EMRC

Protecting Perth's Eastern Region

Red Hill Waste Management Facility-
Supplementary notes for contaminated waste disposal

Last Updated: 13 July 2016

PHONE: 9424 2222
FAX: 9277 7598

Table of Contents

1 Introduction

The following information is provided to assist customers in regards to the contaminated waste acceptance process at the Red Hill Waste Management Facility (Red Hill). We highly recommend you contact an environmental officer from the EMRC Waste Services Environmental Operations Team before lodging an application to assist in meeting the requirements of the waste application, assessment and approval process.

2 Waste Acceptance

2.1 Waste Application Process

If you wish to dispose of contaminated waste at Red Hill you will need to complete and submit a Waste Application Form, which can be provided on request by an EMRC Waste Services environmental officer. Information to be provided in the application includes:

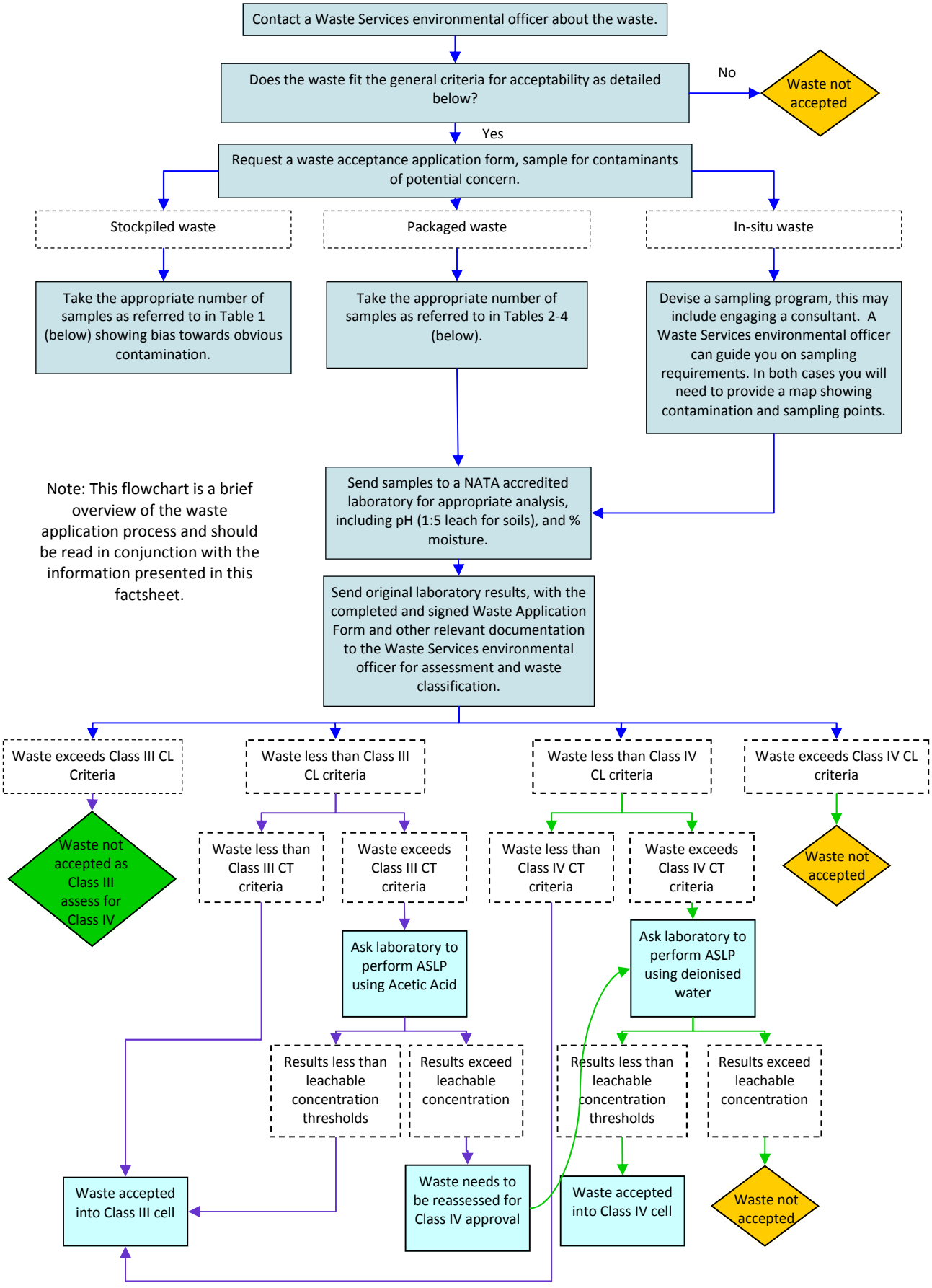
- A full description of the waste;
- Estimated quantity;
- Physical characteristics;
- Origin;
- Sampling procedure;
- Transport arrangements; and
- A copy of your NATA approved laboratory analysis.

