APPENDIX 4

Before the Selwyn District Council

under: the Resource Management Act 1991

in the matter of: Proposed Private Plan Change 73 to the Operative District Plan: Dunns Crossing Road, Rolleston

and: **Rolleston West Residential Limited**
Applicant

Evidence in reply of Donovan Van Kekem (Odour)

Dated: 1 November 2021

Reference: JM Appleyard (jo.appleyard@chapmantripp.com)
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EVIDENCE IN REPLY OF DONOVAN VAN KEKEM

INTRODUCTION

1 My name is Donovan Van Kekem and I presented evidence on Tuesday 28 September 2021 at the hearing for Plan Change 73 (*PC73*).

2 My expertise and other relevant information are set out in my brief of evidence dated 13 September 2021. This brief of evidence provides comments in reply to matters raised since my appearance at PC73, having now heard the evidence of others (and in particular Mr Bender, Mr Boyd, and Mr Murray for the Council.)

COMMENTARY

3 I have been asked, in response to comments made by Mr Boyd, to provide further context to the recent air discharge consent application for the Pines Resource Recovery Park (*PRRP*).

4 As discussed in my evidence in chief I was engaged by Environment Canterbury as the technical peer reviewer of the recent Section 127 application to amend Condition 1 of the historic air discharge consent (CRC190492) and subsequent air discharge consent application for the PRRP composting operation (CRC211594).

5 It is my understanding that Mr Andrew Boyd is concerned that as the PRRP composting operation grows to meet the increased demand due to the population growth in Selwyn and government directives to divert organic waste away from landfills, there will be an increased risk of nuisance odour effects beyond the boundary of the site and within the Holmes Block.

6 I contend that this growth and the subsequent potential for adverse effects on the Holmes Block was specifically addressed in the recent air discharge consent application(s) for the following reasons.

7 In the Section 127 change of condition application Selwyn District Council's (SDC) planning consultants determined that the removal of a numerical limit on the amount of compost which could be processed on-site would result in "less than minor adverse effects" (see Page 6 of the Town Planning Group (TPG) assessment attached as **Appendix 1**). In this TPG assessment the existing environment is specifically assessed, and the focus is on sensitive receptors within 500 m. However, I note that the closest receptors beyond this distance were also identified and considered, this included the receptors which would be permitted under the current Living 3 zoning.

8 The TPG report relies on a technical report provided by Specialist Environmental Services (SES) dated 26th June 2020 (attached as **Appendix 2**) which considered that a separation distance of 500 m

was appropriate without a numerical limit on the amount of compost that could be processes on site. This SES report also states "*that a gradual increase in scale of composting operations (as the district grows) has not, and is not likely to, result in adverse effects*".

9 The increase in the composting rate was specifically acknowledged and assessed as not being likely to result in adverse odour effects beyond the site boundary in the following reports which supported various consent applications by SDC:

9.1 The SES assessment report which supported the application for the original consent (CRC190492) dated 19 July 2018[1];

9.2 The technical peer review of the AEE for the original consent (CRC190492) undertaken by Golder Associates (attached as **Appendix 3**);

9.3 The TPG assessment of environmental effects (AEE) which supported the original consent (CRC190492) (attached as **Appendix 4**);

9.4 The TPG assessment in support of the CRC190492 Consent Condition 1 change (**Appendix 1**); and

9.5 The SES technical report dated 26th June 2020 (**Appendix 2**).

10 All of the above reports also specifically acknowledged and assessed the potential for effects on the Living 3 zoned Holmes Block despite those houses not being built yet.

11 These reports determined that the potential for adverse odour effects from the composting operation as it grew over time in response to the growth of the region was low, as long as the operation remained in the areas marked on the maps which supported the application and was undertaken in accordance with the odour and dust management plan (*ODMP*) which formed part of the applications.

12 During my review of the recent consent applications, in my professional opinion I considered that it was not appropriate to have an air discharge consent for a composting operation which had no limit on the volume of compost which is composted. This would not be consistent with other similar consents in Canterbury. I also considered that the ODMP and historic consent conditions did not contain sufficient detail to ensure that the operation would be operated in accordance with industry best practice standards.

13 As such, I provided expert advice to Environment Canterbury and SDC on aspects of the operation and associated ODMP which could

[1] SES Report: "*Assessment of Effects of Discharges into Air from a Composting Operation. Selwyn District Council Pines Resource Recovery Park, Rolleston*" dated 19 July 2018

be improved to meet industry standards. I also worked with SDC and Environment Canterbury to develop consent conditions which were appropriate and ensured that the operation was operated within the bounds of what had been assessed by the various technical experts.

14 Some of the preliminary advice I provided to SDC and Environment Canterbury after my initial site visit is attached as **Appendix 5**. You will note that this advice included additional controls around; leachate management, windrow monitoring, raw material mixing, contingency measures, etc.

15 Following extensive communications back and forth between NZ Air, SDC and TPG, the ODMP and consent conditions were finalised. I note that Mr Boyd was involved in these discussions and was the SDC representative who signed the final version of the current consent (CRC211594) conditions. Likewise, there were multiple versions of the ODMP which was revised with my expert input.

16 At the hearing Mr Boyd discussed upset conditions which in his opinion had the potential to result in adverse odour effects at the Holmes Block. These included anaerobic pockets in the windrows and the windrows getting 'wet feet' (the base of the windrow becoming waterlogged due to insufficient leachate drainage).

17 These instances were specifically addressed in my expert advice to SDC and as such additional controls were included in the revised ODMP (the consented version of which is attached as **Appendix 6**). Specific odour management measures for these occurrences are included in Section 3 of the ODMP with contingency measures being listed in Section 2 (paragraph 2.41 onwards). These measures involve limiting material disturbance activities during upset conditions, which could release offensive odour, to times when the wind is not blowing towards the nearest off-site receptors (including the Holmes Block). Note that south westerly winds are infrequent so the practicality of undertaking these high risk activities under alternate wind conditions is reasonable. The control measures also include actions which will limit and resolve the odour emissions from these upset conditions such that they occur infrequently and for short durations.

18 Therefore, Mr Boyd's concerns that odour discharges from upset conditions could travel to the Holmes Block subdivision and result in adverse effects are specifically addressed and mitigated in the ODMP (which is linked into the consent via Consent Condition 20).

19 For the reasons I have outlined above, I consider that Mr Boyd and Mr Bender's concerns that upset composting conditions will result in adverse effects on the proposed Holmes Block subdivision have limited validity. I also consider that they are contrary to all of the evidence supplied in support of the recent consent applications and associate technical reviews.

20 Finally, Mr Boyd is advocating for a 1,000 m buffer/separation distance between the composting operation and the dwellings within PC73. It is not clear what his evidential basis for this setback is.

21 Notwithstanding all of the above, having listened to the expert evidence presented at the hearing and associated answers to questions asked by the commissioner, my opinions and associated conclusions have not changed. I remain of the opinion that there is a low potential for adverse odour effects at the Holmes Block even if it is re-zoned to Living Z. If anything, I consider that there will be a lower potential for adverse effects due to the removal of up to four dwellings within the proposed 600 m setback distance.

Dated: 1 November 2021

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Donovan Van Kekem

APPENDIX 1

30 July 2020 OUR REF: 2356-19

Richard Purdon
Principal Planner
Environment Canterbury
PO Box 345
CHRISTCHURCH

VIA EMAIL: ecinfo@ecan.govt.nz

Dear Richard,

APPLICATION TO CHANGE CONDITIONS OF CRC190492
SELWYN DISTRICT COUNCIL, PINES RESOURCE RECOVERY PARK, 183 BURNHAM SCHOOL ROAD, ROLLESTON

Pursuant to section 127 of the Resource Management Act 1991 ('**RMA**'), Selwyn District Council (the '**Applicant**') hereby submit a request to vary the consent conditions of CRC190492 to discharge contaminants to air at The Pines Resource Recovery Park, Rolleston ('**the site**').

This application addresses matters which are relevant to the consideration of a variation to a resource consent and includes an assessment of environmental effects in such detail that corresponds with the scale and significance of the effects of the proposed changes. Payment of the appropriate deposit fee ($1,200) will follow immediately upon receipt of an invoice and the allocated consent reference. A completed application form is enclosed as **Attachment [A]**.

1 INTRODUCTION

The Applicant owns and operates a municipal waste transfer station known as the Pines Resource Recovery Park, located in Rolleston. The operations on site include outdoor composting facilities as required to process organic waste received via kerbside collection and 'green waste', which is typically garden waste brought to the facility. The original air discharge permit was granted in 2004 and assigned the reference CRC041489.

In September 2018, a variation to CRC041489 was granted to change the method of composting at the site, with this assigned the reference CRC190492 (**Attachment [B]**). The intent of the variation was to alter the composting methodology in order to increase the efficiency of the operation noting the continued growth in Selwyn, and to ensure the site is able to manage the seasonal variation in the volume of organic waste received at the site. Since this time, and in relation to the processing of a stormwater consent application at the site, it has been suggested that the maximum volume of compost able to be processed at the site is still limited to approximately 2000 tonnes[1], with this volume referenced in the text of the original air discharge application[2]. It has been clear from the outset that the volume of organic material processed onsite at the time of the variation request (CRC190492) exceeded the 2003 application volume of 2000 tonnes.

The Applicant is of the opinion that there is no limit on the volumes of compost processed at the site, noting; there is no specific consent condition restricting the volume, the changes sought by CRC190492, and comments within the s42A Report[3] and Peer Review[4] associated with CRC190492 which confirmed the consent was not limited in terms of volumes. In any event, in order to ensure clarity moving forward, the present application seeks to amend Condition 1 of CRC190492 so as to refer to the present application, and clearly identify that there is no limit in the volume of compost processed at the site, subject to appropriate management of activities on site as per the existing consent conditions.

The following sections provide the details of the site and the proposed change, along with the potential effects of the same. As the background information for the site has been provided in the original consent application and CRC190492, the present application instead focuses on the proposed amendment.

2 SITE AND SURROUNDS

The site is located at 183 Burnham School Road, Rolleston and is legally described as Section 1 SO 317609 as contained in Computer Freehold Register 77016, a copy of which is enclosed as **Attachment [E]**. The site is generally flat with a drain running along the eastern boundary. A range of native vegetation and shelterbelt planting (pine trees) is established along the boundaries of the site. The site is shown in Figure 1 below.

[1] By reference to the text '*as described in the application*' under Condition 1 of CRC190492.
[2] SDC Rolleston Resource Recovery Park Air Discharge Permit Application, 18 December 2003, p5 and p11.
[3] S42A Officers Report for CRC190492, M Harrison, 28 August 2018, paragraph 33 "*…the size of the activity is likely to increase (although this is allowed in the existing consent)"* (**Attachment [C]**).
[4] Golder Technical Peer Review, M McCauley, 20 August 2018, p2 "*… The existing resource consent does not limit the amount of material composted on site nor is it limited to the application documents. It is likely that with growth in the Selwyn District, the amount of compost will continue to increase"* (**Attachment [D]**).

As described above, the site is a municipal transfer station owned and operated by the Selwyn District Council. The facility receives and processes household waste received from the whole of the Selwyn District, including recycling and organic waste.

Figure 1: Site Location Plan (Google Earth)

The Recovery Park is located in a predominantly rural area located approximately 1.5km to the west of Rolleston. The surrounding land uses are predominately rural farming activities with a small number of rural lifestyle properties in the vicinity. The Pines Wastewater Treatment Plan is located to the west. It is noted that there has been no change in terms of the proximity of potentially sensitive receptors to the Recovery Park since the processing of CRC190492.

3 PROPOSED CHANGES TO CRC190492

As identified in Section 1, in order to ensure the continued and future efficient operation of the composting activities on site, it is proposed to amend Condition 1 of CRC190492 so as to clearly record the 'application' referred to in Condition 1 is that associated with CRC190492 and the present application. As a consequence, the proposed amendments will serve to confirm there is no limit on the volume of compost processed at the site, subject to meeting the existing consent conditions of CRC190492, including for example the requirements of the Odour and Dust Management Plan ('**ODMP**').

In order to reflect the above, the following changes are proposed to Condition 1 of CRC190492 (text to be deleted as ~~strikethrough~~ and text to be added as **bold and underlined**):

> ***Condition 1:***
> *"The discharge shall be from collection, storage and transfer of waste materials and composting on a site between Burnham School Road and Brookside Road, Rolleston,*

*described as Section 1 Survey Office Plan 317609 (Certificate of Title 77016) at or about map reference NZTM2000 1546997 mE, 5170677 mN, as described in the application**s CRC190492 and CRC XXX**."*

No other changes to the conditions of CRC190492 are considered necessary.

4 ASSESSMENT OF PROPOSED CHANGES

Section 127 of the RMA sets out the requirements for applications to change or cancel conditions of resource consents.

Section 127(3)(a) of the RMA requires that applications for changes to resource consent conditions be presented as if the application were for a discretionary activity, and thus an assessment of any effects that the proposed changes may have on the environment in accordance with Section 88 and the Fourth Schedule to the RMA follows.

Section 127(3)(b) stipulates that only the change of conditions and the resultant potential effects of these changes are to be considered.

Section 127(3) forms the first of two limbs of the test for the application. The second limb of the test is described in section 127(4), where it is stated that the local authority must consider the effects of the changes upon any affected parties.

4.1 ASSESSMENT OF ENVIRONMENTAL EFFECTS

With regards to the abovementioned statutory requirements, we note the proposal is for only a relatively minor amendment to Condition 1, with this not considered to give rise to any material difference in the actual and potential environmental effects of the operations compared to that considered as part of CRC190492. It is appropriate that this assessment of effects on the environment is therefore concise and focussed on the key effects as corresponds to the scale of the proposed changes, with the existing assessments submitted as part of CRC190492 remaining to be relevant. However, for completeness, we provide the following further assessment.

The primary effects that may arise from the removal of any volume limit on the compost processed at the site is that relating to odour and dust experienced by nearby sensitive receivers. To determine whether the removal of the volume limit will give rise to any significant adverse effects, an assessment was undertaken by Specialist Environmental Services Limited ('**SES**'), with this enclosed as **Attachment [F]**. The overall conclusion of this assessment is as follows:

"…the separation distances to neighbouring dwellings are sufficient to prevent adverse odour effects. Providing composting of greenwaste and kerbside organic material occurs within the area designated and in the manner prescribed by the ODMP, a specific limit on the quantity of compost produced is not considered to be necessary. The existing consent conditions are

> *considered to be adequate to control any dust and odour effects associated with the composting operation"*

With respect to the above, it is considered that the separation distances between the subject site / composting activity area to nearby sensitive receptors is the most effective method of managing adverse effects. As outlined in the SES Report, the separation distances between the subject site and nearby sensitive receptors have not changed since the processing of CRC190492, with a single new building platform and dwelling consented, but not yet established, some 600m from the active composting area. To this end, for the reasons outlined in the SES Report, there are no new sensitive receptors likely to be affected by the proposed changes.

The existing and unchanged consent conditions of CRC190492 provide a comprehensive approach to managing the actual and potential effects of activities on site, a critical aspect of which is the ODMP (enclosed as **Attachment [G]**) as required by Condition 13. No changes are considered necessary to the ODMP as part of the present application, with the ODMP an adaptive and live document able to be amended in response to any changes in effects of operations on site. In this regard, Condition 12 of CRC190492 requires any changes made to the ODMP to be submitted to ECan for approval prior to implementation. Further to this, the existing consent conditions prescribe appropriate monitoring and review procedures, with these considered sufficient in terms of the ability to respond to any actual or potential adverse effects arising from a gradual and continued increase in composting volumes at the site.

As identified in the SES report, and as confirmed by correspondence with the ECan Monitoring and Compliance Team, there have been no complaints recorded in relation to the composting activities on site, with this considered to demonstrate a high level of onsite management and control of the activities on site. Further to this, the Golder Technical Peer Review undertaken as part of the processing of CRC190492 (**Attachment [D]**) concurred with the assessment method and proposed mitigation measures (e.g. ODMP), and concluded that:

> *"the site is well-separated from nearby dwellings, and appropriate management practices are proposed including the minimisation of windrow turning under key wind conditions. In addition, the existing activity (which already includes the outdoor processing of active material) does not appear to be generating substantial odour other than near to freshly-turned active piles".*

The present proposal does not seek any changes to the management and mitigation practices on site as identified in CRC190492, with these considered appropriate and suitable in terms of their ability to manage future increases in composting volumes on site.

Overall, for the reasons outlined above, the proposed removal of a volume limit from CRC190492 is not considered to give rise to any material change in adverse effects on the environment from that considered and authorised by CRC190492. The windrow composting system was found to operate efficiently with little impact on the surrounding environment, as evidenced by the lack of complaints from neighbouring sensitive receptors. The ODMP has and will continue to be an effective tool for managing odour and dust, ensuring that any increase in waste received will continue to be managed effectively and efficiently without resulting in an increase in odour discharge. To this end, the existing consent conditions, and

the ODMP, will ensure the amenity of nearby sensitive receptors is maintained taking into account future growth in composting volumes on site, with any adverse effects considered to be less than minor.

