

Transitional Plan – Organics Processing Plant upgrades

Actions in this plan cover a transitional period until proposed upgrades can be completed at the Christchurch City Council composting facility located in Metro Place, Bromley.

Overview

Bromley is a residential suburb that lies to the east of the city centre, mostly between Pages Road and the Avon-Heathcote Estuary/Ihutai and tidal mudflats. The suburb is home to many businesses and industrial facilities including:

- Council's wastewater treatment plant with adjoining oxidation ponds
- a large industrial area with up to 60 odour-producing businesses
- 2 resource recovery facilities owned by the Council on Metro Place, the transfer station and the Organics Processing Plant (OPP). The transfer station is contracted to be operated by EcoCentral Ltd (ECL) and the OPP is operated by Living Earth.

The issue of unidentified, offensive, chronic and acute odour in parts of Bromley has been a persistent and longstanding issue for the community. Over the years there has been a consistent flow of complaints about odour from residents that have been investigated but no one source identified or resolutions found. Environment Canterbury (ECan) and the Council also have a long history of working together to try and locate the sources and trial different approaches.

During 2020, ECan undertook a pilot project to determine sources of odour in the area. This included crowd sourcing data from the 'Smelt-It' application, stationing two officers at the OPP and engaging an independent odour assessor. Through this process, ECan assessed that the OPP was producing odour beyond the site boundary, with it considered offensive and objectionable by the ECan officers and community.

Based on this information, the Christchurch City Council (CCC) approved an upgrade of the facility, allowing \$21.7m to enclose the composting operations and upgrade air treatment equipment. However, Council has now responded to public feedback and have asked staff to commission a feasibility study to relocate the OPP to another site for it to consider in March 2022.

In the interim, Council and Living Earth are working together to meet the compliance deadline set by ECan of resolving the odour issues by the end of January 2022. This interim measure involves moving all immature compost offsite when it comes out of the tunnels and relocating it to be used as a soil conditioner. By allowing the compost to mature in-situ on the paddocks, it eliminates the need to have the compost in windrows on maturation pads at Living Earth and will address the immediate issue of compliance for that site. Trials are currently being run at the Waste Water Treatment Plant paddocks to test for odour emissions and the rate of maturity spreading the immature compost earlier than what is normal for NZ practices. It should be noted this is an internationally recognised practice in other countries such as Australia and USA.

Background – existing operations

OPP site operations:

- Receive incoming Food Organics and Garden Organics (FOGO) material in processing hall
- Receive incoming green waste outside
- In-vessel composting of all FOGO (air is treated via a biofilter to mitigate odour)
- Windrowing of green waste
- Maturation of compost in outside windrows (includes turning)
- Screening of finished compost under cover (processing air treated by biofilter)
- Loading of finished compost for transport offsite.

ECan's onsite investigations have identified the following sources of odour onsite:

- Odour from the processing hall and biofilter is minimal
- Onsite activity makes minimal difference to odour emissions
- Odour produced by maturing compost that is present beyond the boundary. Predominant issue was in wind directions between 45° to 90° (East to North-East) at a speed of one to five metres per second, with increased odour reports from Bromley residential area during these conditions.

Living Earth already operates best practice odour management and utilises mitigation methods, such as:

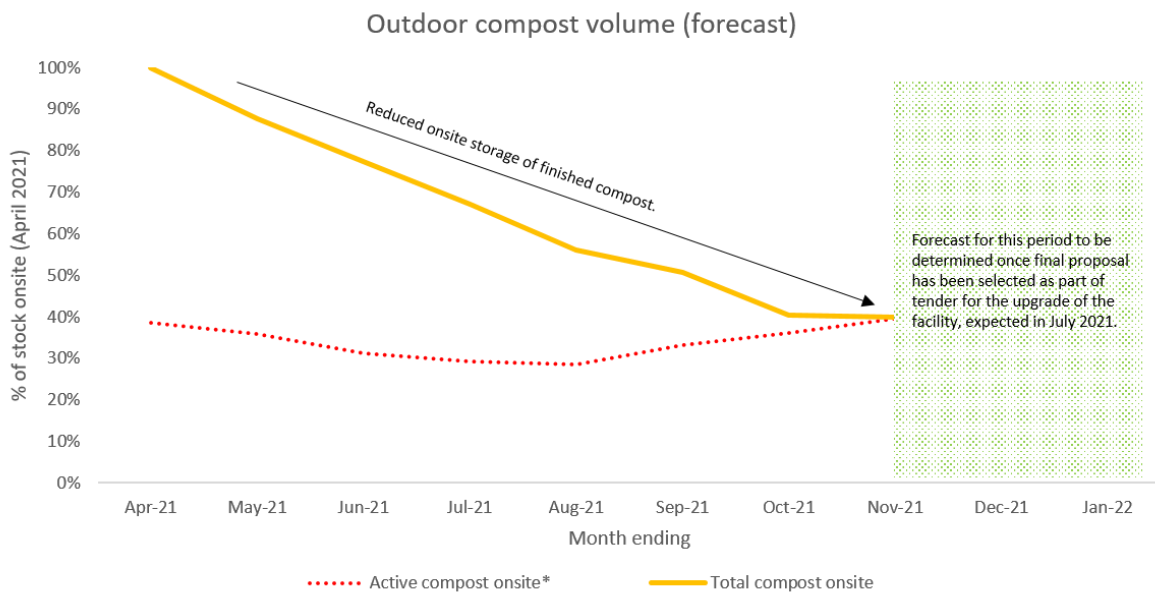
- Treating all air from the processing hall, tunnels and screen shed through biofilters
- Compost blend designed to reduce risk of odour (Carbon:Nitrogen ratio, porosity, water content)
- Tunnel blending during in-vessel phase
- Operational planning based on climactic conditions
- High levels of staff training, including staff with 'calibrated nose' certification
- Onsite management to reduce risk of compost becoming anaerobic
- Boundary tree plantings
- Boundary and portable misters.