Prior to disposal at Red Hill, contaminated waste must be analysed to determine the total concentration of contaminants (measured in mg/kg) and, if necessary, leachability. Following analysis, the contaminated waste is assessed by EMRC staff in accordance with the Department of Environment and Conservation's *Landfill Waste Classification and Waste Definitions 1996 (As amended December 2009)*. If the waste is acceptable for disposal at Red Hill, a Waste Acceptance Approval will be issued.

Waste approvals are valid for a one month period and must be handed to the Weighbridge Attendant with each load of waste taken to Red Hill. Contaminated waste transported to Red Hill without a Waste Acceptance Approval will not be accepted.

Wastes classified as Class IV are controlled wastes, and require engaging a licensed controlled waste carrier to cart the waste to Red Hill. This waste will need to be accompanied by a completed Controlled Waste Tracking Form and a Waste Acceptance Approval to be presented to the Weighbridge Attendant at site. Further information regarding controlled waste is available on the Department of Environment Regulation (DER) website (www.der.wa.gov.au).

The Waste Application Process - An Overview



Wastes Accepted

EMRC's Red Hill Waste Management Facility is a Class III and IV facility and is licensed by the DER to accept Class I-IV waste. Wastes which can be accepted include a range of domestic and residential waste, contaminated wastes (contaminated soils and waste from industrial processes) and asbestos waste.

2.2 Wastes Not Accepted

Certain wastes are not acceptable for disposal at Red Hill due to varying chemical and physical characteristics that do not meet DER landfill guidelines, licence requirements or Red Hill's standard operating procedures. These include:

- Liquids and sludges (material that is not spade-able and/or contains free liquid).
- Waste that has a pH that falls outside the acceptable range of 3.5-10.0.
- Corrosive waste e.g. metal wastes, lead assay slags.
- Reactive waste e.g. pool chlorine (strong oxidiser).
- Flammable waste e.g. high sulphur wastes > 20 w/w%
- Radioactive waste.
- Infectious material (clinical and medical waste).
- Scheduled Organochlorine pesticide waste.
- Explosives such as fireworks, ammunition or marine flares.
- Wastes which are dangerous when contacted with water e.g. bromine trifluoride, calcium carbide, sodium metal.
- Highly odorous waste (except where special arrangements are made with the Site Manager) e.g. dead or rotting animal waste, biosolids, tannery waste and highly contaminated hydrocarbon waste.
- Selected controlled wastes.

2.3 Waste Application Form

A common mistake made by applicants is that not enough information is provided on the characteristics of the waste and the process generating the waste. At a minimum, a short paragraph explaining how the waste was created and the physical description plus any other relevant background information should be provided. A Waste Services environmental officer can then make an informed assessment and be confident that all contaminants have been identified.

Please note that the Waste Application Form must be signed for the application to be processed.

3 Sampling of the Waste

3.1 How to Take Samples

We would generally ask that the samples be taken from the most contaminated areas to give the worst case scenario. For in-situ sampling you will need to provide specific details on your sampling regime, which should include a map detailing the distribution of the contamination and the locations from which the samples were taken. If you have limited experience in this area you may wish to engage an environmental consultant to provide advice. A list of consultants can be found at www.eca.org.au.

Soil samples should be stored with no head space in a glass jar with a PTFE lined cap which can be supplied upon request from most laboratories. Samples should be kept refrigerated and transported to a NATA accredited laboratory within 24 hours of sampling. A list of NATA accredited laboratories can be found at www.nata.com.au.

3.2 How Many Samples Need to be Taken

3.2.1 Bulk Waste

For bulk wastes the following table should act as a guide for the sampling requirements (From *Landfill Waste Classification and Waste Definitions 1996 (As amended December 2009*).

