvanizers (Girraween)
- Air Impact Assessment and Preliminary Hazard Analysis – Samos Polymers Pty Ltd (St Marys)
- Air Impact Assessment – FKP Commercial Developments (Campbelltown)
- Environmental Sustainability Audit – Washington Brown – Doncaster Westfields
- Environmental Audit – Apollo Metals
- Fire Safety Study – Tooheys New (Lidcombe)
- NPI Reporting & LBL Reporting – ParexDavco Pty Ltd (Wetherill Park)
- Transport of Hazardous Materials Study – Kagan Logistics Pty Ltd (Erskine Park)
- Environmental Audit – CSR Cemintel and CSR Gyprock (Wetherill Park)
- Environmental Impact Statement – ABC Paper & Paper Mill (Wetherill Park)
- Environmental Impact Statement – Austral Bricks (Wetherill Park)
- Statement of Environmental Effects – 3M Australia (Blacktown)
- Air Impact Assessment – Tomerong Quarry & SCE Recycling (South Nowra)
- Air Impact Assessment – Enerflex Process Pty Ltd –Gas Compressor Stations for QLD & NSW Gas Pipelines
- Air Impact Assessment – Marian Vale Pastoral Co Pty Ltd
- Air Impact Assessment – ITW Polymers
- Odour Impact Assessments – AconsulT
- Odour Impact Assessments – Laterals Planning
- Odour Assessment – Botany Gourmet Chicken (Randwick)
- Environmental Sustainability Audit – Washington Brown – St George/Westpac Office Buildings
- Hazardous Area Study – Jennmar / J-Lok Australia Pty Ltd & Hunter Douglas
- Preliminary Hazard Analysis – Auschem NSW Pty Ltd
- Preliminary Hazard Analysis – Sydney Automotive Paint and Equipment
- Fire Safety Study – Goodman Property Services

Computer Software:	Odour/Air – AUSPLUME, CALPUFF Chemicals – TNO EFFECTS & DAMAGE Fire – FDS Simulator & Smokeview General – Microsoft Office, AutoCAD, Golden Software Surfer & Lakes Environmental WRPLOT View Life Cycle Assessment – SimaPro
Seminars/Courses:	"SimaPRO & LCA Training", Life Cycle Strategies (16 & 17 October, 2008) "CALPUFF 3-Day Training Course", pDs Consulting (22 to 24 September 2009) "How to Apply Hazardous Area Australian Standards (Groups II & III)", Explosion Protection Technology, (27 to 29 November 2012) "Classify Hazardous Areas", Illawara TAFE NSW, (25 to 27 February 2013)
Contact Details:	Benbow Environmental PO Box 687, PARRAMATTA NSW 2124 Phone: (02) 9890 5099 Fax: (02) 9890 5399 Email: dismael@benbowenviro.com.au Website: http://www.benbowenviro.com.au

NSW EPA

ENVIRONMENT PROTECTION AUTHORITY

Our reference 3666-2013
Licence No. 13253

Robert Craig
Principal Planner
Penrith City Council
PO Box 60
PENRITH NSW 2751

Dear Mr Craig

No Fuss Liquid Waste Pty Ltd - 10-12 Smith Street Emu Plains
Septic Waste Treatment Facility - Environment Protection Licence No.13253
Development Application 12/1346 ("the DA")

I refer to your letter dated 12 February 2013 requesting the Environment Protection Authority's (EPA) general terms of approval (GTA) for the development application relating to the septic waste treatment facility currently operating in unit 1 of 10-12 Smith Street Emu Plains under EPA Licence No13253 ("the licence").

EPA understands the original consent for the current septic waste facility limited the operation in unit 1 to 2 years which has now expired. Should council decide to grant consent for continued operation of the septic waste facility, then the existing conditions of the licence will be maintained and should be included in the consent.

Also, please note that current odour controls at the facility need to be upgraded to meet current EPA requirements and industry accepted practice for this type of activity. EPA intends attaching new conditions to the licence under a pollution reduction program (PRP) requiring upgrade odour controls for the septic waste facility. The upgrades will require containment and capture of odours for treatment through appropriate odour control equipment such as a caustic scrubber.

Accordingly, please find attached copy of licence No.13253 and intended PRP licence conditions for council's consideration.

In the event council decides to not grant consent for continued operation of the septic waste facility, the EPA will amend the licence removing administrative and operational conditions relating to the treatment of septic waste at the premises.

Should you require information on this matter please contact Peter Watson on (02) 9995 5947.