4.2 OBJECTIVES AND POLICIES

Given the discrete and focused nature of the proposal, the most relevant planning document is considered to be the Canterbury Air Regional Plan ('**CARP**'). Policy 6.8 of the CARP is relevant and reads as follows:

> *Offensive and objectionable effects are unacceptable and actively managed by plan provisions and the implementation of management plans.*

As evident from the SES Assessment enclosed as **Attachment [F]**, the composting operations on site are able to be managed effectively to avoid and mitigate the potential for offensive and objectionable dust and odour emissions, with the ODMP a key management document in achieving this.

Other relevant CARP provisions include Objectives 5.6 and 5.7, which identify the need to ensure the amenity values of the receiving environment are maintained, and that discharges take account of adjacent land uses, including sensitive activities. For the reasons outlined, the management techniques described in the ODMP (**Attachment [G]**) are capable of taking into account the presence of nearby sensitive receivers, and serve to appropriately maintain the amenity of the receiving environment.

4.3 POTENTIALLY AFFECTED PARTIES

CRC190492 was processed and granted on a non-notified basis. The present proposal is not considered to give rise to any material change in adverse effects compared to that considered and authorised via CRC190492. Further, the existing consent conditions and ODMP provide appropriate controls to manage any adverse effects arising from future volume increases on site. Accordingly, it is considered there are no potentially affected parties to the proposed change, with the same able to be processed on a non-notified basis, consistent with that process for CRC190492.

5 RESOURCE MANAGEMENT ACT (1991)

5.1 SECTION 5, PURPOSE AND PRINCIPLES

The purpose of the RMA, as set out under section 5 (2) is to promote the sustainable management of natural and physical resources. The relevant matters in Sections 6, 7 and 8 of the RMA also require consideration. There are no matters of national importance under Section 6 that need to be recognised and provided for in this application.

The RMA specifies that regard must be had to the relevant matters listed in section 7. The relevant matters include:

> *(b) The efficient use and development of natural and physical resources.*
> *(c) The maintenance and enhancement of amenity values.*
> *(f) Maintenance and enhancement of the quality of the environment.*

The proposed changes will continue to provide for the activities authorised by CRC190492 in a manner that efficiently utilises natural and physical resources and maintains amenity values within the surrounding environment. The proposed changes ensure the needs of the community can be met now and into the future, with waste able to be processed in an efficient and effective manner for the District.

There are no matters under Section 8 that require consideration with respect to this application. The site is not identified or otherwise known to be of any cultural significance as outlined in the CARP or other relevant planning documents.

For the reasons outlined in this report, the proposal is consistent with the purpose and principles under Section 5, and the associated matters under Part 2 of the RMA. The proposal represents an efficient use of the natural and physical resource and will be undertaken in a manner which avoids, remedies and mitigates potential adverse effects on the environment. It is considered that the proposal is consistent with the purpose and principles of the RMA and accords with the definition of sustainable management.

5.2 SECTION 127, CHANGE OR CANCELLATION OF CONSENT CONDITIONS

Section 127 of the RMA sets out the requirements for applications to change or cancel conditions of resource consents:

> *(1) The holder of a resource consent may apply to a consent authority for a change or cancellation of a condition of the consent, subject to the following:*
> *…*
> *(b) no holder of any consent may apply for a change or cancellation of a condition on the duration of the consent…*
> *(3) Sections 88 to 121 apply, with all necessary modifications, as if—*
> *(a) the application were an application for a resource consent for a discretionary activity; and*
> *(b) the references to a resource consent and to the activity were references only to the change or cancellation of a condition and the effects of the change or cancellation respectively.*
> *(4) For the purposes of determining who is adversely affected by the change or cancellation, the local authority must consider, in particular, every person who—*
> *(a) made a submission on the original application; and*
> *(b) may be affected by the change or cancellation.*

We note that in 'Body Corporate 97019 v Auckland City Council (2000 NZRMA 202)' it was determined that:

> *"In deciding whether an application for variation is in substance a new application, the consent authority should compare any differences in the adverse effects likely to follow from the varied proposal with those of the activity in its original form. Where the variation would result in a fundamentally different activity, or one having materially different adverse effects, a consent authority may decide the better course is to treat the application as a new application"*

For the reasons outlined in Section 1 and 4, it is considered that the proposed changes do not result in an activity that is materially different in nature to that approved by CRC190492, and there are no significant differences in adverse effects on the environment compared to those authorised under the same. The comprehensive range of consent conditions, including the ODMP, serve to ensure appropriate controls are in place to manage the actual or potential environmental effects of the composting activities on site, irrespective of the volumes of compost processed on site. As such, it is considered the proposed changes can be treated as a variation to the original consent under s127 of the RMA.

6 CONCLUSION

The Applicant proposes a minor change to Condition 1 of CRC190492 so as to clearly record there is no limit on the volume of compost processed at the site, subject to meeting the existing consent conditions of CRC190492. This application has addressed all of the assessment criteria relevant to the proposal and concludes that any potential adverse effects of the proposed changes are insignificant, and there are no parties considered to be adversely affected by the proposed changes.

Consequently, the proposed changes should be approved since they represent only minor changes to the approved activity, which has been deemed to be in accordance with the purpose of the RMA.

If you have any queries regarding the enclosed, please do not hesitate to contact the writer in the first instance.

Yours sincerely
Town Planning Group

Anita Collie
Senior Planner

Encl: [A] Application Form
[B] CRC190492
[C] CRC190492 S42A Report
[D] CRC190492 Golder Technical Peer Review
[E] Record of Title
[F] SES Technical Assessment Report
[G] Odour and Dust Management Plan

APPENDIX 2

SES
Specialist Environmental Services Ltd
15 Fort Pl, R.D.2 Wanaka 9382 Ph. 027 437 9044

26th June 2020

Selwyn District Council
PO Box 90
Rolleston 7643

Attention: Mr Andrew Boyd

Dear Andrew

Re: Assessment of Effects of Odour and Dust from Windrow Composting at Pines RRP, Rolleston – Update to Consider any Requirement for Volume Restrictions

Thank you for your instructions to provide additional comments regarding the assessment of air quality effects associated with the composting operation undertaken at the Pines RRP in Rolleston.

Background

Specialist Environmental Services Limited (**SES**) prepared an assessment of effects of discharges to air from the composting operation in July 2018. That report (the **SES Report**) concluded that the mitigation measures proposed were designed to ensure that any adverse effects beyond the site boundary would continue to be minor. Consent CRC190492 was granted by Environment Canterbury in 2018, subject to several conditions. The conditions that have particular relevance to the control of odour and dust emissions from the composting operation are as follows:

2. a. All organic materials and residual waste that are likely to cause odour nuisance if left in the waste pit overnight shall be removed from the waste pit and put into enclosed containers at the end of each working day.
b. Organic material (excluding wood, paper/cardboard and garden waste) shall not be held unprocessed at the site for more than 24 hours during normal operation. In the event that processing ceases for more than 24 hours, measures described in the Odour and Dust Management Plan shall be implemented to prevent odour nuisance…

5. The following wastes shall not be accepted at the site: a. Biosolids (sewage sludge);

b. Material which, if accepted, are likely to result in odour nuisance beyond the boundaries of the site.

6. The following dust control measures shall be applied, as necessary, to minimise the discharge of dust from the site:
a. Sweeping of sealed surfaces;
b. Restricting vehicle speeds;
c. Planting and maintaining vegetation around the perimeter of the site; and
d. Applying water to the compost static piles and any other potentially dusty surfaces during dry, windy conditions…

9. The consent holder shall, prior to the operation of the Resource Recovery Park, produce a Resource Recovery Park Management Plan. The Management Plan shall provide details of the procedures to be put in place to operate the resource recovery park in compliance with conditions of this consent and any associated resource consents, and minimise the potential for adverse effects due to the operation of the resource recovery park. The Management Plan shall contain information addressing the following areas:
a. Management
b. Design and Construction
c. Operations
d. Monitoring and Contingency Procedures

10. The consent holder shall complete a review of the Management Plan in accordance with the review period specified in the Management Plan, to ensure that management practices result in compliance with the conditions of this consent, and minimise the potential for nuisances and adverse effects occurring from the operation of the resource recovery park.

11. Composting on site shall not include matter which is from an industrial or trade process with the exception of saw dust or other similar material to be used for odour management.

12. Composting shall be undertaken in general accordance with the Odour and Dust Management Plan (ODMP) submitted with the application. The ODMP may be updated, provided any revisions are provided to the Canterbury Regional Council prior to implementation, for certification that revisions achieve compliance with the conditions of this consent.

13. This consent shall be exercised in accordance with the ODMP.
The ODMP shall include the measures that will be taken to ensure compliance with the conditions of this consent, including but not limited to:
a. A description of the composting operation;
b. A description of the measures to be undertaken to achieve compliance with the conditions of this consent;
c. Odour management procedures;
d. Dust management procedures;

e. Monitoring procedures;
f. Complaints and response procedures; and
g. Details of contingency measures that will be taken in the event of odour or dust becomes offensive or objectionable beyond the boundary of the property on which the discharge permit is exercised.

14. The discharge shall not cause odour or particulate matter (including pathogenic material) which is offensive or objectionable beyond the boundary of the property on which the consent is exercised.

Condition 15 requires that the volume of compost (in cubic metres) produced during each year be recorded. There is no volume limit specified in the consent conditions. However, Condition 1 states that the activity shall be undertaken "as described in the application.

Updated Assessment

The SES Report assessed the effects of the windrow composting operation with reference to the mitigation proposed in the ODMP, the existing complaints record, the location of sensitive receptors (dwellings) and local meteorological conditions. A discussion of evaluation distance guidance is provided at Section 4.1.2 of the report, based on recommendations from various sources in Australia and New Zealand. Table 1 of the SES Report is reproduced below.

Source	Evaluation Distance	Comments
Emission Impossible 2012[1]	500m 1500m	Green waste Animal or human waste
Victoria EPA 2017[2]	600m 1100m	Green waste up to 1200 t/yr Green waste up to 14,000 t/yr
South Australia EPA 2016[3]	1000m	>200 t/yr
Western Australia EPA 2005[4]	150m 500m 1000m	Green waste Biosolids Manures, mixed food/putrescible & vegetative food waste

Table 1. Odour evaluation distances recommended in Australia and New Zealand. *(from the SES Report)*

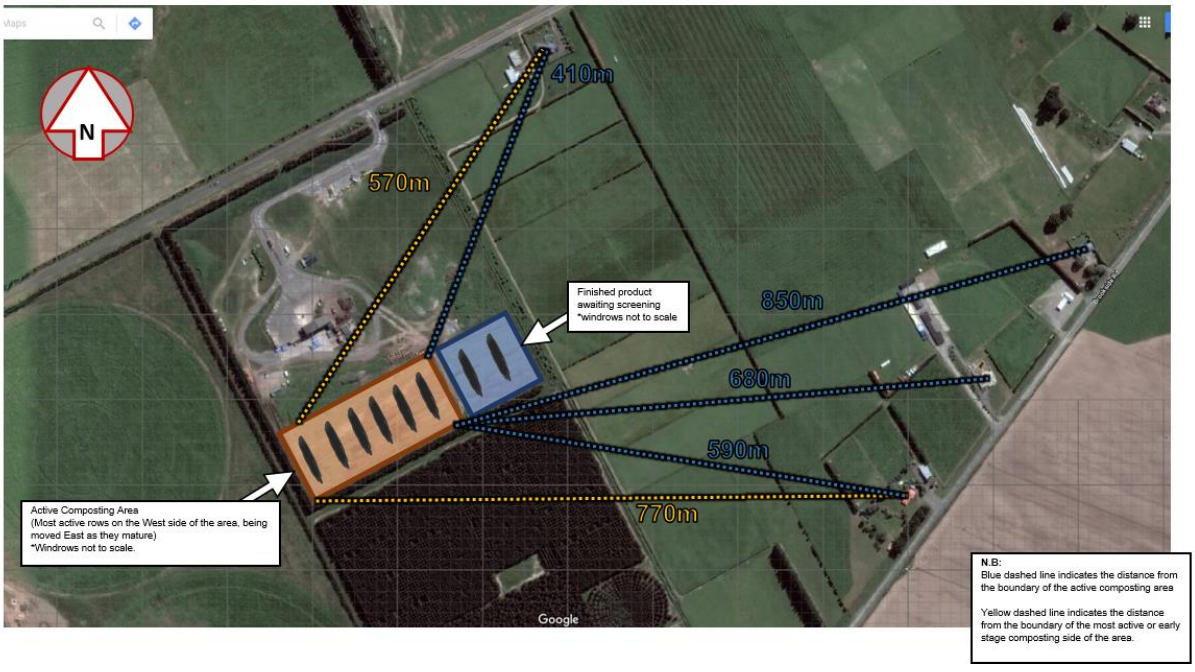
[1] Emission Impossible Ltd. 2012. Separation Distances: A Discussion Document. Prepared for Auckland Council, July 2012.
[2] Environment Protection Authority Victoria, 2017. Designing, Constructing and Operating Composting Facilities: Guideline. Publication 1588.1, June 2017.
[3] Environment Protection Authority South Australia, 2016. Evaluation Distances for Effective Air Quality and Noise Management. August 2016.
[4] Environment Protection Authority Western Australia, 2005. Separation Distances between Industrial and Sensitive Land Uses. June 2005.

A comprehensive Odour and Dust Management Plan (**ODMP**) was prepared at the time of the consent application. The ODMP included input from SES and Town Planning Group (**TPG**). The ODMP details specific measures to be taken to control odour and dust emissions, including acceptable materials (kerbside organics and green waste), windrow monitoring and turning procedures, contingency measures, monitoring and complaints procedures. Annual review of the ODMP is undertaken.

Based on analysis of the proposal and the nature of the receiving environment, the SES Report concluded that an initial evaluation distance in the order of 500m from the active composting area is appropriate. This separation distance was recommended for planning purposes by Emission Impossible Ltd to the Auckland Council in relation to green waste composting operations and is based on the type of material composted (green waste) rather than the scale of operation. The SES Report noted that the composting operation at that time produced approximately 4200 tonnes per year of compost, but did not reach a final conclusion regarding odour effects based on any proposed scale limit for the operation.

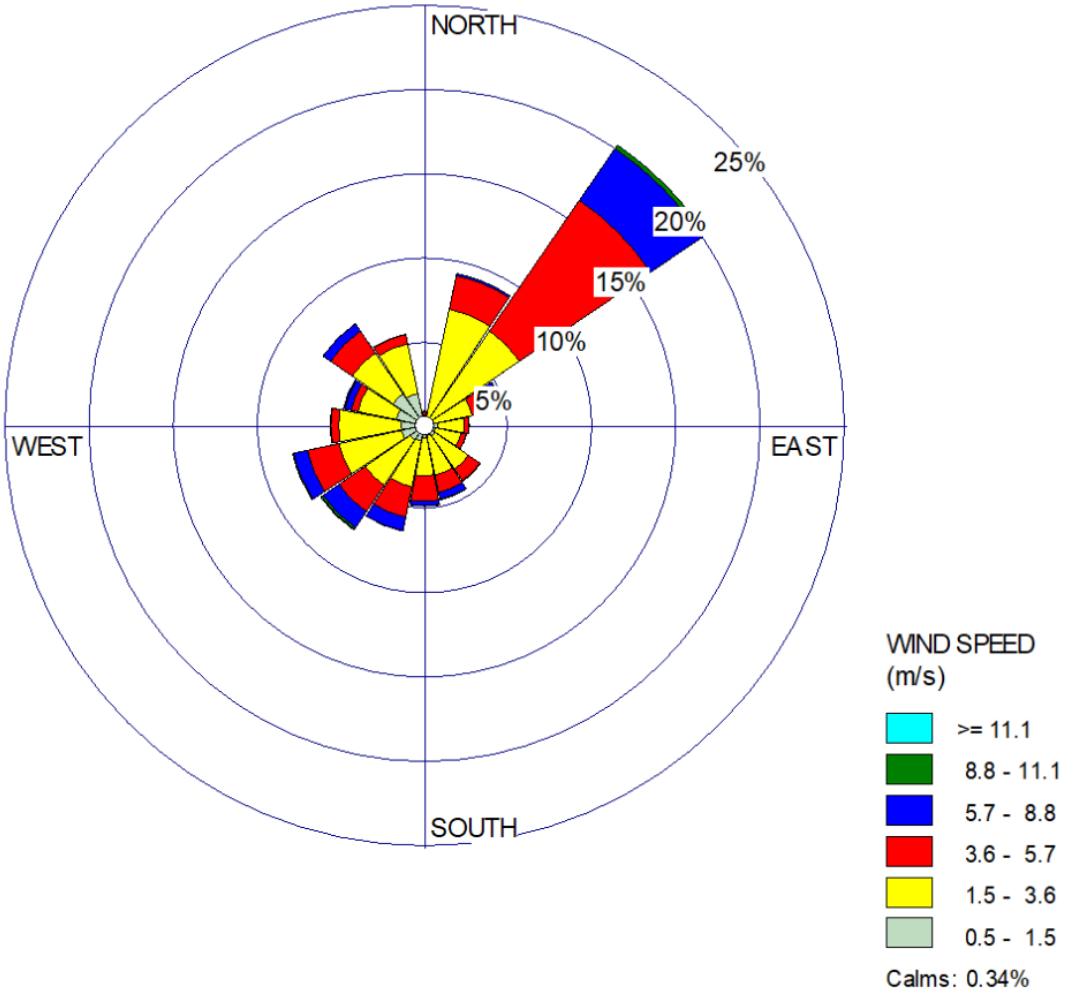
The separation distance from the active composting area to existing dwellings is shown in Figure 4 of the SES Report, reproduced below.