Table 1: Sampling requirements for bulk waste

Bulk Waste (Stockpiled)	Quantitative Assessment
<100m^3	3 samples
100m^3 to 200m^3	4 samples
200m^3 to 500m^3	6 samples
500m^3 to 1,000m^3	8 samples
1,000m^3 to 2,000m^3	11 samples
2,000m^3 to 3,000m^3	15 samples
3,000m^3 to 4,000m^3	18 samples
4,000m^3 to 5,000m^3	20 samples
5,000m^3 to 10,000m^3	24 samples
> 10,000m^3	Take 24 samples for volumes 5,000m^3 to 10,000m^3, plus 4 more samples for each additional 10,000m^3.

3.2.2 Packaged Waste

For packaged waste the number of samples required is determined by the amount of information that is known regarding the source of the waste and the contaminants. The sampling requirements outlined below are taken directly from the *Landfill Waste Classification and Waste Definitions 1996 (As amended 2009).* Sufficient information will need to be provided to justify the scenario on which your sampling is based.

Table 2: Sampling requirements when contaminants are unknown or no previous sampling has been conducted

Number of Containers	Sampling Requirements	Value to be compared with waste classification criteria
1 to 3	Three per container – one from the top, one from the middle and one from the bottom of each container.	The average of the analysis results.
More than 3	Three containers selected randomly and sampled as for 1 to 3 containers above. One sample from each other container, with depth selected randomly.	The average plus the standard deviation of the analysis results.

Table 3: Sampling requirements for known contaminants or when some previous sampling has been conducted

Number of Containers	Sampling Requirements	Value to be compared with waste classification criteria
1 to 3	One per container – with sampling depth selected randomly.	The average of the analysis results.
3 to 6	Four containers selected randomly and one sample taken from each at a depth selected randomly.	The average plus the standard deviation of the analysis results*.
> 6	Three containers selected randomly and one sample taken from each at a depth selected randomly. One sample from each set of three (or part thereof) remaining containers, with containers and depths selected randomly.	The average plus the standard deviation of the analysis results*.

* The *Landfill Waste Classification and Waste Definitions 1996 (As amended December 2009)* currently list the value to the average of the sample results. This is an error carried over from the previous version of the guidelines.

Table 4: Sampling requirements for Homogenous Process Waste

Number of Containers	Sampling Requirements	Value to be compared with waste classification criteria
<10	Two containers selected randomly and one sample taken from each at a depth selected randomly.	The average of the analysis results.
10 – 20	Three containers selected randomly and one sample taken from each at a depth selected randomly.	The average plus the standard deviation of the analysis results.
> 20	Three containers selected randomly and one sample taken from each at a depth selected randomly. One sample from each set of twenty (or part thereof) remaining containers, with containers and depths selected randomly. Eg. 45 containers = 5 samples 90 containers = 7 samples 105 containers = 8 samples	The average plus the standard deviation of the analysis results.

3.2.3 In-situ Waste

For in-situ wastes please contact an EMRC Waste Services environmental officer, as an appropriate number of samples will need to be determined on a case by case basis.

4 Laboratory Analysis of Waste

4.1 Getting Samples Analysed

4.1.1 What contaminants do I test for?

Analytical requirements vary depending on the type of waste and what contaminants are likely to be present. It is recommended that guidance is sought from a Waste Services environmental officer regarding the necessary analysis to be conducted for your particular waste.

Regardless of the type of waste, you will always be required to provide the pH (1:5) of the material. If you are required to test for hydrocarbons it is necessary to ask the laboratory to report the aromatic and aliphatic results separately. When analysing for chromium, it is necessary to provide the hexavalent chromium speciation. If the average result plus the standard deviation of the total concentration exceeds the contaminant thresholds given in the *Landfill Waste Classification and Waste Definitions 1996 (As amended December 2009*), a leaching procedure (ASLP) will need to be carried out on the sample. For Class III and IV waste the ASLP will need to be carried out using acetic acid. It is important that the laboratory determines the correct acetic acid leaching fluid using 1:20 pH measurements as per the Australian Standard Leaching Procedure. It may be necessary to tell the laboratory to conduct the ASLP using the leaching fluid as determined by them in accordance to the ASLP method. For Class V waste the ASLP will need to be carried out using deionised water as the leaching fluid to determine if the waste is suitable for Class IV disposal.