Yours sincerely

Greg Thomas
Manager Hazardous Materials
Environment Protection Authority
Att: Environment Protection Licence No.13253
Pollution Reduction Program

5 March 2013

PO Box A290 SYDNEY SOUTH NSW 1232
59-61 Goulburn St Sydney NSW 2000
Tel: (02) 9995 5000 Fax: (02) 9995 5999
TTY (02) 9211 4723
ABN 43 692 285 758
www.epa.nsw.gov.au

Pollution Reduction Program

Odour Control Upgrade – Septic Waste Treatment Facility

The licensee must engage the services of a suitably qualified consultant to investigate required measures and facilities for implementation which will contain, collect and treat all odours generated by septic waste treatment activities to a level that will prevent odours impacting off site.

A written report must be prepared by the consultant detailing the findings and recommendations from the odour investigations. The report must include (but not be limited to) the following information:

- Complete engineering details including drawings on proposed works demonstrating that all waste loading, unloading and treatment activities conducted at the facility will be undertaken in a fully enclosed building, or through implementation of suitable facilities such that all odours from various point sources, such as from tanker unloading operations, screens, collection pits and sumps, storage tanks, sedimentation tanks and clarifiers etc, are captured and directed to appropriate air pollution control equipment (e.g. caustic scrubber) for treatment prior to discharge to atmosphere.
- Detailed specifications, operational controls and maintenance protocols (and where available, manufacturer's performance guarantees) of proposed odour control equipment such as a caustic scrubber.
- Location, dimension and elevation of the discharge point (stack) serving the scrubber.
- Detailed management protocols to attenuate potential fugitive odour emissions.
- Information on methods to be employed to monitor proper and efficient operation of the caustic scrubber (e.g. monitoring devices fitted with audible and visual alarms to monitor liquor flow rate, pump pressure, redox potential etc)
- Provide the emission rates in terms of odour units (determined by techniques compatible with EPA procedures). Sampling and analysis techniques for individual or complex odours and for point or diffuse sources, as appropriate should be used.
- Reference should be made to *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (EPA, 2005)*; Approved Methods for the Sampling and Analysis of Air Pollutants in NSW* (EPA, 2006)*; Technical framework: Assessment and management of odour from stationary sources in NSW* (EPA, 2006)*; Technical Notes: Assessment and management of odour from stationary sources in NSW (EPA, 2006).*
- Estimate the resulting ground level concentrations of odours. Where necessary (eg for potentially significant impacts and complex terrain effects), use an appropriate dispersion model to estimate ambient pollutant concentrations. Discuss choice of model and parameters with the EPA.

Waste

Spill Containment

- Details on facilities or features of the building which will provide emergency storage capacity in the event of a catastrophic tank failure whereby 110% of the capacity of the largest storage tank, or tanks if manifolded together will be provided.

Environment Protection Licence

Licence - 13253

NSW EPA

Licence Details	
Number:	13253
Anniversary Date:	05-May

Licensee
STEVEN UTLEY
10-12 SMITH STREET
EMU PLAINS NSW 2750

Premises
NO FUSS LIQUID WASTE PTY LTD
UNIT 1 & 2 10-12 SMITH STREET
EMU PLAINS NSW 2750

Scheduled Activity
Waste Processing (non-thermal treatment)

Fee Based Activity	Scale
Non-thermal treatment of hazardous and other waste	> 0 T treated

Region
Hazardous Materials, Chemicals & Radiation
59-61 Goulburn Street
SYDNEY NSW 2000
Phone: (02) 9995 5000
Fax: (02) 9995 5999
PO Box A290 SYDNEY SOUTH
NSW 1232

Environment Protection Licence

Licence - 13253

NSW EPA

Environment Protection Licence

Licence - 13253

Environment Protection Licence

Licence - 13253

NSW EPA

Information about this licence

Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act); and
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).

Environment Protection Licence

The EPA publication "A Guide to Licensing" contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

This licence is issued to:

STEVEN UTLEY
10-12 SMITH STREET
EMU PLAINS NSW 2750

subject to the conditions which follow.

Environment Protection Licence

Licence - 13253

NSW EPA

1 Administrative Conditions

A1 What the licence authorises and regulates

A1.1 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity	Fee Based Activity	Scale
Waste Processing (non-thermal treatment)	Non-thermal treatment of hazardous and other waste	> 0 T treated

A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
NO FUSS LIQUID WASTE PTY LTD
UNIT 1 & 2 10-12 SMITH STREET
EMU PLAINS
NSW 2750
LOT 60 DP 31908

A3 Information supplied to the EPA

A3.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:
a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and
b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

2 Limit Conditions

L1 Pollution of waters

L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

Environment Protection Licence

Licence - 13253

L2 Waste

L2.1 The licensee must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled "Waste" and meeting the definition, if any, in the column titled "Description" in the table below.
Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled "Activity" in the table below.
Any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that waste contained in the column titled "Other Limits" in the table below.
This condition does not limit any other conditions in this licence.