Pines RRP Consent Variation – Proximity to Potentially Sensitive Receptors



There are four rural dwellings located within 1000m of the area designated for active composting. The approximate minimum separation distances to these rural dwellings are 410m to the northeast of the site, 590m to the southeast, 680m and 850m to the east.

Consideration of local wind conditions was of particular relevance to the conclusions reached in the SES Report. The wind rose from the report (all hours, June 2017-May 2018) is reproduced below. The rose shows the prevalence of north-easterly winds that will blow odour and dust away from the nearest sensitive receptors.



Taking into account the nature of the composting operation and the local wind conditions, SES remains of the opinion that the separation distances to neighbouring dwellings are sufficient. Providing composting occurs within the area shown in the report and in the manner prescribed by the ODMP, a specific limit on the quantity of compost produced is not considered to be necessary.

TPG have analysed the potential for any future residential development in the vicinity of the composting operation. They note that there have not been any changes in the District Plan zoning around the vicinity of the site from that previously considered as part of CRC190492 and the SES Report dated July 2018. The surrounding land remains

zoned Rural Outer Plains or Living 3 (Holmes Block). Further, there have been no changes to the minimum density/allotment size standards associated with both zones. TPG also note that Living 3 (Holmes Block) Zone includes an '*odour control setback area*' along the western boundary. TPG have not identified any additional dwellings built within 500m of the active composting area, nor have they identified any consents granted for dwellings within this zone.

TPG further note that they have identified a resource consent (195366) granted in July 2019 authorising a new building platform and a dwelling located along Burnham School Road on Lot 1 DP 399793. However, the allotment itself is approximately 600m to the northeast of the active composting area. The approved plan shows the dwelling located in the north-eastern corner of the site, increasing the separation distance from the composting area. The estimated distance from active composting to a future dwelling established on this lot is in the order of 800m.

The analysis provided by TPG indicates that the separation distances from the composting area to neighbouring dwellings are likely to be maintained. Environment Canterbury has confirmed that there have not been any complaints relating to odour emissions from the existing composting operation. As noted in the SES Report, one complaint in 2016 is likely to have related to dour from the adjacent sewage treatment plant. The complaints record supports the conclusion that a gradual increase in scale of composting operations (as the district grows) has not, and is not likely to, result in adverse off-site effects.

The assessment provided in the SES Report was reviewed by Golder Associates in 2018. In reaching a conclusion regarding effects, the Golder review acknowledged the expected increase in scale of the composting operation over time.

It is noted that the conditions of consent CRC190492 include a standard review condition. In the unexpected circumstance of verified odour complaints arising due to a future increase in scale of the composting operation, there is provision for Environment Canterbury to review the conditions of consent.

<u>Concluding Comments</u>

Taking into account the nature of the Selwyn District Council's Pines composting operation and the local wind conditions, SES concludes that the separation distances to neighbouring dwellings are sufficient to prevent adverse odour effects. Providing composting of greenwaste and kerbside organic material occurs within the area designated and in the manner prescribed by the ODMP, a specific limit on the quantity of compost produced is not considered to be necessary. The existing consent conditions are considered to be adequate to control any dust and odour effects associated with the composting operation.

The analysis provided by TPG indicates that the separation distances from the composting area to neighbouring dwellings are likely to be maintained in future. The

complaints record supports the conclusion that a gradual increase in scale of composting operations (as the district grows) has not, and is not likely to, result in adverse effects. Should complaints or monitoring indicate odour nuisance effects at some time in the future, Environment Canterbury has the ability to review the conditions of consent.

Please feel free to contact the author directly if you require any clarification of the above matters.

Yours sincerely

John Iseli
Principal Air Quality Consultant

cc: Daniel Thorne
daniel@townplanning.co.nz

APPENDIX 3

GOLDER

20 August 2018 Reference No. 1791554-7403-007-LR-Rev0

Matthew Harrison
Environment Canterbury
PO Box 345
Christchurch

CRC190492, SELWYN DISTRICT COUNCIL, REVIEW OF AIR QUALITY EFFECTS ASSESSMENT

Thank you for engaging Golder Associates (NZ) Limited (Golder) to review the assessments and management plan related to application CRC190492 by Selwyn District Council (SDC) to change the conditions of resource consent CRC041489, for discharges to air from a composting plant at the Pines Resource Recovery Park (PRRP), Rolleston.

As set out in Golder's email proposal of 3 August 2018, the scope of this letter[1] is to review:

- The odour assessment method, results and conclusions.
- The proposed odour mitigation measures contained in the management plan.
- Overall effects conclusions.

The scope of the review was extended by agreement between Canterbury Regional Council and Golder on 14 August 2018, to include the effects of dust and pathogenic micro-organisms.

To undertake this work, Golder has reviewed:

- The overall application document: *"Application for Resource Consent to Environment Canterbury: Selwyn District Council. Variation to CRC041489 – discharge contaminants to air at The Pines Resource Recovery Park, 183 Burnham School Road, Burnham."* Prepared by Town Planning Group (TPG) and dated 19 July 2018. (The application)
- The "*Assessment of Effects of Discharges into Air from a Composting Operation. Selwyn District Council Pines Resource Recovery Park, Rolleston."* Prepared by Specialist Environmental Services Limited and dated 19 July 2018. (The air discharge assessment (ADA)).
- *"The Pines Resource Recovery Park: Odour and Dust Management Plan. Selwyn District Council. Revision A."* Prepared by TPG and dated 17 July 2018. (The ODMP).

[1] This letter is provided subject to the attached report limitations.

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1.0 INTRODUCTION

The PRRP site location, receiving environment and site processes are all described in the application and ADA and it is assumed that the reader of this letter is familiar with the application documents and ODMP. The key points from the application and ADA (along with some additional comments) are:

- The composting site is located on Burnham School Road, Rolleston and is part of the larger PRRP.
- Composting is currently undertaken using a "Hot Rot" in-vessel composting system, followed by two to three months of open air composting in windrows. The Hot Rot system discharges to air via a biofilter.
- The application is to change the resource consent conditions to remove the Hot Rot processing and biofilter and move completely to an open windrow composting system with a minimum processing time of 12 weeks. The site is currently receiving more material than the Hot Rot units can process, and SDC considers that they are not cost-effective. Because the Hot Rot system has insufficient capacity for existing needs, the site is already fully-processing some compost using windrows.
- According to the ADA, the site is currently producing compost at a rate of approximately 4,200 tonnes per year (t/y). The existing resource consent does not limit the amount of material composted on site nor is it limited in the application documents. It is likely that with growth in the Selwyn District, the amount of compost will continue to increase.
- The materials to be composted are kerbside organics (mostly garden waste and food scraps) and green waste which is mostly garden waste dropped off at the PRRP.
- The compost raw materials are first sorted by hand for gross contaminants such as plastic bags, refuse, etc, before being shredded. Under the current system they are then processed in the Hot Rot vessels and then moved to windrows (although as stated above, capacity limitations mean that overflow raw materials are now being completely composted in windrows). Under the proposed system the Hot Rot units will not be used and all shredded material will be moved immediately to an initial "active" windrow at the west end of the site. As the windrows are turned they will be shifted eastward to make room for new fresh material and as the windrows "move" eastward down the site they mature and become less active. Therefore, the key aspect of the change of conditions is the outside treatment of all active material, which was previously in part undertaken in the enclosed Hot Rot vessels.
- The highest potential for odour is from the newer, active windrows, particularly when being turned. Poor management can also result in windrows becoming odorous, exacerbating the odour impact when they are disturbed.
- The application includes the addition of an ODMP to the resource consent conditions. The content of the ODMP is discussed later in this letter.
- The site is in a rural environment, west of Rolleston. The nearest dwellings are all to the east or north-northeast of the site. The dwellings to the east are a minimum of 590 m from the area identified where early (or "active") composting will occur (on the western 2/3 of the site) and therefore having more odour potential (Figure 1). However, mature windrows will be located closer to those dwellings, and Golder estimates that the closest dwelling to the east is approximately 480 m from the nearest windrow. The dwelling to the north-northeast is approximately 410 m from the active windrows and 340 m from the mature windrows. However, Golder agrees with the ADA that the highest potential for odour discharge is from the active windrows at the west end of the site.

- A proposed subdivision to the north-northeast of the site includes an "odour control setback area" which will ensure that the separation distance in that direction will be maintained.
- The application states that there are no other dwellings within 1,000 m of the active windrows.
- The dwellings discussed above are exposed to discharges from the site during westerly and south-southwesterly winds.
- Several other odorous processes are located in the general area of the site. These include the SDC Pines wastewater treatment plant to the west, a chicken farm to the southeast, a pig farm to the west and the Burnham Military Camp wastewater treatment plant to the west. Golder notes that these sources are likely to discharge odour that is different in character to that from the composting site.

Pines RRP Consent Variation – Proximity to Potentially Sensitive Receptors

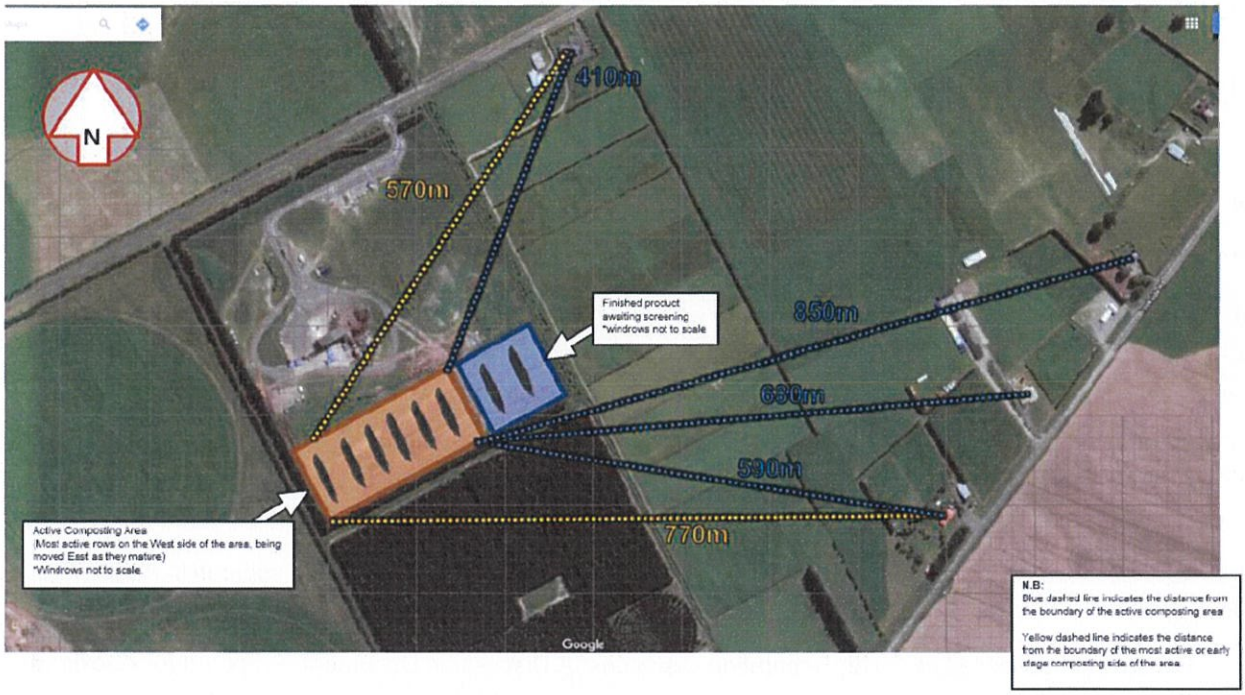


Figure 1: Locations of and proximity of site to nearest sensitive receptors (source: TPG application document, page12).

2.0 SITE VISIT

The writer visited the site on 14 August 2018. SDC and TPG staff described the site processes and a walkover of the site was undertaken, looking at the receipt and shredding area, Hot Rot units and the existing windrows, moving from active material at the west end of the site to mature windrows at the east end.

The weather was cool with a light southerly breeze, which is poorly dispersive and provides ideal conditions for odour impacts. Moderate odour was observed downwind and near to the active windrows which were

steaming and had been recently turned. This odour decreased quickly with distance from the windrows. The site is well-managed and all windrows appeared to be in good condition.

3.0 REVIEW OF THE ASSESSMENT

The ADA identifies that the main effect of the change of conditions will be odour and focusses on that discharge. However, it also assesses the effects of dust and pathogenic micro-organisms. Golder agrees that these are the main effects to be considered. The following section discusses the assessments made and their conclusions.

3.1 Odour

The ADA assesses potential odour effects using the following methods:

- The analysis of separation distances to sensitive receptors.
- Observations made during trials of the amended windrow process.
- Analysis of complaints.
- Analysis of meteorological (met) data.
- The assessment of management and mitigation measures.

The ADA states that dispersion modelling is not a useful tool to use for this assessment, given that odour effects, if they occur, are likely to be the result of upset conditions within the windrows, and reliable emissions data for upset or normal operations are not available. Golder agrees that modelling is not a suitable method to use for this assessment.

3.1.1 Separation Distances

The ADA discusses separation distance guidance from the following commonly-used sources in Australia and New Zealand:

- Emission Impossible Ltd. 2012. Separation Distances: A Discussion Document. Prepared for Auckland Council, July 2012.
- Environment Protection Authority Victoria, 2017. Designing, Constructing and Operating Composting Facilities: Guideline. Publication 1588.1, June 2017.
- Environment Protection Authority South Australia, 2016. Evaluation Distances for Effective Air Quality and Noise Management. August 2016.
- Environment Protection Authority Western Australia, 2005. Separation Distances between Industrial and Sensitive Land Uses. June 2005.

The ADA also states that these distances are best used - and often expressly published as - evaluation distances that trigger a higher level of investigation for sensitive receptors which are inside them. Golder agrees with that statement and with the separation distance criteria the ADA refers to, all of which are often used to inform assessments of this sort.

The evaluation distances considered range from 150 m to 1,000 m. The ADA has selected an evaluation distance of 500 m from the source, based on the current size of the activity of 4,200 t/y. One dwelling, to the north-northeast is located inside that distance from the active windrows

The ADA concludes that given the proposed site management practices and local wind patterns mean that the nearest dwellings to the site are adequately separated from it.

3.1.2 Windrow trials

The applicant is currently undertaking open windrow composting at the site and has also recently trialled open windrow composting which included additional materials including paunch grass and chicken litter. The trial was undertaken with the approval of Environment Canterbury during the summer 2017 to 2018 and the compost is now cured. Its purpose was to establish the impacts of composting active material in windrows and to assess the effects of including the additional materials. Although the trial included paunch grass and chicken litter, they will not be composted at the site in future and are not included in this application. The trial included approximately 1,125 tonnes of material, which is a substantial proportion of the current activity.

The ADA states that no increase in odour was detected at the site boundaries during the trial, nor were any complaints received. Therefore, it concludes that *"the proposed change to the activity is likely to be able to be undertaken without odour nuisance effects at neighbouring properties."* (ADA, page 13). It is generally difficult to make robust conclusions from complaint records. However, an absence of complaints does suggest that a given activity is not creating an adverse effect, particularly if the activity was a substantial change from what was occurring previously.

3.1.3 Complaints received

The ADA states that SDC has requested from Environment Canterbury the complaint record for the PRRP site as a whole. There is one complaint on file, but it appears that this may refer to the SDC wastewater treatment plant, as a sewage type odour was reported. The complaint was not substantiated.

As discussed above, it is generally difficult to make robust conclusions from complaint records. However, an absence of complaints does suggest that a given activity is not creating an adverse effect.

3.1.4 Analysis of meteorology

The ADA includes an analysis of wind data recorded during the period 1 June 2017 and 31 May 2018 at the Burnham military camp, 3 km west of the site. The predominant wind is from the northeast, with secondary smaller peaks from the northwest and southwest. The data show that winds from the west (toward the dwellings east of the site) and those from the southwest (toward the dwelling to the north-northeast) each blow approximately 17-18 % of the time (Golder's estimate, based on the wind roses in the ADA). The dominant wind direction is from the northeast – winds from that quarter blow for approximately 30 % of the time but there are no nearby dwellings downwind of the site in that direction. A wind rose showing the distribution of winds across the entire year is shown in Figure 2 below.

The ADA has also analysed the wind conditions between 7 am and 5 pm (working hours), for the entire year of data. The pattern is very similar to the annual distribution.

Based on these analyses the ADA concludes that the frequency of exposure is "not high" at the nearest dwellings and goes on to discuss wind-specific site management practices which this letter addresses below.

Golder agrees with the analysis detailed in the ADA and notes that wind exposure on its own does not indicate a potential effect, but it must be considered along with other factors such as site management and separation distances.