4.1.2 Getting the Samples Analysed

Analysis must be performed by a NATA (National Association Testing Authority) approved laboratory. Details of approved laboratories can be found at www.nata.com.au or by calling NATA on 1800 621 666. It is important to ensure that the laboratory of choice is NATA accredited for the actual tests required, and ask the laboratory to display their NATA accreditation on the laboratory reports to be submitted to EMRC. Under no circumstances will a preliminary report be accepted. It is required that you request all Quality Control data associated with the samples to be included in the laboratory report. A chain of custody detailing the transfer of samples from the sampling stage to being accepted at the laboratory also needs to be submitted to EMRC with your application.

4.1.3 Holding Times

You will need to ensure that samples are analysed within the appropriate holding times for the analysis required. Results obtained that are determined outside the holding times will not be accepted. This may be of high importance if additional analysis required, and may in some cases result in the need for re-sampling to perform the additional analysis.

4.1.4 Interpretation of results

Once the laboratory results are obtained they will be compared to the landfill criteria in *Landfill Waste Classification and Waste Definitions 1996 (As amended December 2009*) by an EMRC Waste Services environmental officer. If the average result plus the standard deviation of the total concentration exceeds the contaminant threshold, a leaching procedure (ASLP) will need to be carried out on the sample. These results are then compared to the leachable concentration values given in the *Landfill Waste Classification and Waste Definitions 1996 (As amended December 2009)*. If the values are less than the thresholds your waste may be accepted providing that all other criteria are met.

5 Exceptions to the Landfill Criteria

There are two occasions when waste meets the criteria for disposal in Class III landfill but cannot be accepted as Class III due to occupational health reasons. Under these circumstances waste may be disposed in the Class IV landfill and charged at the corresponding rate. These circumstances are detailed below:

5.1 The PPE Requirements of Class III

The Class III landfill is a highly active cell and the tip face is accessed not only by Red Hill operating staff but also by external contractors on a daily basis. To minimize potential health risks to Red Hill staff and other contractors, Class III contaminated waste that requires PPE beyond the standard Class III PPE will only be approved for Class IV disposal and associated charges will apply. Standard Class III PPE at Red Hill is steel capped boots, high visibility vest, long sleeved shirt and long trousers. Nitrile gloves and safety/sunglasses are also used in Class III when required.

5.2 Asbestos Contaminated Soil

Asbestos contaminated soil can only be accepted in bulk without containment if the quantity of asbestos fibres have been quantified by a NATA certified laboratory as being less than 0.001 % (w/w).

All asbestos soil with greater than 0.001% or more asbestos fibres:

- Must be separated from other material for disposal where reasonably practicable.
- Be contained in a manner that prevents asbestos fibres escaping to the atmosphere during transport and disposal. This involves containing the material in sealed drums, bulka bags or an EMRC approved container.
- The container must be labelled as "Caution Asbestos" with writing no less than 50 mm high.
- All containers must be transported on pallets for easy unloading of the material into the landfill cell.

6 Asbestos Products

To ensure the correct disposal of all other asbestos products (e.g. sheets, pipes, lagging etc.) at Red Hill, customers are to be aware of the following conditions:

- Asbestos products must be separated from other material.
- Asbestos products are to be wrapped in bundles no higher than 1 m or 3 sheets, such that the bundles can be manually handled into the Asbestos Bin at the Transfer Station.
- A forklift is available for unloading larger bundles, but they must be transported on pallets or wooden cleats.
- Each bundle is to be double wrapped in heavy-duty black plastic and sealed with adhesive tape to prevent asbestos fibres entering the atmosphere during transport and disposal.
- Bundles are to be labelled with the words "CAUTION ASBESTOS" in letters not less than 50 mm high.

7 Consequences for the incorrect classification of waste

EMRC reserves the right to sample and test any contaminated waste accepted at the Red Hill Waste Management Facility to verify the levels of contaminants present in the waste. Any waste that is found to be of a higher class than that originally indicated will be reported to DER. EMRC will also meet with the applicant to determine the reason for the non-conformance and may take other action as appropriate.

Regular reclassification of waste from a single customer, may lead to EMRC banning waste from that customer. *For these reasons, EMRC strongly encourages customers to ensure that the waste sampling methods and laboratory analysis adequately represent the waste, and that the application form depicts the true nature and origin of the waste.*