DO NOT SCALE

LEACHATE CONTROL NOTES

1. Working surfaces
EPA Goal
To ensure storage areas, active composting surfaces, and associated access roads are constructed to prevent the pollution by leachate of subsoil, groundwater and surface water bodies and to allow all-weather vehicular access to any part of the processing site that needs to be reached by vehicles.

Minimum Design Requirement is met as follows:

The green waste shredding area will have an impervious concrete or asphalt concrete layer to prevent infiltration from the shredding surface.

The green waste shredding area has a perimeter drain to collect and direct runoff to the green waste runoff collection pond.

Composting and storage will be undertaken in a weatherproof shed which will have a concrete floor.

2. Leachate barrier system
EPA Goal
To prevent the pollution by leachate of subsoil, groundwater and surface water bodies over the period of time that raw organics or products remain on the premises, beyond the closure of the facility, and until the premises has ceased to pose potential environmental threats.

Minimum Design Requirement is met as follows:

The green waste shredding area has an impervious layer to prevent infiltration from the shredding surface. The impervious layer will be concrete or asphalt cement (AC) pad of a thickness of at least 100 mm is to be constructed

The concrete or AC pavement will be designed for a traffic loading of 1 x 10^5 ESA. Assuming a CBR of 5, the pavement thickness will be in the order of 340 mm including a minimum of 100 mm concrete of AC thickness.

A 100mm concrete or AC layer will withstand the loads from all machines, vehicles and equipment that are required to operate the facility.

3. Leachate collection system
EPA Goal
To ensure that leachate is collected efficiently at the composting and related processing facility for further management, thereby avoiding water pollution and/or odour problems.

Minimum Design Requirement is met as follows:

The composting process will occur under cover in a weather-proof building and will produce no or at worst a small volume of leachate.

The composting process shed will have a concrete floor underlain by a polyethylene membrane in order to prevent leachate infiltration into the groundwater.

The compost process leachate collection system will consist of the following:

- A primary concrete tank with a volume of 5,000 litres. The concrete tank will be fitted with a watertight lid and internally sealed with an epoxy coating to ensure watertightness.
- A secondary concrete tank with a volume of 2,500 litres. The concrete tank will be fitted with a watertight lid and internally sealed with an epoxy coating to ensure watertightness.
- The secondary tank will be connected to the primary tank at the level where the primary tank is at 4,000 litre storage (80%) capacity.
- The primary collection tank will be fitted with a sensor to indicate 75% capacity (ie 3,750 litres. At this point the site manager shall arrange to have the primary tank pumped out by a liquid waste tanker and disposed of at an appropriate treatment facility.

4. Leachate storage system
Goal
To ensure that leachate is stored efficiently at the composting and related processing facility for further management, thereby avoiding water pollution and/or odour problems.

Minimum Design Requirement is met as follows:

The compost process leachate collection and storage system will consist of the following:

- A primary concrete tank with a volume of 5,000 litres. The concrete tank will be fitted with a watertight lid and internally sealed with an epoxy coating to ensure watertightness.
- A secondary concrete tank with a volume of 2,500 litres. The concrete tank will be fitted with a watertight lid and internally sealed with an epoxy coating to ensure watertightness.
- The secondary tank will be connected to the primary tank at the level where the primary tank is at 4,000 litre storage (80%) capacity.
- The primary collection tank will be fitted with a storage level sensor to indicate 75% capacity (ie 3,750 litres. At this point the site manager shall arrange to have the primary tank pumped out by a liquid waste tanker and disposed of at an appropriate treatment facility.

A weekly inspection of the level in the leachate storage tank is to be performed.

Six monthly testing of the storage level sensor is to be performed.

It is noted that above ground tanks are preferred, however underground tanks are proposed in this case because the composting area is within a weather proof shed which will mean that the generation of leachate will be nil or very small.

The composting process will be undertaken in a weatherproof shed. There will therefore be no need to make provision for rainwater inflow to the leachate storage system. It is noted that rainwater from the weatherproof shed will be harvested for use on site for dust suppression.

5. Surface water controls
Goal
To avoid the generation of excessive leachate and to prevent any sediment or pollutants from being carried off the premises.

Minimum Design Requirementis met as follows:
The surface water controls must at least meet the following requirements:

For composting and storage;
prevention of surface water mixing with organics will achieved by undertaking the composting process within a weatherproof building. The building will effectively prevent surface water mixing with the composting material.

For green waste shredding;
prevention of surface water mixing with organics will be achieved by:

- elevating the green waste shredding area above the internal road system in order to ensure that surface water does not run onto the green waste shredding area.
- the internal road and stormwater system is designed to collect and divert surface water away from the green waste shredding area. The internal road has a central V drain in order to ensure that surface water runs away from the shredding area.

For composting;
contamination of runoff will be prevented by undertaking the composting process and storage within a weatherproof building. The building will effectively prevent surface water mixing with the composting material.