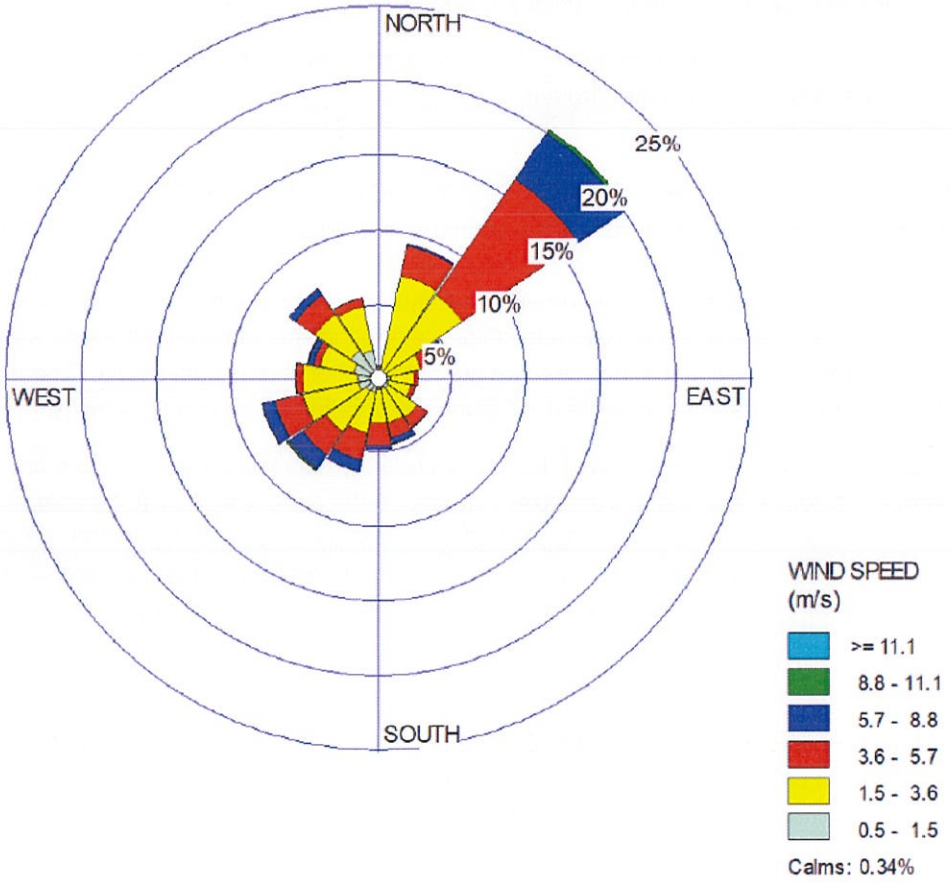


Figure 2: Wlnd rose for the entire year 1 June 2017 to 31 April 2018, Burnham (source: ADA Figure 5).

3.1.5 Site management and mitigation

The application includes an ODMP which sets out the following key measures, all of which are generally considered to be good practice for a site of this type and size.

- Restricting acceptable materials to garden waste and kerbside organics, primarily by visual inspection at the receipting area.
- Shredding and mixing within 24 hours, unless this is not possible during the weekend in which case, stored raw material is covered and shredded first when activities re-commence.
- Composting so that the most recent material is always at the west end of the site (windrows are moved east when they are turned, to facilitate this).
- Active windrows are turned every 3-7 days depending on moisture, temperature and oxygen content.
- The windrows are to be no higher than three metres.

- The target temperature in active windrows is 55 °C for 3 days before the windrow is turned. The application documents indicate that temperature is measured weekly, but in conversation at the site visit the applicant indicated that measurements would generally occur every three days.
- The target moisture content of windrows is 45-65 %, measured by squeeze tests. Water is added if needed using a tanker kept on site, and if the material is too wet then the windrow will be turned and dry material added if necessary.
- A target oxygen concentration of 12-14 % is specified, but the ODMP states that oxygen will not be monitored directly. Instead, it states that correct windrow turning, moisture maintenance and temperature maintenance will optimise the oxygen content. While Golder agrees that this is likely to be the case, oxygen monitoring is commonly undertaken at other composting sites and is good practice to ensure control of the composting process. While the other proposed measures should ensure that odours from the compost are controlled, Golder would recommend that the site keeps an oxygen monitor on hand and regularly monitors the oxygen content of at least the active windrows.
- More mature, curing material is turned weekly until its temperature reduces below 45 °C.
- As far as practicable, windrows are only turned during winds blowing away from nearby dwellings (i.e., not during southwesterly, westerly or northwesterly winds). An on-site met station will be operated to inform this process.
- During calm or light winds (<1.5 m/s) windrows will only be turned between 9 am and 3:30 pm.
- If a windrow becomes anaerobic and odorous, the ODMP includes contingency measures to remediate it by turning (with regard to wind conditions), covering if needed and remediating if possible (although remediation options are not discussed).
- Routine odour and dust monitoring as staff work, reporting to the site manager if odour is noticed.
- A procedure for handling and responding to complaints.

The ADA considers that these management practices, together with the nature of the feedstock, mean that adverse off-site effects should not occur due to the proposed change. Having reviewed the ODMP and visited the site, Golder agrees that this is the case.

3.2 Dust and pathogenic micro-organisms

The ADA states that given on-site management practices, and the distances to nearby sensitive receptors, the effects of the discharges of both of these contaminants will be negligible or less than minor, and no discernible effects will occur as a result of the change of conditions. Regarding pathogens, the ADA also refers to the composition of the raw materials (which exclude highly pathogenic material such as manure, animal waste or biosolids) and expert evidence provided to the "Intelligro" hearing (CRC156387) several years ago regarding exposure to these contaminants, for further evidence that adverse effects will not occur in this situation.

Golder agrees with the overall conclusions made by the ADA, particularly regarding the separation distances which are more than adequate to avoid dust impacts at those dwellings from a well-controlled site, and notes that the ODMP includes the following key dust control measures which will also serve to control the discharge of pathogenic material:

- Vehicle speeds are restricted to 10 k/h on the site and 30 k/h on the sealed accessway.

- As far as possible, screening and loading will not occur during strong wind conditions (>10 m/s) blowing from the southwest, west or northwest, unless water control is used.
- Water will be applied as needed to control dust from site surfaces and windrows.

4.0 CONCLUSIONS

The ADA concludes that *"the proposed change will not increase adverse effects of odour at sensitive receptors."* (ADA p18).

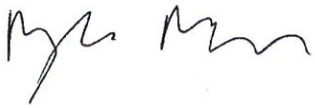
The proposal is to introduce active compost which is inherently more odorous than the mature material, and the size of the activity is likely to increase (although the potential size increase is already allowed for by the existing resource consent). Therefore, the site is likely to produce more odour than it has in the past. However, the site is well-separated from nearby dwellings, and appropriate management practices are proposed including the minimisation of windrow turning under key wind conditions. In addition, the existing activity (which already includes the outdoor processing of active material) does not appear to be generating substantial odour other than near to freshly-turned active piles.

Golder agrees with the applicant's assessment of effects, as long as the site is managed in accordance with the ODMP. However, it is recommended that the ODMP includes regular monitoring of the oxygen content of the active windrows.

The ADA also concludes that the effects of dust and pathogens due to the change will be essentially unchanged from the existing situation. Golder agrees that given the separation distances and proposed site management, this conclusion is likely to be correct.

Thank you again for engaging Golder to undertake this review and we trust this letter meets your expectations. If you have any questions, or would like to discuss this letter further, please contact the undersigned in the first instance.

Golder Associates (NZ) Limited



Myles McCauley
Senior Resource Management Consultant

MM/JB/RLC/mt

Attachments: Report limitations

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APPENDIX 4

TOWNPLANNING
GROUP

Application for Resource Consent to Environment Canterbury:

Selwyn District Council

Variation to CRC041489 – discharge contaminants to air at The Pines Resource Recovery Park, 183 Burnham School Road, Burnham.

19 July 2018

Document prepared by:

Town Planning Group (NZ) Limited

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Email: office@townplanning.co.nz

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Offices in Queenstown & Christchurch

Application Contents

Supporting Information

A	CRC041489
B	Computer Freehold Register
C	Odour and Dust Management Plan
D	LLUR Property Statement
E	Designation
F	Specialist Environmental Services Report
G	Pre-application meeting correspondence
H	Application Form

1. Executive Summary

1.1 Selwyn District Council ("**the Applicant**") applies for a variation to CRC041489 (**Attachment A**) which authorises the discharge of contaminants to air from the Pines Resource Recovery Park, located at 183 Burnham School Road, Burnham ("**the application site**") shown in Figure 1 below.

1.2 The Pines Resource Recovery Park is an existing municipal waste transfer station with on-site composting of organic waste. A variation to the method of on-site composting is sought in order to increase the efficiency of the operation.

1.3 This application is for a change of conditions under s127 of the Resource Management Act ("**RMA**"), and as such must be considered as a **Discretionary Activity**.

1.4 In summary, this Assessment of Environmental Effects report considers the effects of the proposal and determines that it will have insignificant adverse effects on the environment and people. This application is supported by a report from Specialist Environmental Services ("**SES Report**") and an Odour and Dust Management Plan ("**ODMP**") to provide confidence that the mitigation proposed will ensure that this variation will not result in effects that are materially different from that which is currently consented. The Pines has an excellent compliance record, with no complaints of odour or dust discharge from the site.

1.5 The proposal accords with the purpose and principles of the RMA and the definition of sustainable management.

2. Site & Surrounds

Site Details

2.1 The application site is 183 Burnham School Road, Burnham, legally described as Section 1 SO 317609 as contained in Computer Freehold Register 77016 (**Attachment B**). The site is generally flat, and a drain runs along the eastern boundary. Native vegetation and/or pine trees are planted along all boundaries of the site.

2.2 The application site location is shown in Figure 1 below.

Figure 1: Application site location indicated by red outline (Source: Canterbury Maps)

2.3 The site is an established municipal waste transfer station, owned and operated by the Selwyn District Council. Landfill waste, recycling and organic waste from the entire Selwyn District is collected, sorted and processed on the site. Trade waste is not accepted for composting, except for sawdust from a toothpick factory (comprised of untreated timber). The layout of the site is shown in Figure 2 below.

2.4 A pyrolysis plant is consented to be built on the site, however construction of this has not yet started. The applicant advises that the operator of the pyrolysis plant will be

applying for a resource consent to discharge stormwater from the pyrolysis plant site. The pyrolysis plant and the waste transfer station are managed separately and any resource consents for the pyrolysis plant are not related to the applicant's waste transfer station operation.

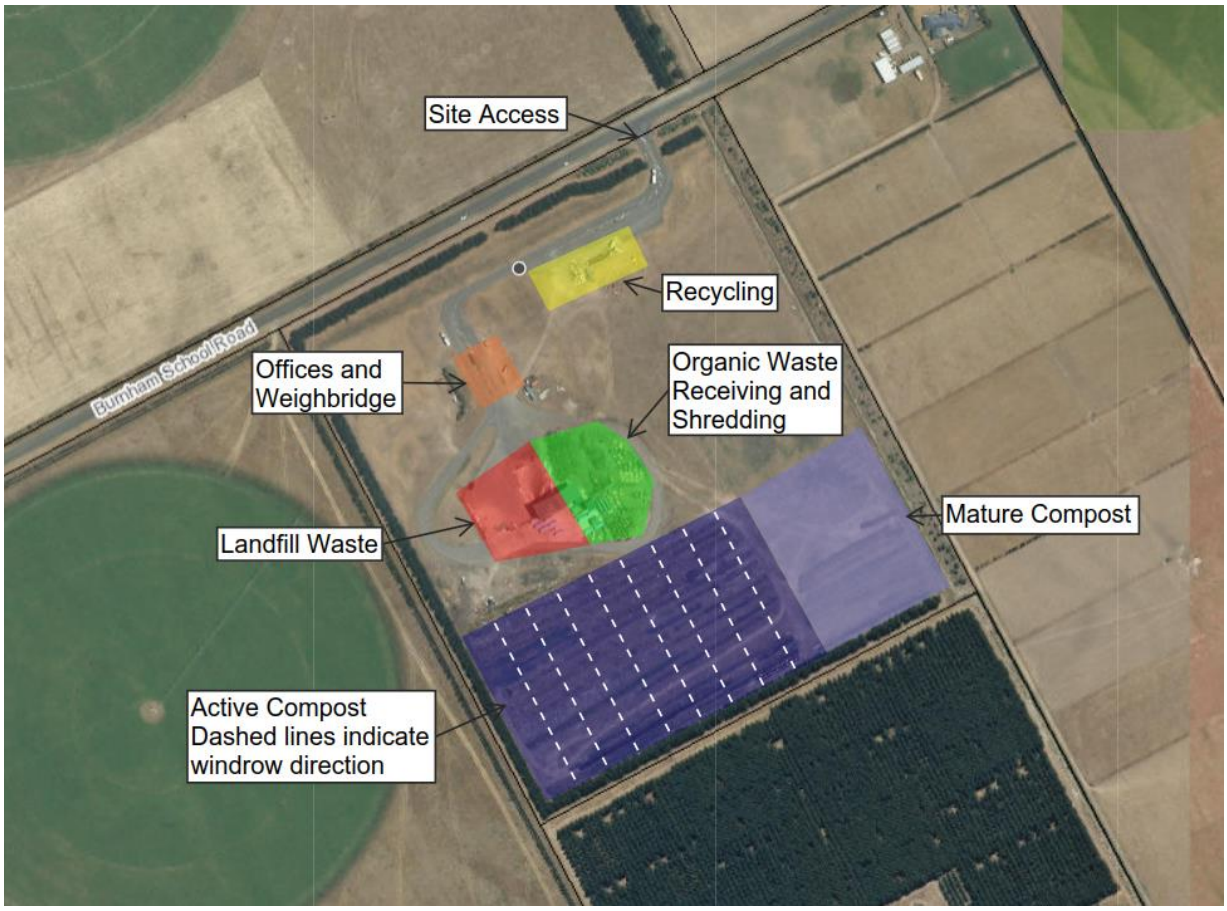

Figure 2: Site layout (Source: Canterbury Maps)

Surrounding Area

2.5 The Pines RRP is located in a predominantly rural area, approximately 1.5 kilometres to the west of the nearest Rolleston suburban area. The surrounding land uses and potentially sensitive receptors are indicated in Figures 5 and 6 below, and summarised in the following paragraphs.

2.6 To the east and south east is rural farmland and several dwellings. To the south is a block of plantation pine trees owned by the Selwyn District Council. To the south-west is the Pines Wastewater Treatment Plant (also owned by Selwyn District Council), and to the north and west is farmland with no dwellings in proximity to the site. A block of land to the north of the site is zoned Living 3 under the Selwyn District

Plan (Figure 3), but no residential development has occurred on that site as yet. The Outline Development Plan for the block (Figure 4) includes a significant setback from the south-western boundary to provide separation from the Pines Resource Recovery Park.

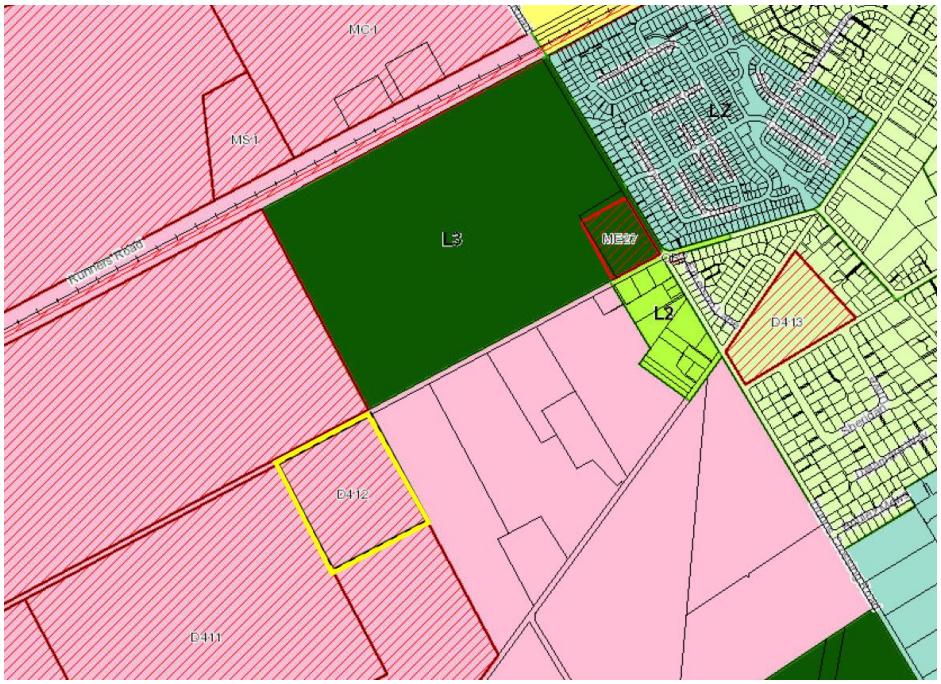

Figure 3: Selwyn District Plan Zones (application site indicated by the yellow outline) (Source: Selwyn District Council website)

OUTLINE DEVELOPMENT PLAN – HOLMES BLOCK, ROLLESTON

Figure 4: Outline Development Plan for block of land immediately north of the application site. (Source: Selwyn District Plan, Appendix 39)

2.7 Figure 6 below shows the distance to the nearest dwellings.

(a) 155 Burnham School Road – located 410 - 570 metres away from the active composting area and could be affected by odour and dust in south-westerly wind conditions.

(b) 324, 348 and 362 Brookside Road – located 590 – 850 metres away from the active composting area and could be affected by odour and dust in westerly and north-westerly wind conditions.

