



Eastern Metropolitan Regional Council: Red Hill Waste Management Facility

October 2021

Background



Operator details

The Eastern Metropolitan Regional Council (EMRC) is a regional local government body in Perth, Western Australia. The EMRC comprises five member councils: the Town of Bassendean; City of Bayswater; City of Kalamunda; City of Swan; and the Shire of Mundaring.

Facility and site details

The EMRC operates the Red Hill Waste Management Facility, which is located about 12 kilometres north-east of Midland, on the south side of Toodyay Road and east of the Darling escarpment. The facility uses modern techniques and principles of sanitary landfill design and operation, including leachate collection and methane gas capture.

EMRC has approval (under a licence amendment) to compost up to 10,000 tonnes of food organics and garden organics (FOGO) waste per year at an interim facility at its Red Hill site. The site is licensed to conduct several activities, including landfilling, crushing and screening of inert natural rock, and composting, and it also serves as a waste depot where the local community can drop-off of a range of waste and recycling.

EMRC is tendering for a larger FOGO processing facility, which would start operating in a few years on a nearby section of the same site. The interim facility is currently licensed to process FOGO waste until 31 December 2022. EMRC also has an existing green waste (garden organics) composting operation at a nearby part of the same site.

FOGO waste is being collected from residents within the Town of Bassendean and the City of Bayswater.



Current situation

Steps in the process

FOGO is currently received at the interim facility, and processed via several stages:

- FOGO material arrives in collection trucks and is set down at a staging area where an initial sort removes obvious significant contamination
- the remaining FOGO material is placed in the first composting stage where air is drawn through it and then passed into a biofilter (to mitigate odours)
- once the FOGO material has begun to compost and odours have reduced, the material is moved to a second stage where air is forced through it for some weeks to complete the more active phase of the process
- after the active phase of the composting process settles down, the material is moved to a maturation area, where for a few weeks it undergoes a stabilisation process
- the stabilised material undergoes final screening and testing before it is distributed into markets for compost products.



Plate 1. Stages 1 and 2 of the FOGO composting process (the active phase).

Future plans

EMRC went through a rigorous environmental approvals process to obtain its licence amendment from the Department of Water and Environmental Regulation to process FOGO. The Red Hill facility's separation from the community played a key role in the decision to process waste at this site.

EMRC has recently purchased an additional 55 hectares of land (lots 3–7) to serve as a buffer for the site and the proposed permanent FOGO processing facility.

The permanent facility will also consider using dry anaerobic digestion technology to process the FOGO material for EMRC's member local governments. It could also potentially be expanded to process FOGO waste from non-member councils and commercial and industrial sources.

EMRC recently received approval for an extension up to 2024 to construct and implement a resource recovery facility at the Red Hill site, which will process up to 150,000 tonnes of waste per annum. The proposed facility aims to process the organic fraction of municipal solid waste (derived from a source-separated collection system) to produce compost and biogas using anaerobic digestion technology. EMRC has released a FOGO Strategy to support FOGO collections from its member local governments.



Plate 2. Red Hill Waste Management Facility site, with new sections on the left of the area with the red border.



Plate 3. New section of land purchased to build the permanent FOGO facility and other infrastructure.



Plate 4. Early site works where the new permanent FOGO facility would be located.