Code	Waste	Description	Activity	Other Limits
J120	Waste oil/hydrocarbons mixtures/emulsions in water		Waste processing (non-thermal treatment) Waste storage	
K130	Sewage sludge & residues		Waste processing (non-thermal treatment) Waste storage	
NA	General or Specific exempted waste	Waste that meets all the conditions of a resource recovery exemption under Clause 51A of the Protection of the Environment Operations (Waste) Regulation 2005	As specified in each particular resource recovery exemption	NA
NA	Waste	Any waste received on site that is below licensing thresholds in Schedule 1 of the POEO Act, as in force from time to time	-	NA

L3 Noise limits

L3.1 Noise emissions from the premises must comply with requirements of EPA's NSW industrial noise policy.

L4 Potentially offensive odour

L4.1 No condition of this licence identifies a potentially offensive odour for the purposes of section 129 of the Protection of the Environment Operations Act 1997.

Note: Section 129 of the Protection of the Environment Operations Act 1997, provides that the licensee must

not cause or permit the emission of any offensive odour from the premises but provides a defence if the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.

3 Operating Conditions

O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.
This includes:
a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:
a) must be maintained in a proper and efficient condition; and
b) must be operated in a proper and efficient manner.

O3 Emergency response

O3.1 The licensee must maintain, and implement as necessary, a current emergency response plan for the premises. The licensee must keep the emergency response plan on the premises at all times. The emergency response plan must document systems and procedures to deal with all types of incidents (e.g. spills, explosions or fire) that may occur at the premises or that may be associated with activities that occur at the premises and which are likely to cause harm to the environment. If a current emergency response plan does not exist at the date on which this condition is attached to the licence, the licensee must develop an emergency response plan within three months of that date.

O4 Processes and management

O4.1 The licensee must ensure that any waste received and/or generated at the premises is assessed and classified in accordance with the EPA's Waste Classification Guidelines as in force from time to time.

O5 Waste management

O5.1 All above ground tanks containing material that is likely to cause environmental harm must be bunded or have an alternative spill containment system in place.

O5.2 The licensee must ensure that suitable measures (e.g. high/low alarms, control valves with interlock control, one way valves) are installed on all tanks, ponds or clarifiers and associated pipes and hoses to

prevent the spillage of waste.

O5.3 Any spillages on the premises must be cleaned up immediately. Waste/material must not be tracked outside of the waste treatment building.

O6 Other operating conditions

Oily water (J120) waste treatment plant

O6.1 Tanker trucks unloading oily water waste into the treatment plant must be connected to the delivery pit via a cam-lock fitted hose in order to control odours and minimise spillage.

O6.2 Gaps/voids in external walls, roof structure and between external walls and roof must be sealed to prevent fugitive odour emissions from the building

O6.3 The licensee must engage the services of a suitably qualified consultant to undertake proof of performance testing of the odour control equipment. Proof of performance testing must be undertaken in accordance with approved methods detailed in EPA guidelines. The consultant must also prepare a written report on the results and findings from proof of performance testing, including the number of odour units (OU) at the inlet and outlet of the odour control equipment (caustic scrubber/biofilter), and include an assessment of offsite odour impacts . The report should also include recommendations for odour control equipment upgrades if required.
The report must be forwarded to EPA's Manager Hazardous Materials by Friday 26 April 2013.

O6.4 All unloading, processing and storage of oily water waste must only occur within the treatment plant building.

O6.5 The licensee must utilise documented protocols and procedures to assess incoming waste for correct waste classification. The documented protocols and procedures must include representative sampling and analysis in accordance with EPA approved test methods.

O6.6 Waste classification analysis results must be recorded and kept on the premises for a period of not less than 3 years and be made available to an EPA officer upon request.

O6.7 Written operating and maintenance procedures and schedules for the odour control equipment/system prepared by a suitably qualified consultant must be obtained and applied by the licensee.

4 Monitoring and Recording Conditions

M1 Monitoring records

M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.

M1.2 All records required to be kept by this licence must be:
a) in a legible form, or in a form that can readily be reduced to a legible form;
b) kept for at least 4 years after the monitoring or event to which they relate took place; and

c) produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:
a) the date(s) on which the sample was taken;
b) the time(s) at which the sample was collected;
c) the point at which the sample was taken; and
d) the name of the person who collected the sample.