2.8 Dwellings to the south and south west of the site are approximately 2000m from the site boundary.

2.9 Other potential sources of odour in the wider area include a dairy farm, chicken farms to the south-east, a pig farm and the Burnham Military Wastewater Treatment Plant to the west, the Pines Wastewater Treatment Plant to the south-west, as well as silage feed out and other farm related odours in the area.

Figure 5: Surrounding Area (Source: Canterbury Maps)

Pines RRP Consent Variation – Proximity to Potentially Sensitive Receptors

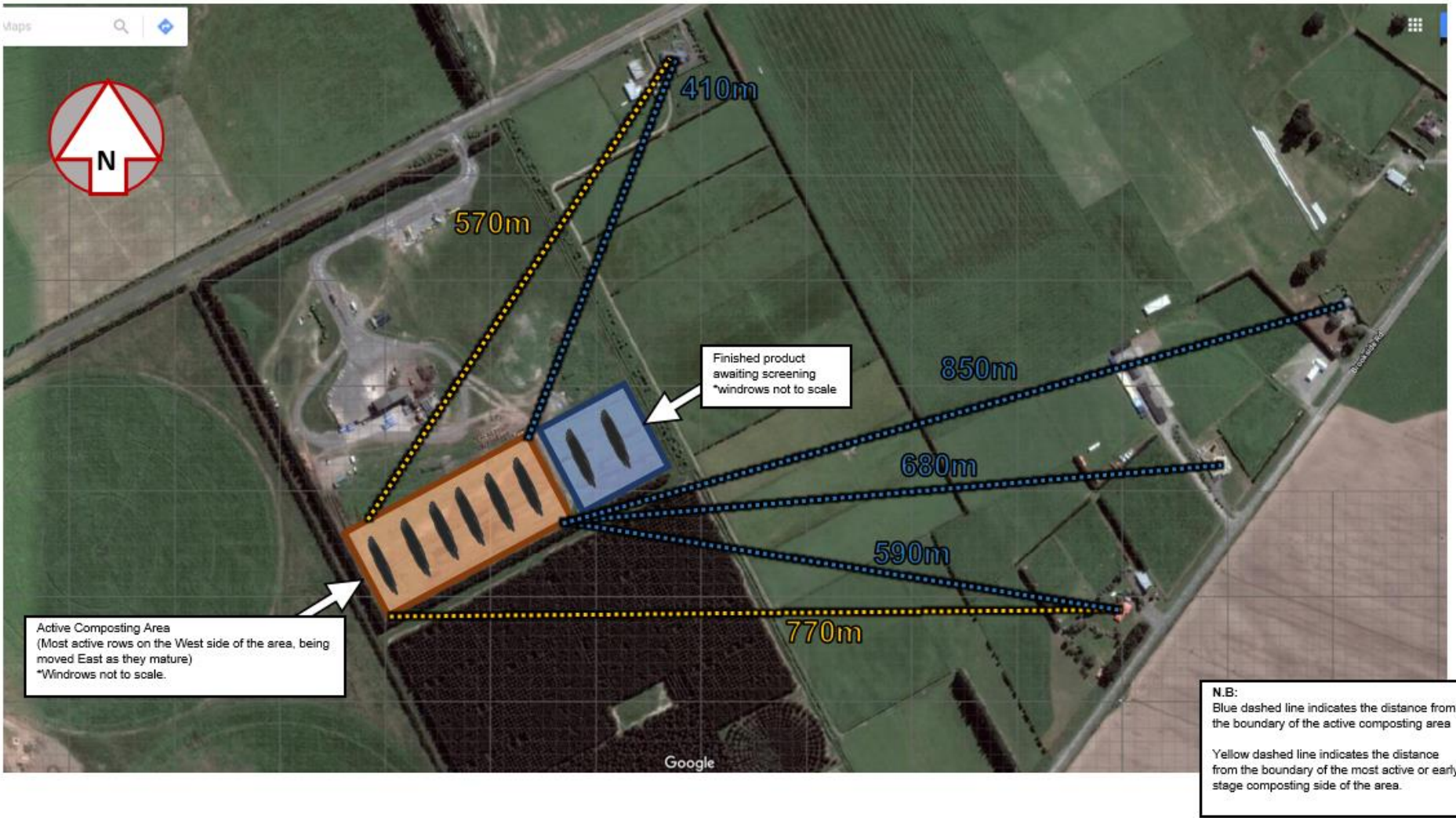

Figure 6: Distances to neighbouring dwellings (Source: Selwyn District Council)

3. Proposal Details

3.1 The Applicant proposes to change the conditions of CRC041489 to reflect an altered methodology for composting organic waste on the site.

3.2 Two sources of organic waste are composted at the Pines RRP:

- "Kerbside Organics" - Organic waste, comprising mostly of garden waste and food scraps.
- "Green waste" – typically garden waste dropped off by trailer loads, includes large pieces of woody vegetation such as tree prunings

3.3 The existing operation involves shredding the incoming organic waste and then processing it through the "Hot-Rot" in-vessel composting system. The resultant product is then placed in windrows on the southern part of the site to complete the active composting process over the following 2-3 months. The final product is then screened and on-sold as compost. The applicant advises that the "Hot-Rot" system is not capable of managing the seasonal variation in the volume of organic waste received by the site and is overly complicated and expensive to run given the nature of the incoming material. The applicant proposes to remove this system from the processing of organic waste to compost. The new process would be essentially the same, just without the "Hot-Rot" in-vessel system.

3.4 An Odour and Dust Management Plan ("**ODMP**", **Attachment C**) has been prepared for the site, and forms part of the mitigation proposed. The composting operation and controls are described in detail in the ODMP.

3.5 The amendments to the conditions of CRC041489 are set out as follows (text to be deleted as ~~strikethrough~~ and text to be added as **bold and underlined**):

> **Condition 1:**
> The discharge shall be from collection, storage and transfer of waste materials ~~and in-vessel~~ composting on a site between Burnham School Road and Brookside Road, Rolleston, described as Section 1 Survey Office Plan 317609 (Certificate of Title 77016) at or about map reference NZMS 260 M36:570-323, as described in the application.

Condition 2:

(a) All organic materials and residual waste that are likely to cause odour nuisance if left in the waste pit overnight shall be removed from the waste pit and put into enclosed containers at the end of each working day.

(b) Organic material (excluding wood, paper/cardboard and garden waste) shall not be held unprocessed at the site for more than 24 hours during normal operation. In the event **that processing ceases for more than 24 hours, measures described in the Odour and Dust Management Plan shall be implemented** ~~of mechanical breakdown of the in-vessel composting unit/s, organic material shall be covered with green waste and sawdust to minimise odour emissions and shall be removed from the site in residual waste bins, if necessary~~ to prevent odour nuisance.

Condition 4:

The resource recovery park shall be supervised at all times when it is open for public access. The supervisor shall ensure that the boundaries of the site and adjacent areas are free of litter and that **landfill** waste materials are stored under cover at the close of the site each day in order to minimise the discharge of any odour, dust and litter from the site.

Condition 6:

~~Discharge from a horizontally aligned in-vessel composting unit shall occur via a bio filter that is capable of controlling odour emissions to comply with Condition (12).~~

New condition:

Composting shall be undertaken in general accordance with the Odour and Dust Management Plan submitted with the application. The ODMP may be updated, provided any revisions are provided to the Canterbury Regional Council prior to implementation, for certification that revisions achieve compliance with the conditions of this consent.

3.6 No other changes to the conditions of CRC041489 are considered necessary.

Pre-application Consultation

3.7 A site visit and meeting were undertaken on 16 April 2018, where the proposal was discussed with Matthew Harrison, ECan Consents Planner, and Katie Nagy, ECan Compliance Officer. The officers in general supported the proposal. Further email correspondence with Matthew Harrison confirmed the consenting approach to be taken (**Attachment G**).

4. Statutory Provisions

Existing resource consents and statutory documents

4.1 The site is subject to a designation which provides for the establishment of a Resource Recovery Park (**Attachment E**). Some of the conditions on this designation will need to be changed as a result of this proposal. That process will occur concurrently to this application process. As the site is subject to a designation, no resource consents from Selwyn District Council are required.

4.2 Resource consent CRC041489 authorises the discharge of contaminants to air from the site. This consent is proposed to be varied by this application.

4.3 Resource consent CRC054637 authorises the discharge of stormwater from the site. This consent will remain unaltered.

4.4 The applicant is concurrently applying for a certificate of compliance for the use of land for storage of compost in windrows, and any associated discharge to land (Land and Water Regional Plan, Rule 5.39).

Regional Plans

4.5 The Canterbury Air Regional Plan and the Land and Water Regional Plan are relevant to the site. There are no additional rules in these plans that trigger a resource consent requirement for the activity.

Section 127 RMA

4.6 Section 127 of the RMA sets the requirements for applications to change or cancel conditions of resource consents.

4.7 Section 127(3)(a) of the RMA requires that applications for changes to resource consent conditions be presented as if the application were for a discretionary activity, and thus an assessment of any effects that the proposed changes may have on the environment in accordance with section 88 of and the Fourth Schedule to the RMA follows.

4.8 Section 127(3)(b) stipulates that only the change of conditions and the resultant potential effects of these changes are to be considered.

4.9 Section 127(3) forms the first of two limbs of the test for the application. The second limb of the test is described in section 127(4), where it is stated that the local authority must consider the effects of the changes upon any affected parties.

4.10 On the whole, the proposal is considered as a **Discretionary Activity**.

National Environmental Standards

4.11 In terms of compliance or otherwise with National Environmental Standards ("**NES**"), the only NES that is of potential relevance to this proposal is the NES for Assessing and Managing Contaminants in Soil to Protect Human Health.

4.12 A municipal waste transfer station is a HAIL activity. Any soil disturbance associated with the proposal will be minor and will achieve compliance with the permitted threshold in section 8(3) of the NES. In addition, there is no change of use to consider. Therefore, compliance with the relevant NES requirements is achieved. A copy of the Listed Land Use Property Statement for the property is enclosed as **Attachment D**.

5. Assessment of Effects on the Environment

5.1 As identified in above, the proposed changes are limited to alteration of the composting methodology. All other aspects of the operation remain the same. The actual and potential adverse environmental effects of the proposed change are identified and assessed as follows.

Effects of odour and dust

5.2 The attached SES Report (**Attachment F**) contains a detailed technical assessment of the effects of odour and dust arising from the proposed changes which will not be repeated here. In summary, the report concludes on pages 17-18 that "*the proposed change will not increase adverse effects of odour at sensitive receptors*" and "*any adverse effects of dust discharges from the site will be less than minor*". The report summarises the effects of the change as follows:

> "*Overall it is considered that the proposed changes to the composting process will not result in adverse effects that are materially different from those effects caused by the existing authorised discharge. The additional mitigation measures proposed are designed to ensure that any adverse effects beyond the site boundary continue to be minor*[1]*."*

5.3 Recent compost windrow trials (approved by ECan) were undertaken over spring and summer 2017/18 with various organic materials including the kerbside organics and green waste forming part of this application, but also potentially more odorous paunch waste and chicken shed waste. No increased odour was detected at the boundaries during the trials, and no complaints were received from neighbouring property owners during the trials. The applicant has subsequently decided to exclude from the site the higher risk materials and limit the composting activity to the green waste and kerbside organics that form the core of its service requirements to the Selwyn District. However, given the successful control of odour and dust from this higher risk material, the trial gives a high degree of confidence in the management controls on the site, and the conclusions that the odour and dust effects of the operation will be less than minor.

[1] Assessment of Effects of Discharges into Air from a Composting Operation, Specialist Environmental Services Ltd, 6 July 2018, page 18

Potentially affected parties

5.4 As discussed above, the SES Report concludes that given the mitigation proposed, the proposed change will not result in any effects that are materially different to those existing consented effects.

5.5 That neighbouring landowners and occupiers will continue to be unaffected by odour and dust from the application site is supported by the compliance record of the Pines Resource Recovery Park. Environment Canterbury Resource Management Officer: Monitoring and Compliance, Ms Katie Nagy, provided the following information on 21 May 2018:

> *"In terms of pollution events tied to The Resource Recovery Park: I found one event logged against the RRP but it may have actually been done by mistake.*
> *The event summary states that a caller reported a 'long drop sewage smell' on 10/10/2016. I believe it may have been in fact the treatment plant but the pollution events team/admin got the two sites mixed up. The event was not substantiated and should not have an impact on any assessments."*

5.6 Given the above information, there are no parties that are considered to be potentially adversely affected by the proposed change.

Positive Effects

5.7 This proposal will provide for greater flexibility and lower operational costs, benefitting the Selwyn District residents and ratepayers. The operation will have greater flexibility, allowing it to be more responsive to variable volumes of organic waste arriving at the application site. The Selwyn District ratepayers will benefit from lower equipment maintenance costs.

5.8 Overall, the proposal is considered to have a number of positive effects.

Conclusion

5.9 On the basis of the above assessment, it is considered that the proposal will have less than minor adverse effects on the receiving environment. The ODMP will ensure appropriate control of odour and dust arising from the operation, maintaining the amenity of surrounding residents. The proposal is a positive outcome in regard to the composting of organic waste in Selwyn.

6. Statutory Assessment

Objectives and Policies

6.1 Section 104 of the RMA requires that the consent authority have regard to specific matters that are set out in s104(1) when considering an application. In this instance, relevant objectives and policies from the Canterbury Regional Policy Statement ("**CRPS**") and Canterbury Air Regional Plan ("**CARP**") have been identified and evaluated accordingly in Table 1 as follows.

Table 1: Objectives and Policies Assessment.

Objective	Policies	Assessment
Canterbury Regional Policy Statement		
14.2.2 Localised adverse effects of discharges on air quality *Enable the discharges of contaminants into air provided there are no significant localised adverse effects on social, cultural and amenity values, flora and fauna, and other natural and physical resources.*	***14.3.3 Avoid, remedy or mitigate localised adverse effects on air quality*** *To set standards, conditions and terms for discharges of contaminants into the air to avoid, remedy or mitigate localised adverse effects on air quality.* ***14.3.5 Relationship between discharges to air and sensitive land-uses*** *In relation to the proximity of discharges to air and sensitive land-uses:* *2.. Existing activities that require resource consents to discharge contaminants into air, particularly where reverse sensitivity is an issue, are to adopt the best practicable option to prevent or minimise any actual or likely adverse effect on the environment.*	The effects of odour and dust arising from the composting operation will be managed to mitigate any localised effects on air quality. Overall, the proposal is considered to be consistent with this Objective and Policies.
19.2.2 Minimise adverse effects of waste *Adverse effects on the environment caused by residual waste and its management are avoided, remedied or mitigated.*	***19.3.4 Establish community waste-transfer facilities*** *Enable the establishment and use of appropriate community facilities and services such as waste-transfer facilities and recycling centres throughout the region.*	While the Pines is an established waste transfer station, this proposal enables the efficient operation of the composting process at an appropriate site. The CRPS encourages the use of community facilities such as the application site which contribute to minimising the adverse effects of waste on a community scale. The operation is consistent with these objective and policy in the CRPS.
Canterbury Air Regional Plan		

Objective	Policies	Assessment
5.5 Air quality is managed in a way that provides for the cultural values and traditions of Ngāi Tahu.	*6.2 Recognise the value of air quality as a taonga to Tangata Whenua and manage adverse effects of discharges into air on wāhi tapu, wāhi taonga, and places of significance to Ngāi Tahu.*	There are no wāhi tapu, wāhi taonga, and places of significance to Ngāi Tahu in proximity to the application site. The proposal will not result in adverse effects on local air quality. The proposal is considered to be consistent with these provisions.
5.6 Amenity values of the receiving environment are maintained.	*6.26 When considering applications for resource consent for the discharge of contaminants into air from large scale fuel burning devices or from industrial, trade or commercial activities, the CRC will consider the combined effect of all consented discharges into air occurring on the property.*	CRC182590 provides for the discharge of contaminants to air from a pyrolysis plant on the same site. The discharge of odour and dust from the composting operation is consented and forms part of the existing environment. As assessed above, the proposal will not result in adverse effects that are materially different to the existing effects. For this reason, the amenity values of the receiving environment will be maintained, and the proposal is considered to be consistent with these provisions.
5.7 Discharges from new activities are appropriately located to take account of adjacent land uses and sensitive activities. *5.8 Discharges from existing activities are managed in response to evolving characteristics of the receiving environment.*	*6.25 Applications for resource consent for discharges into air from industrial or trade activities or large scale fuel burning devices classified as discretionary shall address:* *a. …* *b. localised effects of the proposed discharge and the location of sensitive receptors; and* *c. available mitigation and emission control options; and* *d. the duration of consent being sought and the practicability for the effects of the discharge to be reduced over time.* *6.28 Manage discharges of odour and dust from the storage, transfer, handling, treatment or disposal of liquid or solid waste, by ensuring that any discharges from those activities are appropriately located.*	The application site is an established waste transfer station, appropriately located in a rural area with low residential density. The location of sensitive receptors and mitigation options have been addressed in detail in the attached report from Specialist Environmental Services Ltd and the ODMP. The duration of the consent is to remain the unchanged as this application is for a variation. The proposal is considered to be consistent with these provisions.
5.9 Offensive and objectionable effects and noxious or dangerous effects on the environment are generally avoided.	*6.1 Discharges of contaminants into air, either individually or in combination with other discharges, do not cause:* *a. diverse effects on human health and wellbeing; or*	The mitigation measures outlined in the ODMP will ensure that offensive and objectionable effects beyond the site boundaries will be generally avoided, and the

Objective	Policies	Assessment
	b. adverse effects on the mauri and life supporting capacity of ecosystems, plants or animals; or *c. significantly diminished visibility; or* *d. significant soiling or corrosion of structures or property.* *6.8 Offensive and objectionable effects are unacceptable and actively managed by plan provisions and the implementation of management plans.*	proposal will not give rise to any of the effects listed in Policy 6.1. For these reasons, the proposal is considered to be consistent with these provisions.