Despite these steps, ECan has still found issue with odours beyond the OPP boundaries. Council has worked with Living Earth to agree a transitional plan outlining actions that can be taken to manage these ongoing issues until the upgrades are completed. A summary of these transitional actions is outlined below, noting that a final timeline will be supplied upon appointment of a contractor for the upgrade works.

Transitional Plan – Key Objectives

The following operational changes will be implemented during the upgrade period;

1. **Stop receiving pre-consumer food organics.** Since 23 December 2020 Living Earth stopped receiving pre-consumer food organics to reduce incoming materials and address community concerns that these materials were the source of offensive odour. This reduction in inputs will be maintained until upgrades are completed.
2. **Minimise the onsite storage of finished compost by prioritising the screening and removal of finished product from the site.** Living Earth is currently removing the majority of stockpiled material from the site. This process includes screening finished product and removing screened compost. Under the preferred scenario the only material onsite would then be maturing compost, which represents 30 to 50 percent of the current material onsite. This material is required to be processed for at least eight weeks outside for the finished product to meet the relevant composting standards. The minimum possible volume onsite under the current process is identified by the dashed red line in the graph below, noting that this fluctuates based on seasonal variation of incoming material.



*Minimum amount of material required outside to complete current process and meet relevant compost standard. Fluctuates due to seasonal variations of incoming waste.

The above forecast demonstrates the available reduction in compost onsite (up to 60 percent of current volume) by reducing stockpiled materials. Please be aware that this is a forecast based on data from previous years incoming and outgoing material, it is subject to change due to fluctuations of inbound and outbound material.

3. **Maintain effective treatment of processing air, including maintenance of biofilter.** This work is underway, with works due to be completed by 31 May 2021. Following the replacement of biofilter material, an assessment will be completed to establish odour levels and characteristic of emissions.



4. **Investigate additional buffering, including boundary plantings along the Southern site boundary.** Council are working with its lease holder of the reserve adjacent to the OPP to

see whether it can install additional plantings on this land. This will provide a further natural buffer around the composting facility.

5. **Maximise stability of compost onsite.** This includes trialling compost probiotic additives that accelerate the composting process, reducing the time compost takes to mature in windrows. This trial is underway with staff considering the addition of the probiotic additive at different stages in the composting process. This will help to understand its effectiveness at increasing maturity and reducing potential odour of maturing compost.
6. **Install a time-lapse camera so that residents can see the reduction in outdoor storage.** This project is being initiated by Living Earth and is likely to be installed by the middle of June. Dependant on the frequency of imaging, an updated time-lapse will be available on the CCC website.
7. **Address community concerns and keep the community informed via regular community meetings and an information newsletter.** Newsletter updates are sent at regular intervals to the community, when there is new information. A quarterly community meeting has been set-up with ECan and Council staff in attendance to answer questions from the community about the plant.
8. **Fortnightly reporting to Environment Canterbury.** The Council will provide regular updates to ECan with progress made on the implementation of the changes proposed in this plan.
9. **Waste Water Treatment Plant Paddock Trial.** Council is working with Living Earth and the Waste Water Treatment Plant to trial using immature compost as a soil conditioner for future riparian planting on one of its paddocks. Early signs show good promise, with solvita tests showing the compost is maturing quicker, ranging from a reading of solvita 4-6 within a few weeks which is close to mature.

The Council will provide updates to the community via newsletters as well as two Bromley Liaison Group (BLG) meetings scheduled for August and November. At the BLG meetings ECan will also issue

a report outlining their compliance monitoring for the preceding period. To sign up for the newsletters and to be notified about the time, date, location of BLG meetings please visit our webpage – ccc.govt.nz/bromleyodour.

Summary

We are committed to resolving the ongoing odour issues with this site, acknowledging the above additional steps which can be implemented ahead of the site redevelopment.

Once a contractor is appointed and a final design approved, this plan will be updated to reflect timelines and additional activities related to the upgrade works.

Council will ensure the community are updated throughout implementation of this plan. Working with our contractors, we aim to address the concerns raised in the ECan study and demonstrate best practice odour management to the community.