M2 Recording of pollution complaints

M2.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.

M2.2 The record must include details of the following:
a) the date and time of the complaint;
b) the method by which the complaint was made;
c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
d) the nature of the complaint;
e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
f) if no action was taken by the licensee, the reasons why no action was taken.

M2.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

M2.4 The record must be produced to any authorised officer of the EPA who asks to see them.

M3 Telephone complaints line

M3.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

M3.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

M3.3 The preceding two conditions do not apply until 3 months after:
a) the date of the issue of this licence or
b) if this licence is a replacement licence within the meaning of the Protection of the Environment Operations (Savings and Transitional) Regulation 1998, the date on which a copy of the licence was served on the licensee under clause 10 of that regulation.

5 Reporting Conditions

Environment Protection Licence

R1 Annual return documents

R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:
a) a Statement of Compliance; and
b) a Monitoring and Complaints Summary.
At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.

R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

R1.3 Where this licence is transferred from the licensee to a new licensee:
a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:
a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

R1.5 The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

R1.6 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.

R1.7 Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:
a) the licence holder; or
b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

R1.8 A person who has been given written approval to certify a certificate of compliance under a licence issued under the Pollution Control Act 1970 is taken to be approved for the purpose of this condition until the date of first review of this licence.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

R2 Notification of environmental harm

R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.

R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

R3 Written report

R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:
a) where this licence applies to premises, an event has occurred at the premises; or
b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence,
and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.

R3.3 The request may require a report which includes any or all of the following information:
a) the cause, time and duration of the event;
b) the type, volume and concentration of every pollutant discharged as a result of the event;
c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
g) any other relevant matters.

R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

6 General Conditions

G1 Copy of licence kept at the premises or plant

G1.1 A copy of this licence must be kept at the premises to which the licence applies.

G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.

G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the

premises.

7 Special Conditions

E1 Financial Assurance

E1.1 The licensee must maintain a financial assurance in the form of an unconditional and irrevocable guarantee from a bank, building society or credit union in favour of the EPA amounting to $50,000 only. The purpose of the financial assurance is to secure or guarantee funding for environmental/remediation works or programs for the premises should they be required.

The fianancial assurance must be maintained during operation of the facility and thereafter until such time as the EPA is satisfied the premises is environmentally secure.

This assurance must be replenished to the full amount should the EPA have any reason to call up the financial assurance, or any part thereof, to correct environmental problems which have not been remedied by the occupier upon being given a notice to do so.

The EPA may increase the amount of the financial assurance at any time as a result of reassessment of the total costs and expenses of rehabilitation of the premises.

Failure to maintain the financial assurance at the full amount will result in suspension of the licence.

Environment Protection Licence

Licence - 13253

Dictionary

General Dictionary

3DGM [in relation to a concentration limit]	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
Act	Means the Protection of the Environment Operations Act 1997
activity	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
actual load	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
AM	Together with a number, means an ambient air monitoring method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales.*
AMG	Australian Map Grid
anniversary date	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
annual return	Is defined in R1.1
Approved Methods Publication	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
assessable pollutants	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
BOD	Means biochemical oxygen demand
CEM	Together with a number, means a continuous emission monitoring method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales.*
COD	Means chemical oxygen demand
composite sample	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
cond.	Means conductivity
environment	Has the same meaning as in the Protection of the Environment Operations Act 1997
environment protection legislation	Has the same meaning as in the Protection of the Environment Administration Act 1991
EPA	Means Environment Protection Authority of New South Wales.
fee-based activity classification	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
general solid waste (non-putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997

Environment Protection Licence

Licence - 13253

flow weighted composite sample	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
general solid waste (putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environmen t Operations Act 1997
grab sample	Means a single sample taken at a point at a single time
hazardous waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
licensee	Means the licence holder described at the front of this licence
load calculation protocol	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
local authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
material harm	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
MBAS	Means methylene blue active substances
Minister	Means the Minister administering the Protection of the Environment Operations Act 1997
mobile plant	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
motor vehicle	Has the same meaning as in the Protection of the Environment Operations Act 1997
O&G	Means oil and grease
percentile [in relation to a concentration limit of a sample]	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
plant	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
pollution of waters [or water pollution]	Has the same meaning as in the Protection of the Environment Operations Act 1997
premises	Means the premises described in condition A2.1
public authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
regional office	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
reporting period	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 mo nths. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
restricted solid waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
scheduled activity	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
special waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TM	Together with a number, means a test method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.