6.2 As shown through the above assessment, the proposal is consistent with the relevant objectives and policies of the CRPS and CARP.

Section 95, RMA

6.3 Section 95A of the RMA states that a consent authority must publicly notify an application if:

- The council decides under section 95D that the activity will have or is likely to have adverse effects on the environment that are more than minor; or
- If the applicant requests it; or
- If a rule or national environmental standard requires it; or
- If special circumstances exist in relation to the application.

6.4 Section 95D of the RMA goes on to require:

> *"A consent authority that is deciding, for the purpose of Section 95A(2)(a), whether an activity's adverse effects on the environment may be more than minor –*
> *(a) must disregard any effects on persons who own or occupy –*
> *(i) the land in, on, or over which the activity will occur; or*
> *(ii) any land adjacent to that land…*
> *(b) may disregard an adverse effect of the activity if a rule or national environmental standard permits an activity with that effect; and*
> *(c) in the case of a controlled or restricted discretionary activity, must disregard an adverse effect of the activity that does not relate to a matter for which a rule or national environmental standard reserves control or restricts discretion*
> *(d) must disregard trade competition and the effects of trade competition; and*
> *(e) must disregard any effect on a person who has given written approval to the relevant application"*

6.5 With respect to the above, in consideration of the conclusions of the AEE, it is concluded that the proposal will result in less than minor adverse effects on the

environment, and there are no other circumstances requiring or warranting public notification.

6.6 Section 95E of the RMA requires a consent authority to decide if any persons are affected by a proposal. There are no parties considered to be affected by the proposal given the lack of odour and dust issues arising from the site and given the effects of the proposed change will not cause materially different effects than currently consented.

Purpose & Principles of the Resource Management Act

6.7 As determined in *RJ Davidson Family Trust v Marlborough District Council*, under Section 104 of the RMA a decision-maker should not resort to Part 2 unless the relevant planning documents are invalid, have incomplete coverage, or have uncertain meaning. Regardless, Schedule 4 of the RMA requires an application for resource consent to include assessment against matters set out in Part 2. The High Court decision in R J Davidson Family Trust has been appealed to the Supreme Court and will be heard at the start of 2018. Currently the Environment Court has been applying the High Court's decision by having recourse to Part 2 when it is considering the application and submissions under section 104(1), but not afterwards as a separate exercise as occurred under the previous "overall judgement approach".

6.8 The purpose of the RMA, as set out under section 5 (2) is to promote the sustainable management of natural and physical resources. The relevant matters in Sections 6, 7 and 8 of the RMA also require consideration. There are no matters of national importance under Section 6 that need to be recognised and provided for in this application.

6.9 The RMA specifies that regard must be had to the relevant matters listed in section 7. The relevant matters include:

(c) The maintenance and enhancement of amenity values.
(f) Maintenance and enhancement of the quality of the environment.

6.10 The proposal maintains the amenity values and quality of the environment of the local area at the same level as currently exists. There are no matters under Section 8 that require consideration with respect to this application.

6.11 For the reasons outlined in this report, the proposal is consistent with the purpose and principles under Section 5, and the associated matters under Part 2 of the RMA. The proposal represents an improvement to the current operation and will be undertaken in a manner which avoids, remedies and mitigates potential adverse effects on the environment.

6.12 The proposal is consistent with the purpose and principles of the Act and accords with the definition of sustainable management.

APPENDIX 5

Donovan Van Kekem

From: Donovan Van Kekem
Sent: Friday, 26 February 2021 9:52 AM
To: Lisa Kamali
Subject: FW: CRC211594 - SDC - Composting facility

FYI – see below

Regards,

Donovan Van Kekem BSc, PG Dip FORS
Air Quality Consultant

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Email: donovan@nzair.nz
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From: Andrew Boyd <Andrew.Boyd@selwyn.govt.nz>
Sent: Friday, 26 February 2021 9:23 AM
To: Donovan Van Kekem <donovan@nzair.nz>
Cc: Anita Collie <anita@townplanning.co.nz>; 'Tony Sheard' <tonys@sicon.co.nz>
Subject: RE: CRC211594 - SDC - Composting facility

Hi Donovan

Not sure if anyone has replied to your email! Thanks for your visit last week, and your proposed way forward below.

We are working on this currently.

Regards

Andrew Boyd
SOLID WASTE MANAGER

DDI: (03) 347 2841
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WEB: www.selwyn.govt.nz

From: Donovan Van Kekem [mailto:donovan@nzair.nz]
Sent: Friday, 19 February 2021 1:06 PM
To: Andrew Boyd <Andrew.Boyd@selwyn.govt.nz>; Anita Collie <anita@townplanning.co.nz>; 'Tony Sheard' <tonys@sicon.co.nz>
Cc: Lisa Kamali <Lisa.Kamali@ecan.govt.nz>
Subject: CRC211594 - SDC - Composting facility

All,

Thanks for taking the time to meet with me on-site yesterday. Below is a summary of our discussions and an informal request for you to supply some updated information/documents/procedures.

I've had a quick chat with Lisa Kamali regarding the proposed way forward and she is onboard with what we talked about in our site visit.

Summary

Numerical maximum rate of composting
We discussed having a numerical limit on the site's capacity based on the area which is available for active composting. Based on my very conservative calculations I had estimated that based on:

- the area available as marked on the Figures in the application documents and ODMP;
- windrows 3m high with a base of 6m and a spacing of 3m between windrows;
- a bulk density of the compost raw materials of 0.6 t/m^3; and
- an active composting period of 12 weeks (i.e. 4 cycles per year per windrow),

that the conservative maximum capacity of the site would be ~70,000 t/year of raw material.

However during the site visit I observed a new raw materials processing pad which is 75x35m. This pad is located within the area designated for active composting in the plans. I've recalculated the conservative maximum capacity of the site at 53,000 tonnes per year based on this reduction in available active composting area. Note that this maximum capacity is very conservative for the following reasons:

- the area includes the area where stormwater soak pits and a soak basin are located;
- there is no allowance for internal roads; and
- the maturation area is much smaller so is likely to be the limiting factor in scale.

I note that currently there isn't a large amount of remaining available composting space even though the current processing rates are well below 10,000 t/yr. However, for the purposes of putting a number on the scale (as opposed to a theoretical unlimited maximum), I suggest including a maximum composting rate of 53,000 tonnes of raw materials per year for the site. Can you please confirm that SDC is happy for this limit to be included in the amended Consent Condition?

Updates to the ODMP to ensure that best practice composting is being undertaken on-site
We discussed that the potential for adverse odour and dust effects beyond the boundary of the site is more dependant on the operator undertaking the composting in accordance with best practice than on the scale of the operation. Even a small operation (less than 10,000 t/yr) can result in offensive or objectionable odour effects up to 1.5 - 2km from the site if it is poorly managed, whereas well run large operations (in excess of 50,000 t/yr) can limit observable odour to within 100 – 200m of the activity.

During my site visit, my observations of the current operation are that in general the current operation is being undertaken in accordance with good practice and as such the current level of odour emission is low. This is demonstrated by the lack of complaints from historical operations.

However, for completeness we discussed a number of updates to the ODMP which would further document/provide site operators with good practice mitigation/management processes. There is already a Section within the ODMP which provides for contingency measures. Including additional contingency measures (such as that discussed below) would be helpful such that in the event that the proposed mitigation fails there are backup controls. Note that in most instances not all of the backup controls will be required, but the list will provide a tool box of available measures to site operators in the instance that the current/proposed controls fail.

The following ODMP updates were discussed and suggested:

- leachate management:

- Include a Section within the ODMP which identifies potential odour emission points from compost leachate which is discharged from the mixing/shredding pad (both as a result of wet raw material and rainfall events). It was observed that this activity is located on a concrete pad which is slopped such that water on this pad flows to a sand trap and then discharged to a soak pad. Examples of controls include; undertake regular checks of the sand trap to ensure it is not blocked and there is no backup of leachate, regular replacement of the sand filtration media such that as it becomes saturated with solids from runoff there is no backup of pad water/leachate, etc.
- Include a Section which identifies odour emission points from leachate on the compost active and maturation pads. We discussed examples including; ensuring that the layout of the windrows directs contaminated stormwater (leachate) towards the soak pits on the south eastern boundary of the site, ensuring that windrows do not sit in a depression such that the windrows do not get 'wet feet', using the loader to scoop up any ponded water and re-apply it to the windrows, levelling the area between windrows such the there is an unrestricted path for water to flow towards the soak pits, etc. Backup/contingency controls could include use of a portable vacuum pump/sucker truck to collect ponded leachate water and transport it off-site, in the unlikely instance that the above measures fail or the soak pits are no longer a viable method for disposal of leachate. A contingency measure for wet feet/anaerobic conditions at the base of the windrow is to use a coarse plenum of material (often made from overs) at the base of the windrow to ensure that the base of the windrow is free draining and the oxygen content is maintained.

- Windrow monitoring – we discussed that currently only temperature, moisture, and odour are monitored regularly. I suggested that pile oxygen be included as a contingency measure. Other monitoring parameters which could be considered include pH, bulk density, and Solvita tests, however these are primarily utilised in larger/higher risk operations. Continues automated temperature monitoring could also be considered as a backup measure.
- It was described on-site that the mixing of the raw materials (kerbside and green waste) was usually undertaken in a 50:50 mix, however based on operator experience this ratio is adjusted when the content in the kerbside material changes. The current ODMP states in Section 2.19 that a C:N ratio of 30:1 to 40:1 is desired/achieved. A small Section in the ODMP which provides practical/procedural guidance to site staff on how to achieve this ratio should be included.
- We also discussed ensuring that there is always a stockpile of mature compost/sawdust available for covering any odorous material. It is noted that this is available but just putting a sentence or two into the management plan will tick that box.

Potential for off-site effects

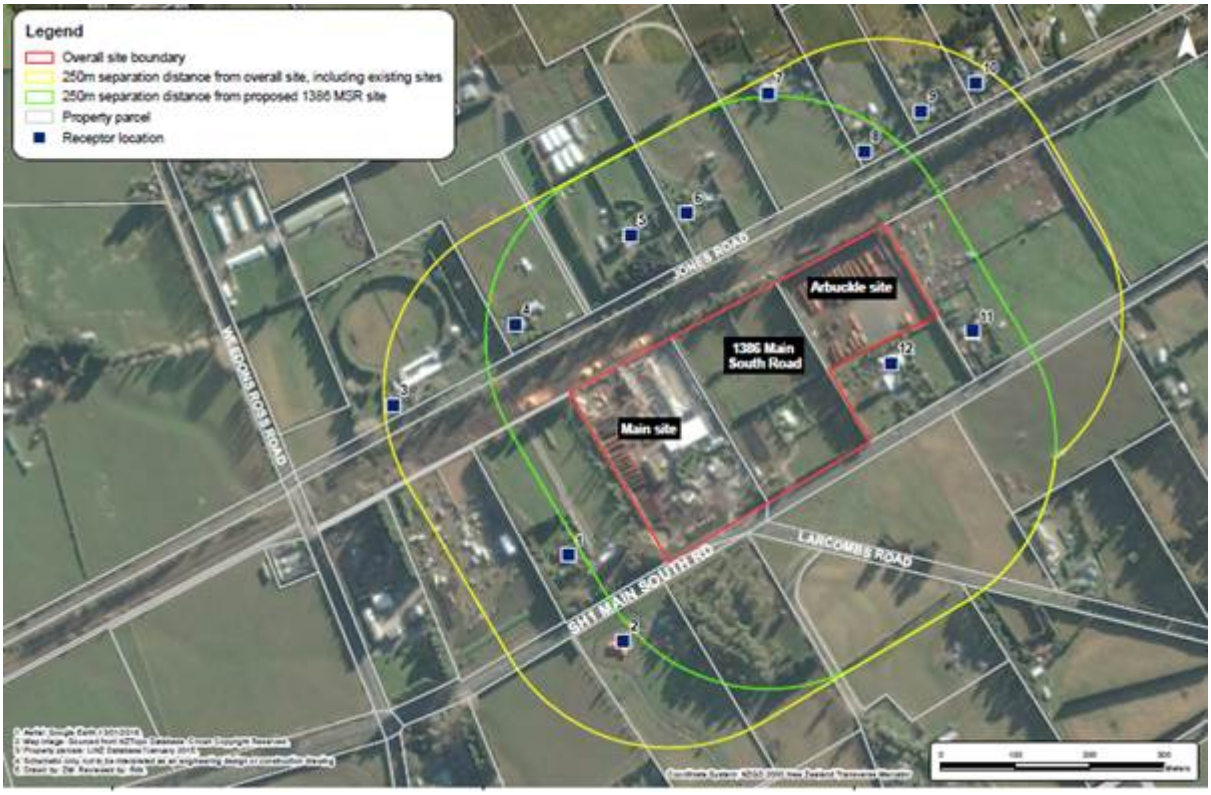
By confirming a numerical limit on the amount of raw material which can be received at the site, the maximum scale of the operation is better defined. Published recommended screening level separation distances for an open static windrow composting operation with regular turning such as that at the SDC Burnham facility range from 500m to 2,000m. These separation distances are designed to be a starting point. Where an industry is separated greater than the distances stipulated in the guidance document then no adverse air quality effects are predicted to occur. Where there are receptors within the published separation distances then a more detailed assessment of potential effects is required.

As has been described in the technical assessments provided in support of the application and associated technical reviews of this application and previous applications, for composting operations good management of on-site processes is more important that separation distances. A good example of this is the Intelligro facility which also operates a composting operation of a similar size to that proposed by SDC and is located nearby and as such has very similar meteorological and terrain conditions to that at the SDC facility. The feedstock for Intelligro's composting process includes bark and sawdust, chicken manure, spent mushroom substrate compost and pig litter. The Intelligro composting method is static windrow composting with regular turning similar to that proposed by SDC. Composting operations using animal waste feedstocks have a higher risk of generating adverse odour emissions (as is described in the Composting New Zealand Consent Guide, Vic EPA, and the DEFRA Technical Guidance of Composting Operations). The Intelligro facility also collects, stores and irrigates the leachate collected from the operation, which requires a higher level of management and involves additional odour emission sources.

The Intelligro site has 12 residential receptors/dwellings within 250 m of the composting operation, a number of these are within 150 m. In Figure 1 below (sourced from the Golder AEE which supported Intelligro's air discharge

consent application), the location of sensitive receptors relative to the site are illustrated. Note that they essentially surround the site.

FIGURE 1 INELLIGRO SITE AND LOCATION OF SENSITIVE RECEPTORS.



Intelligro undertakes composting at its site in accordance with the good practice guidance discussed above and proposed by SDC. Since the Intelligro 2015 consent application until July 2019, there had been eight complaints relating to air discharges. However, none have been verified by an enforcement officer. This provides a real world example of a composting operation which is well run and controls odour to within a much smaller distance to that recommended in the publications discussed above and in the technical assessments supporting the application.

Based on on-site discussions, SDC own much of the surrounding land (in particular the land downwind of the prevailing north easterly winds). This reduces the risk of sensitive receptors being located in closer proximity to the site. Currently the closest receptor is 400m from the closest point of the active composting operations, this receptor would be downwind during south westerly winds which are generally higher windspeeds (which has better dispersion conditions) and generally occur during colder weather when receptors are less likely to be using outdoor areas. Notwithstanding this the applicant has proposed restrictions on undertaking certain higher risk activities during these wind directions. Activities with higher odour emission potential (storage, mixing and shredding of raw materials and the initial formation of active composting windrows) are situated in the south western corner of the site, which increases the separation distances (to approximately 550 m). Given that the nearest sensitive receptors are only downwind during certain wind directions, using wind direction controls on certain higher risk odour emission activities can be a very effective management tool (one which is not available to Intelligro).

One of the key contributors to the potential for off-site odour effects is the feedstock which is composted. The current application documents and CDMP limit the feedstocks to kerbside organics and greenwaste. These are low risk feedstocks. I am happy that the current consent conditions will effectively limit the raw materials to low risk feedstocks.

I have no concerns about potential dust emissions from the site. The separation distances and proposed/existing dust emission controls are sufficient to control potential off-site dust effects.

Overall, if the proposed numerical limit on composting rates and recommended updates to the ODMP are made, based on the reports I have reviewed and that discussed above, in my professional opinion I consider that the proposed operation can operate without generating adverse off-site air quality effects.

Regards,

Donovan Van Kekem BSc, PG Dip FORS
Air Quality Consultant

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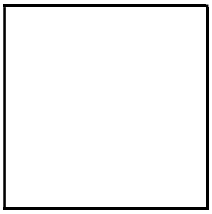

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APPENDIX 6

The Pines Resource Recovery Park:
Odour and Dust Management Plan

Selwyn District Council

Revision C

12 April 2021

www.townplanning.co.nz

Review:

Rev.	Status	Prepared by	Checked by	Date
A	Final	Anita Collie	John Iseli, Andrew Boyd, Tony Sheard	17/7/2018
B	Final	Anita Collie	Andrew Boyd	4/9/2018
C	Final	Anita Collie	Andrew Boyd	24/3/2021

Authorisation:

Name	Position	Signature	Date
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Contents

1. Introduction

Scope

1.1 The Pines Resource Recovery Park ("**the Pines RRP**") is a waste transfer station which processes general waste, including organic waste, on site. This plan documents the management of odour and dust from the organic waste composting operation. The scope of this plan does not include other operations on the wider site, such as the processing of general waste, recycling, and the proposed pyrolysis plant.

1.2 The objectives of this plan are to ensure that:

A. any adverse effects of odour and dust arising from the composting operation are not offensive or objectionable outside of the site boundaries.

B. ongoing compliance with the conditions of resource consent CRC041489 and any future variations is achieved.

1.3 The plan will provide methods to be used to achieve these objectives.

Resource Consents

1.4 Environment Canterbury Resource Consent CRC041489 authorises the discharge of contaminants to air (including odour and dust) from the wider Resource Recovery Park site. The measures in this management plan give effect to the requirements of the conditions of this resource consent. A copy of this consent is included in Appendix A.

1.5 Selwyn District Council holds multiple other resource consents for the site, including stormwater discharge consents CRC054637, and CRC201524.

1.6 There is also a designation (D412) over the site, which authorises the use of the site for a Resource Recovery Park in terms of the Selwyn District Plan.

Definitions and Acronyms

Commercial food waste	Food waste generated by commercial operations such as restaurants, cafes and by events.
Green waste	Typically garden waste dropped off by trailer loads, includes large pieces of woody vegetation such as tree prunings.
SDC	Selwyn District Council
The Pines RRP	The Pines Resource Recovery Park
Kerbside organics	Organic waste, comprising mostly of garden waste and food scraps.

2. Description of Operation

Site owner and operator

2.1 The owner of the site is the Selwyn District Council, and the site is operated by Sicon Limited.

Management structure and staff responsibilities

2.2 The management structure and staff responsibilities are summarised in Table 1 below.

Table 1: Key positions and responsibilities

Position	Responsibilities relating to this plan
SDC Solid Waste Manager	• Overall responsibility for site, including compliance with resource consents. • Respond to any questions / complaints from the general public.
Site Manager	• Oversight of day to day management of site and implementation of the controls in sections 3 and 4 of this plan. • Ensure Site Staff are trained and understand how to carry out tasks under this plan. • Ensure compliance information is being recorded as required.
Site Staff	• Carry out tasks as directed by Site Manager. • Report any compliance issues to Site Manager.

2.3 Contact details for key personnel are maintained in a separate register that is updated as required.

Site location and layout

2.4 The Pines RRP is located at 183 Burnham School Road, Burnham, Selwyn District (Figure 1). The layout of the site is shown in Figure 2 below.

Figure 1: Site Location indicated by red outline (Source: Canterbury Maps)

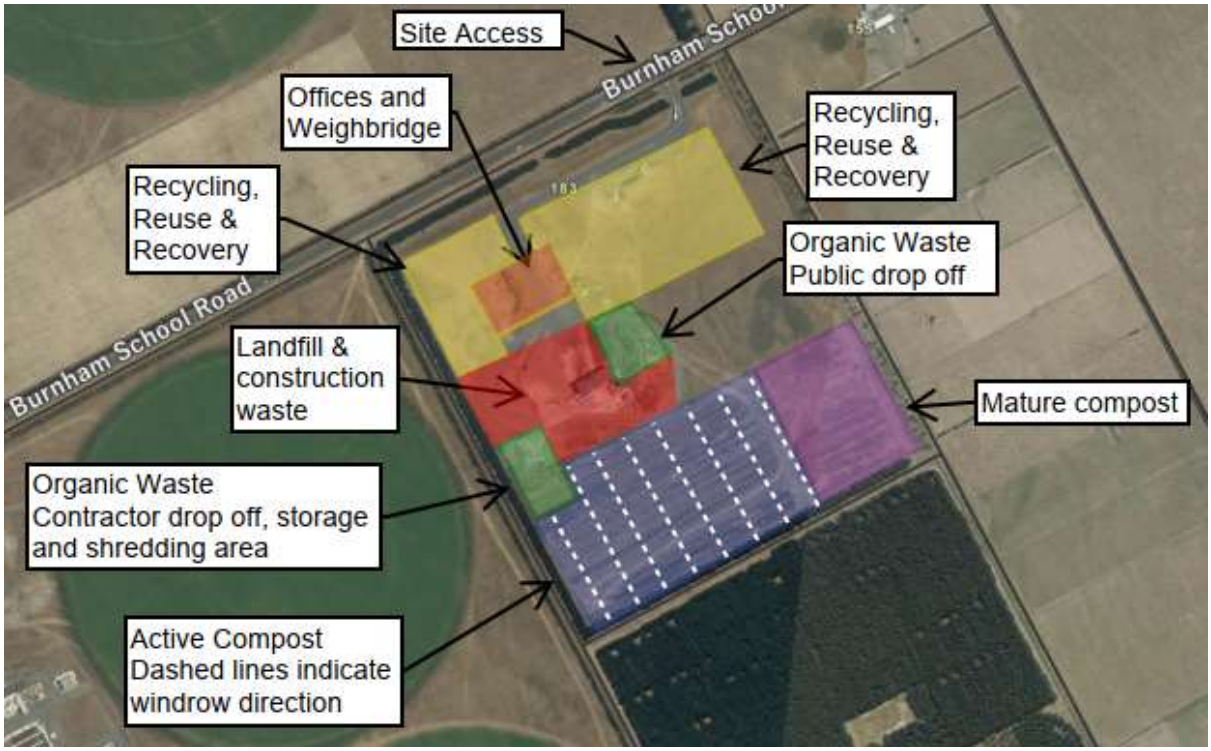

Figure 2: Indicative Site Layout (Source: Canterbury Maps)

Surrounding land uses

2.5 The Pines RRP is located in a predominantly rural area, approximately 1.5 kilometres to the west of the nearest Rolleston suburban area. The surrounding land uses and potentially sensitive receptors are indicated in Figures 3 and 4 below, and summarised in the following paragraphs.

2.6 To the east and south east is rural farmland and several dwellings. To the south is a block of plantation pine trees owned by the Selwyn District Council. To the south-west is the Pines Wastewater Treatment Plant (also owned by Selwyn District Council), and to the north and west is farmland with no dwellings in proximity to the site. A block of land to the north of the site is zoned Living 3 under the Selwyn District Plan, but no residential development has occurred on that site as yet.

2.7 Figure 4 below shows the distance to the nearest dwellings.

(a) 155 Burnham School Road – located 410 - 550 metres away from the active composting area and could be affected by odour and dust in south-westerly wind conditions.
(b) 324, 348 and 362 Brookside Road – located 570 – 820 metres away from the active composting area and could be affected by odour and dust in westerly and north-westerly wind conditions.

2.8 Note that dwellings to the south and south west of the site are approximately 2000m from the site.

2.9 Other potential sources of odour in the wider area include a dairy farm, chicken farms to the south-east, a pig farm and the Burnham Military Wastewater Treatment Plant to the west, the Pines Wastewater Treatment Plant to the south-west, as well as silage feed out and other farm related odours in the area.

Figure 3: Surrounding Area (Source: Canterbury Maps)

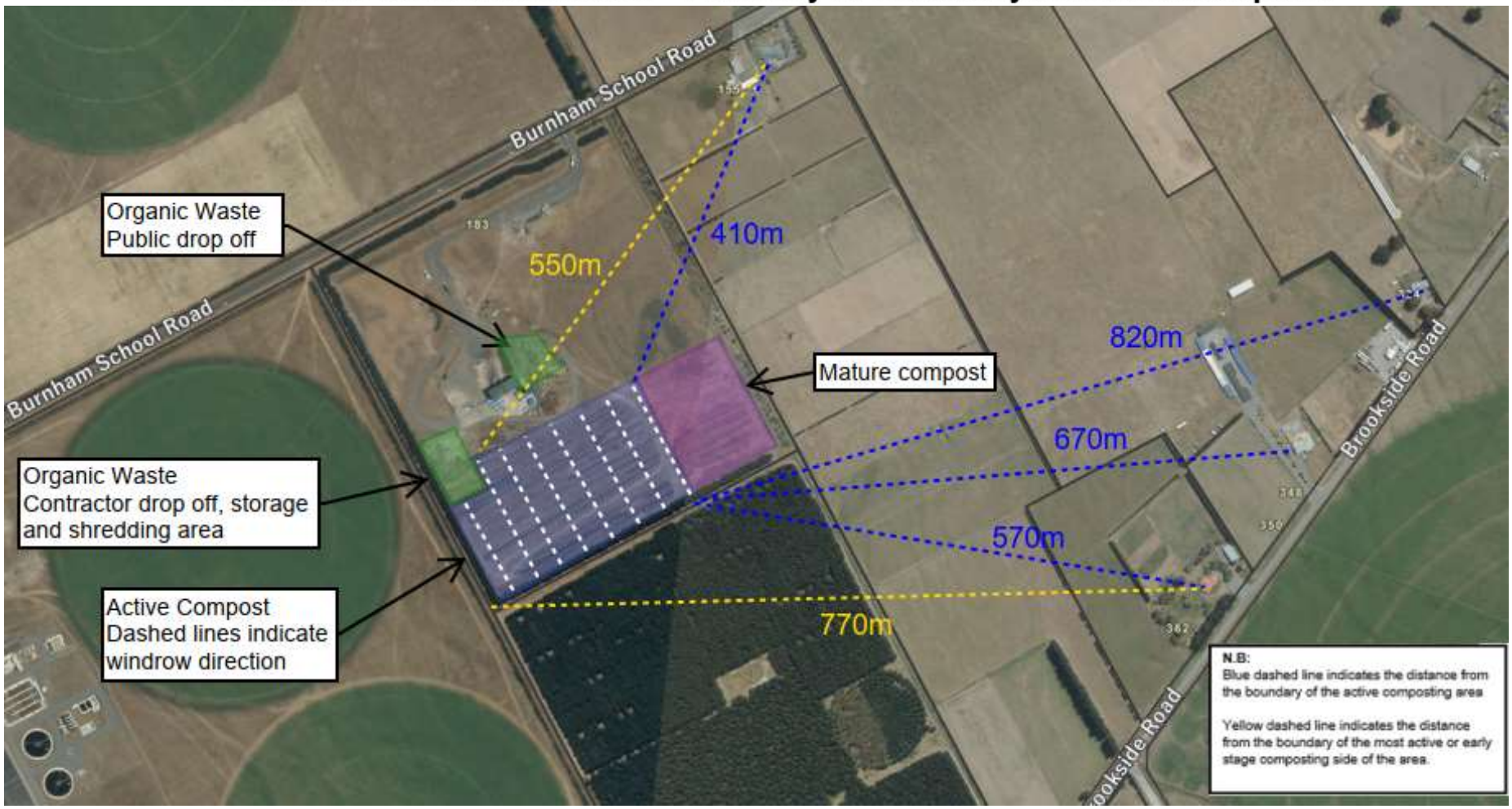

Figure 4: Distances to neighbouring dwellings (Source: Selwyn District Council)

Local meteorological conditions

2.10 The closest meteorological station with historical records is located at the Burnham Military Camp site, approximately 3km to the west-northwest of the Pines. A wind rose (Figure 5) has been developed from the Burnham data for 1 June 2017 to 31 May 2018. The wind rose shows that prevailing winds are from northeast. In combination nearly 30% of winds blow from the northeast and north-northeast.

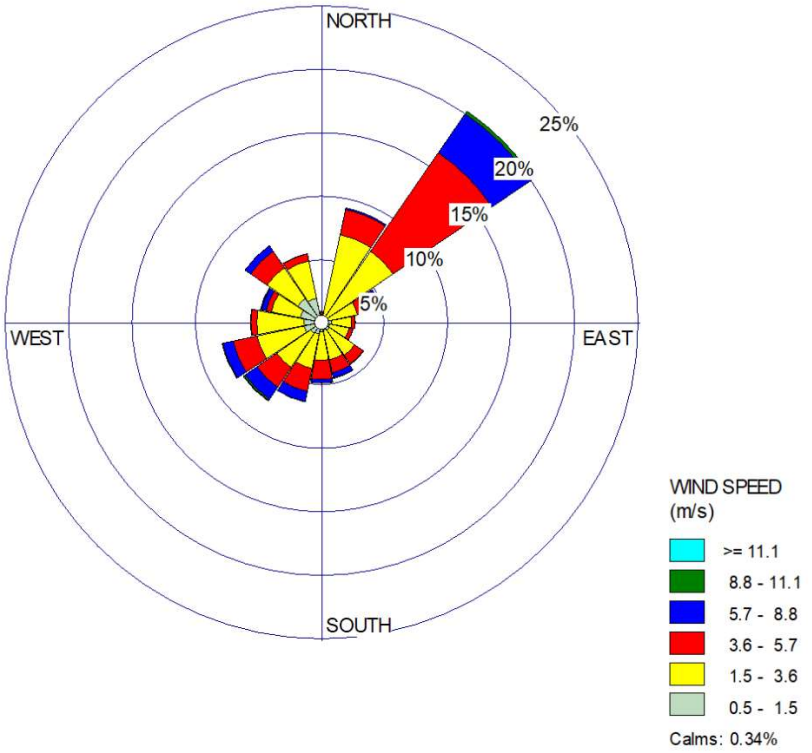

Figure 5. Wind rose for Burnham, 1 June 2017 to 31 May 2018, all hours (wind direction is blowing from).

Description of composting process

2.11 Composting shall occur in general accordance with New Zealand Standard 4454:2005 *Composts, Soil Conditioners and Mulches*, to achieve the objective that odour and dust are not offensive or objectionable outside of the site boundaries.

Feedstock

2.12 The sources of organic waste are composted at the Pines RRP are:

a) "Kerbside organics" - Organic waste, comprising mostly of garden waste and food scraps.

b) "Commercial food waste" – food waste generated by commercial operations such as restaurants, cafes, commercial food producers and by events.

c) "Green waste" – typically garden waste dropped off by trailer loads, includes large pieces of woody vegetation such as tree prunings.

2.13 All feedstock arrives on site via the weighbridge and the tonnage is recorded.

2.14 Compostable waste is received multiple times per day, with the kerbside organics and green waste being stored in separate piles. Commercial food waste is delivered intermittently by independent contractors. All incoming material is weighed and recorded via the onsite weighbridge system.

2.15 A list of acceptable and unacceptable materials for composting is set out in Table 2 below.

Table 2: List of Acceptable and Unacceptable Materials

Acceptable Materials	Unacceptable materials
Garden pruning, clippings and leaves	Treated timber
Food waste	By products from industrial or trade processes
Coffee grinds and tea bags	Animal wastes
Small quantities of cardboard and paper	Human waste
Compostable packaging and products	Plastics
Other non-odorous organic material such as sawdust	Glass
	Polystyrene

2.16 The Selwyn District Council website contains a detailed guide to what material is acceptable in kerbside organics (https://www.selwyn.govt.nz/my-property/rubbish-recycling-organics). This information is communicated to residents via various channels.

Shredding and Mixing

2.17 Kerbside organics will typically be processed within 24 hours of arrival as it has the highest potential to contain odorous material, with the following exceptions:

a) No processing is usually undertaken on weekends or public holidays for safety and amenity reasons due to the higher numbers of general public visiting the site. For example, some of the kerbside organics received at the site on a Friday will typically be processed on the following Monday.
b) In the event of machinery breakdown or necessary maintenance, processing will cease until safe and functional equipment is available.

2.18 If processing ceases for longer than 24 hours, high carbon material such as sawdust, bark, mulch, mature compost or shredded green waste will be used to cover the kerbside organics. When processing re-starts following a break, the oldest kerbside organics is to be processed first.

2.19 Commercial food waste will be delivered to the site by independent contractors. These providers will be requested to deliver the material in enclosed containers or using alternative methods to ensure that odours do not cause issues during delivery to the site, and to provide notice to the Pines RRP of incoming loads. Commercial food waste will be prioritised for processing and incorporated into a windrow as soon as practicable after arrival on the site. Any commercial food waste received will be processed within 2 hours of arrival, or will be covered with high carbon material such as sawdust, bark, mulch, mature compost or shredded green waste to reduce odour generating potential.

2.20 Green waste will be stockpiled on site so that it is on hand to use as a bulking agent to combine with the kerbside organics and commercial food waste material. All material is to be visually inspected prior to processing to remove any materials that are not suitable for composting (e.g. plastics, glass).

2.21 Material is shredded and mixed by loader to achieve a ratio of carbon to nitrogen between 30:1 and 40:1. Shredded material may range in diameter from 12mm to 40mm, and up to 400mm in length, in order to allow for sufficient air spaces within the windrows.