Environment Protection Licence

Licence - 13253

TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non-putrescible), special waste or hazardous waste

Mr Robert Hogan

Environment Protection Authority

(By Delegation)

Date of this edition: 05-May-2010

End Notes

1 Licence varied by Correction to EPA Regional data record., issued on 24-Jun-2010, which came into effect on 24-Jun-2010.

2 Licence varied by notice 1510626 issued on 21-Dec-2012

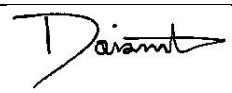
Small Project Checklist

Environmental Management Activities and Controls:

Septic Waste Treatment Facility

Project Name:	No Fuss Liquid Waste		
Project Location:	Unit 1, 10-12 Smith Street, Emu Plains		
Environmental Controls:	Yes	No	Comments
Odour			
Are all equipment and activities for the septic waste treatment facility conducted inside the building?		✓	The only equipment that is left outside the building is the hose connection point, which is outside the entrance to Unit 1. The fugitive odour emissions from this connection point, which is always sealed, is considered minor.
Is the delivery truck parked inside the facility to ensure that all possible fugitive emissions are captured inside the facility?		✓	It is currently physically impossible to park the truck inside the unit, due to the tanks/underground pits that are currently installed just before the entrance of the unit. These items are affixed to the ground. Major re-structuring works would have to be established to provide this allowance.
Is there a dedicated / primary odour control system established on site to capture, collect and treat the odour emissions from Unit 1?	✓		Although not physically present on site, but a system has been proposed as a result of the discussions made between Bioaction Pty Ltd, Odour Control System, Benbow Environmental and NSW EPA. The appropriateness of the system was discussed, including the technical capabilities of the proposed system. NSW EPA has issued conditions to which needs to be adhered to by No Fuss Liquid Waste. The proposed system is a two-stage biofiltration odour control system.

Project Name:	No Fuss Liquid Waste		
Project Location:	Unit 1, 10-12 Smith Street, Emu Plains		
Environmental Controls:	Yes	No	Comments
Is the current infrastructure at the site capable of accommodating the proposed two-stage biofiltration odour control system?	✓		
Are there any other additional areas or activities on site which need to be accounted for when considering the overall potential odour impact of the site?		✓	No other activities attributable to the septic waste treatment operations would be conducted outside the building.

Name of person inspecting site:	Duke Ismael
Signature:	
Date and time of site inspection:	27 December 2013, 10:30AM to 11:30 AM

Environmental Management Control	Person Responsible	Timing/Frequency	Start Date (Initials/Date)	Completed (Initials/Date)	Contingency Measures if Inoperable	Reference/Notes
General Management, Housekeeping and Improvements						
Site Inspection	Alyce Wing or Steve Utloy	Weekly, and when deemed required	Weekly, and when required	At the end of the day of the inspection.	N/A	Site Inspection Checklist (Section 7.8) Corrective Action Requests (Section 7.6)
Cleaning Activities and Housekeeping	Alyce Wing or Steve Utloy	Daily	Daily	As required for cleaning process	N/A	N/A
Odour						
Installation of Odour Control System	Alyce Wing or Steve Utloy	Upon installation of the two-stage biofiltration odour control system.	Upon Approval	Approximately 3 days after installation begins.	N/A	Documentation from installer, supplier, and manufacturer
Maintenance of Odour Control System	Alyce Wing or Steve Utloy	As described in maintenance documentation.	As per schedule	As required by technician	N/A	Documentation from supplier, and manufacturer
Failure of Odour Control System	Alyce Wing or Steve Utloy	When a failure of the two-stage biofiltration system occurs.	When failure occurs	As required by technician	Contact manufacturer Immediately	Documentation from maintenance company, supplier, and/or manufacturer
Review of the Odour Management Plan	Alyce Wing or Steve Utloy	Upon commissioning of operations and every month after the commissioning date for 12 months.	As per schedule	Once a year, or as required by the consent authority	N/A	Complaints Register Form (Section 7.4). Corrective Action Form (Section 7.6).
Initiate investigation as per Complaint Response Procedures	Alyce Wing or Steve Utloy	Following complaint or operation modification (i.e. “trigger event”).	Upon complaint	Issue dependent	N/A	Complaints Register, Complaint. (Section 7.4). Response Form (Section 7.4).
Odour monitoring	Alyce Wing or Steve Utloy	When requested by regulatory authority	When requested by regulatory authority	Issue dependent	N/A	Odour monitoring report produced by a suitably qualified consultant