2.22 Available feedstocks will be mixed in order to achieve the optimal carbon to nitrogen ratio of between 30:1 and 40:1. The C:N ratio of typical incoming materials are:

Kerbside organics 30:1
Green waste 250:1
Commercial food waste 10:1

2.23 The above numbers are indicative, as incoming material, particularly kerbside organics, can be variable. If the proportion of food waste in the kerbside organics becomes greater, for example due to a seasonal reduction in garden waste, additional green waste should be mixed during the shredding process.

2.24 Kerbside organics is mixed with a small amount of green waste to ensure the C:N ratio remains in the optimal range. Any commercial food waste is to be mixed generously with green waste and kerbside organics. The Site Manager will be responsible for ensuring that site staff are suitably mixing feedstocks.

Windrow Formation

2.25 Shredded and mixed material is loaded onto a truck and transported to the active composting area, where it is placed in windrows, typically up to 3m high and 6m wide. A gap of approximately 3m between windrows allows for machinery access and turning the windrows. The most recent material is always placed in the western-most part of the active composting area. A new windrow is started after every time a windrow has been turned for the first time (and hence moved out of the western-most part of the active composting area).

Windrow Turning

2.26 Active composting occurs for a minimum of 6 weeks and curing occurs for at least a further 6 weeks.

2.27 Windrows in the active composting area are turned every 3-7 days, with the optimum frequency for turning being determined by parameters for moisture, temperature and oxygen. However, the timing for turning windrows also depends on a number of operational and environmental factors, including weather (particularly wind direction and strength) and safety considerations.

2.28 As windows are turned, they are moved in a south easterly direction along the site, to allow room for newer material to be placed at the westernmost part of the active composting area (the furthest point from the nearest dwellings). This also allows batch and age tracking of the composting material.

Active and Curing Composting Optimal Parameters: Temperature

2.29 The optimal temperature for active composting is 55 degrees Celsius inside the windrow. Windrows must be at this temperature for at least 3 days prior to turning.

2.30 Temperature of the windrows will be measured at least once per week for the first 8-12 weeks, and thereafter once per month during the maturation period. Temperature will be monitored using a temperature probe at three points per windrow, at the middle of the windrow and at either end. A record of the temperature measurements will be retained for 12 months.

2.31 If the temperature of the windrow falls outside the range of 40-75 degrees during the active phase, the windrow must be turned at the earliest opportunity, with consideration given to adding moisture if necessary.

Active and Curing Composting Optimal Parameters: Moisture

2.32 The optimal moisture content for active composting is approximately 50%. Moisture content will be maintained in the range 45-65%. Moisture content will be monitored using the squeeze test at least once per week. Moisture monitoring will occur at three points per windrow, at the middle of the windrow and at either end.

2.33 The squeeze test is undertaken by squeezing a handful size sample of compost from at least 30cm into the pile.

a) If liquid is squeezed from the material, it is too wet, and the windrow is to be turned with dry material added as required.

b) If the material falls apart, it is too dry. Water is to be added and the windrow turned.

c) If the material retains it's squeezed shape when the hand is opened, the moisture content is about right.

~~2.34~~ Water supply is available on site by way of large hoses and hydrants alongside the active composting areas.

Active and Curing Composting Optimal Parameters: Oxygen

2.35 The optimal oxygen concentration for active composting is 12-14%. If the oxygen concentration is too low, anaerobic decomposition occurs, resulting in foul-smelling odour.

2.36 Oxygen concentration will not be monitored directly. Rather the factors leading to low oxygen concentration will be monitored and managed, these being temperature, moisture and frequency of turning.

2.37 If a windrow is observed to be odorous and this is not resolved by turning or other odour control methods described in Section 3, pile oxygen concentration should be monitored to ensure the windrow is not anaerobic.

Curing and Maturation

2.38 Curing occurs from approximately 6-12 weeks after the composting process begins. During curing, turning is required approximately once per week until mature compost is achieved (indicated by temperatures remaining consistently below 45 degrees C). The final product stabilises and soil-based organisms will multiply and spread through the product.

2.39 The compost is mature after approximately 12 weeks of active composting and curing, and when temperatures remain steady below 45 degrees. It is then stored in

the mature compost area. Mature compost is sold in bulk lots unscreened or is screened to suit the requirements of the end market.

Summary

2.40 Figure 6 below summarises the composting process.

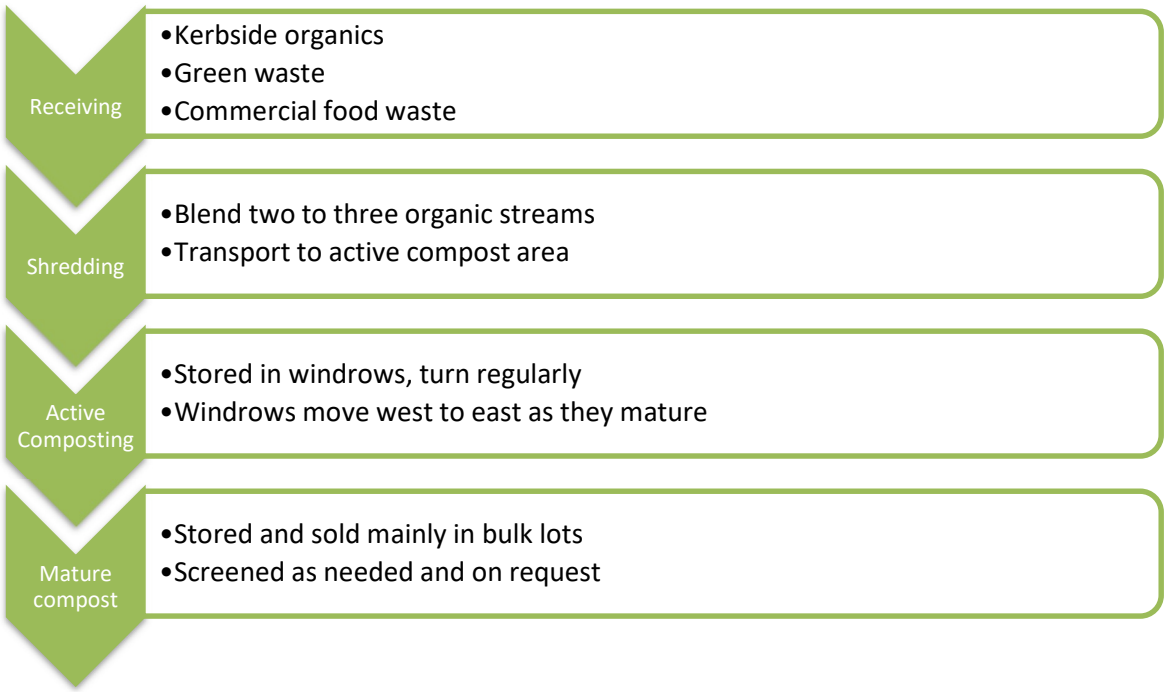

Figure 6: Composting Process

Contingency planning

2.41 Contingency measures as they relate to key risks are outlined in this section.

Risk: Failure of key equipment

2.42 A potential process risk is failure of key equipment; the shredder, loader or truck. If one of the pieces of key equipment is not able to be used the unprocessed kerbside organics material may accumulate over a period of days. Most breakdowns with equipment such as shredders, loaders and trucks can be repaired within hours of the fault. The following measures are in place to mitigate this risk:

a) Regular equipment inspections
b) Preventative maintenance
c) Stocking some spare parts onsite

d) Having local parts and service suppliers wherever possible

e) Backup key equipment may be available on site, for example loaders and/or trucks.

f) Having access to and relationships with shredding contractors that can be mobilised until the onsite shredder is made operable. These contractors can be generally be activated within 24 - 48 hours.

g) Sawdust or other high carbon material can be applied over the kerbside organics to contain any odours if processing will cease for more than 24 hours. This acts as a natural biofilter.

h) Some backup key equipment may be available on site or alternatively mechanical plant support is available from external subcontractors. Replacement key equipment can be active within 24 hours.

Risk: Staff Availability

2.43 Trained staff are required to operate the machinery and manage the site. The Site Manager will ensure that sufficient staff are trained and rostered to work on the site to ensure that the composting processes can operate as per this management plan.

Risk: Windrows become anaerobic due to impeded drainage

2.44 If water ponds at the base of windrows due to over-watering, impeded drainage or heavy rainfall, and typical management measures are not sufficient to prevent anaerobic conditions, the following contingency measures are available:

a) Use of a portable vacuum pump or sucker truck to collect any ponded water and transfer it off site to the adjacent Wastewater Treatment Plant.

b) Install a coarse plenum of material at the base of the windrow to ensure that the base of the windrow is free draining, and the oxygen content is maintained.

Risk: Windrows are anaerobic, and the reason is unclear.

2.45 Should windrows become anaerobic and typical management measures are unsuccessful, monitoring of additional parameters may assist with determining the cause and/or ensuring that the composting process remains aerobic. Additional

parameters that may be monitored include oxygen, pH, bulk density, continuous temperature and Solvita tests.

Risk: Unprocessed odorous material is unable to be processed promptly

2.46 Organic high carbon material such as sawdust, bark, mulch, mature compost or shredded green waste will be used to cover the unprocessed odorous material. Stockpiles of high carbon material will be maintained on site sufficient to cover any unprocessed odorous material should the need arise.

3. Odour Management

Sources of Odour and Control Measures

3.1 The main sources of potential odour from the composting operation at the Pines RRP are:

a) Unprocessed kerbside organics, primarily food waste;

b) If the active composting phase turns anaerobic;

c) Unprocessed commercial food waste; and

d) Leachate from windrows or unprocessed organic material on the receiving pad.

3.2 The nature of the materials received at the site will be limited to ensure that material which creates an unacceptably high risk for offensive and objectionable odour will not be composted.

3.3 Table 3 below outlines the odour sources and control measures for the composting operation.

Table 3: Odour source and control measures

Source	Control
Unprocessed kerbside organics in the receiving area	• Kerbside organics received to the site will be shredded and placed in windrows within 24 hours of being received during normal operation, with the exceptions as noted in 2.17-2.18 above. • Prevent significantly odorous feedstock by visually inspecting all incoming material prior to shredding to ensure that only acceptable materials are present. Unacceptable materials will be transferred to the landfill waste area of the Pines RRP. • Sawdust or other high carbon material may be placed over the unprocessed material or mixed with the unprocessed material if the load is slightly odorous or if kerbside organics cannot be processed within 24 hours of arrival on the site.

Source	Control
Compost windrows	• Windrows with the youngest material to be located in the south-western part of the active composting area, furthest away from neighbouring dwellings. • Mature compost to be located in the eastern part of the composting area. • Ensure optimal temperature and moisture parameters are achieved, as described in section 2 above. • Turn the compost windrows at the frequency specified in section 2 above. • Maintain a maximum windrow height of 3 metres to ensure sufficient air penetration into the centre of the windrow.
Turning windrows	• Turn the windrows ideally when the wind direction is southerly, south-easterly, easterly, north-easterly or northerly. • Avoid turning windrows before 9am and after 3:30pm daily during calm or near-calm conditions (wind speed less than 1.5m/s or 5.4kph). • Avoid turning the windrow when the wind direction is south-westerly, westerly or north-westerly.
Anaerobic (odorous) windrow	• Turn the windrow as soon as practicable, ideally when the wind direction is southerly, south-easterly, easterly, north-easterly or northerly. • Avoid turning the windrow when the wind direction is south-westerly, westerly or north-westerly. • If the windrow is still odorous after it has been turned, cover with sawdust, mature compost or other high carbon material. • After taking the above steps, increase the frequency of temperature and moisture parameter monitoring until the odour has ceased.
Commercial food waste	• Commercial food waste shall comprise no greater than 10% of the organic waste composted at the Pines RRP, as calculated on a monthly basis. • Acceptance criteria include a requirement that commercial food waste is delivered to the Pines RRP in a condition that is not

Source	Control
Commercial food waste (cont.)	excessively odorous. This could be achieved by delivery of the commercial food waste soon after production, to minimise decomposition. Excessively decomposed commercial food waste should be delivered in a manner that contains any odour (e.g. in an enclosed container or vehicle, covered in high carbon material, or any other manner that effectively contains odour). • Providers of commercial food waste are requested to advise the Pines RRP of expected deliveries and to deliver commercial food waste in an enclosed container. • Commercial food waste shall be shredded and incorporated into a windrow as soon as practicable after delivery to the Pines RRP, and not longer than 24 hours after delivery. • Commercial food waste that is not enclosed shall be processed within 2 hours of delivery or covered with non-odorous organic material (such as sawdust, mulch or mature compost) until it is processed, but regardless shall be processed within 24 hours of arrival on the site. • Providers who deliver highly odorous commercial food waste to the Pines RRP will receive two warnings, and on the third offence within a calendar month, will be precluded from delivering commercial food waste to the Pines RRP until they can demonstrate that the cause of the odorous food waste has been identified and addressed satisfactorily.
Leachate from unprocessed kerbside organics in the receiving area	• Undertake regular checks of the sand trap to ensure it is not blocked and there is no backup of leachate. • Remediate the sand filtration media when it becomes saturated with solids from runoff to ensure there is no backup of leachate.
Leachate from windrows (i.e. liquid from windrows that may pond on the	• Ensure that windrows are orientated parallel to the direction of fall on the site to ensure any leachate is directed towards the soak pits on the south eastern boundary of the site.

Source	Control
ground rather than drain away)	• The area between windrows shall be maintained at a level such that there is an unrestricted path for water to flow overland towards the soak pits. • Ensure that windrows do not sit in a depression to prevent the windrows from getting 'wet feet'. • Any ponded water will be scooped up using the loader and re-applied to the windrows.

4. Dust Management

Sources of Dust

4.1 The main sources of potential dust in the composting process at the Pines RRP are:

a) Fine material from roads and unsealed surfaces stirred up by vehicle movements or wind;

b) Shredding green waste;

c) Fine material blown from windrows and mature compost storage piles during turning, or if they become too dry; and

d) Screening and loading of screened compost on to trucks.

Dust Control Measures

4.2 Roads within the site are sealed and vehicle speeds throughout most of the site are limited to 10km/hr and 30km/hr on the sealed accessway. Sealed roadways will be swept and maintained in good condition to minimise dust emissions from vehicle movements.

4.3 Mature compost will be stored on site in unscreened windrows. Mature compost may be screened as it is sold at the customer's request. Screening and movement / loading of screened material will not be undertaken during strong (greater than 10m/s or 36kph) south-westerly, westerly or north-westerly wind conditions unless material is wet down to avoid dust migration off site. Small quantities (i.e. up to 500 cubic metres) of screened compost for retail sales may be stored on the site within a bunker area that is sheltered from the wind.

4.4 The Site Manager has access to dust control measures including a 1200 litre watercart with motorised pump that can be used if necessary. Water will be applied to unsealed surfaces and windrows as required to minimise dust movement beyond the Pines RRP site boundary. Active and curing windrows will be maintained in a damp condition to optimise the composting process and prevent dust emissions.

5. Monitoring

Summary of Monitoring Activities

5.1 Monitoring activities have been described in previous sections and are summarised in Table 4 below. If odorous or dusty material is noted, the Site Manager will be informed, and measures described in sections 3 and 4 taken to mitigate the odour or dust.

Table 4: Summary of Monitoring Activities

Monitoring Activity	Frequency
Visually monitor incoming material to ensure no unacceptable materials are composted.	Ongoing as material is shredded.
Temperature Monitoring described in section 2.	Once per week at three points along the windrow; one in the centre, and one at each end.
Moisture monitoring described in section 2.	When windrows are turned
Meteorological monitoring	On site meteorological station measuring temperature, wind speed and direction. A logging function enables historical information to be accessed. Short term future meteorological conditions using published forecasts on the internet or meteorological phone applications.
Odour monitoring	Site-based staff to monitor odour as they work. Report any odour to the Site Manager. In the event of a complaint, check the windrows and receiving area for odour. Maintain register of complaints
Dust monitoring	Site-based staff to monitor dust by observation as they work.

Complaint Procedures

5.2 Should a complaint of dust or odour be received, a Complaint Form (Appendix B) will be filled out and a copy sent to the Selwyn District Council Solid Waste Manager and the Site Manager immediately.

5.3 Records will be kept of all complaints on a register, and will include details of the complainant, the nature of the issue, the weather conditions, the actions taken in response to the complaint, and the resolution. The complainant will be asked to describe the nature of the odour or dust emission, duration, if they can identify the source and whether it is worse at any particular time of day.

5.4 As soon as practicable, the complaint will be investigated with a site visit, and steps taken to rectify the issue if necessary. A visit to the location from which the complaint originated should be undertaken on the same day if practicable to determine if the odour or dust problem is still occurring.

5.5 If the source of the odour or dust is not from the Pines RRP, attempt to verify the source of the odour or dust problem and document it.

5.6 The complainant will be contacted as soon as possible to inform them of the outcome of the investigation and the actions taken to remediate the odour or dust issue.

5.7 If necessary, implement any procedural changes to prevent recurrence of the odour or dust emission.

5.8 Advise Environment Canterbury of any complaints in accordance with resource consent conditions.

Records

5.9 All records will be held electronically. Records include; consent monitoring reports, complaints register, meteorological data, and may also include other relevant records.

6. Review

6.1 This management plan shall be reviewed annually and in the event of changes to the resource consent authorising the discharge of contaminants to air from the Pines RRP.

7. Appendices

A: Resource Consents

B: Complaint Form