For green waste shredding handling;
treatment of runoff from the shredding area will be achieved by:

- elevating the green waste shredding area above the internal road system in order to ensure that surface water does not run onto the green waste shredding area.
- the internal road and stormwater system is designed to collect and divert surface water away from the green waste shredding area. The internal road has a central dish-drain in order to ensure that surface water runs away from the shredding area.

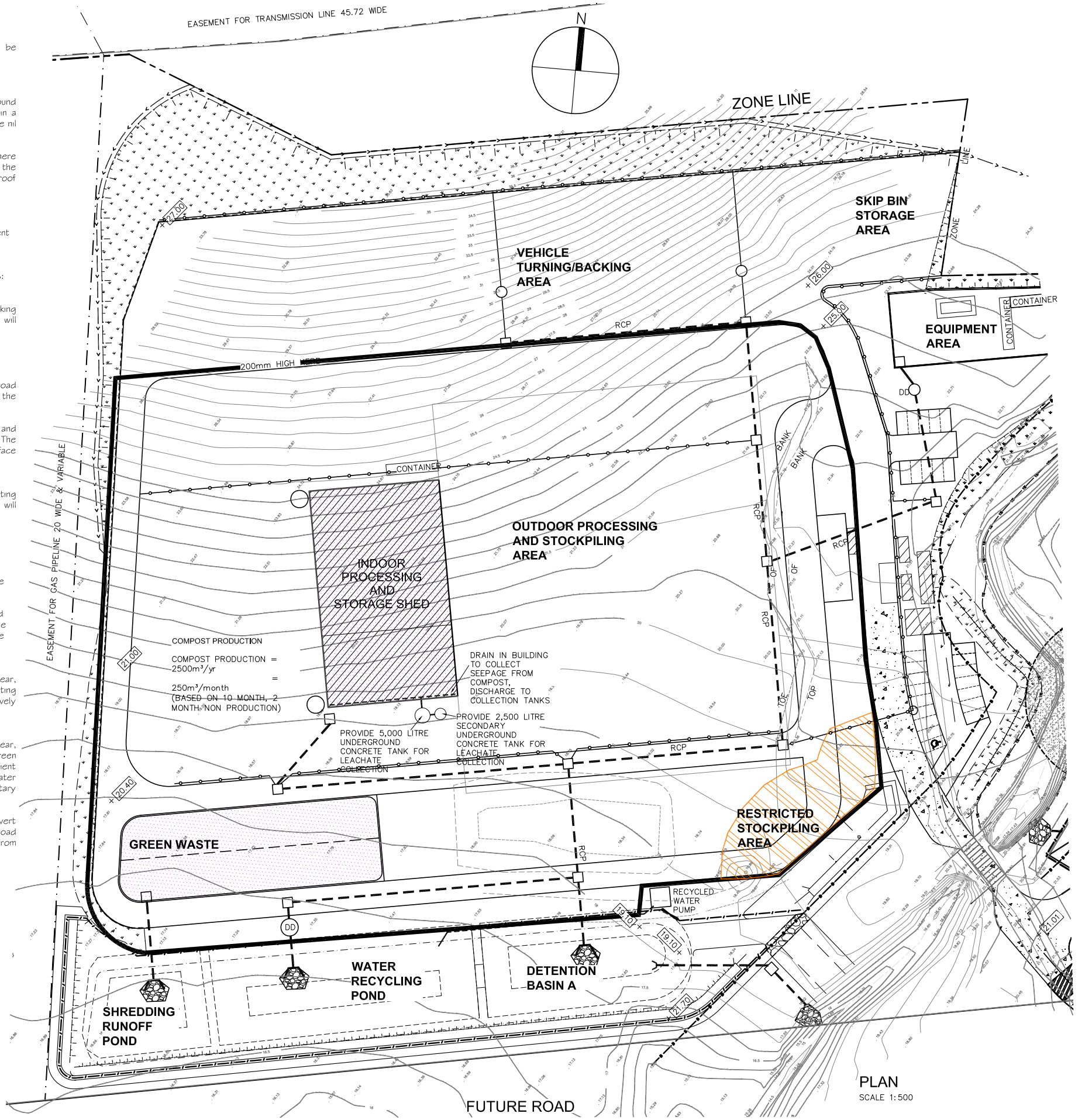
For composting;
management of surface water generated from the design of a 1-in-10 year, 24-hour-period storm event will not be required because the composting operations are within a weatherproof building. The building will effectively prevent surface water mixing with the composting material.

For green waste shredding;
management of surface water generated from the design of a 1-in-10 year, 24-hour-period storm event will be achieved by minimising the area of green waste exposed to rainfall and ensuring the shredding pond has sufficient volume. As runoff will not be heavily loaded with organic matter, water retained in the green waste shredding pond may be used a supplementary supply for dust suppression on site.

The internal road and stormwater system is designed to collect and divert surface water away from the green waste shredding area. The internal road has a central V drain in order to ensure that surface water runs away from the shredding area.

LEGEND

- DENOTES PROPOSED BUILDING
- DENOTES EXISTING CONTOURS
- +21.80 DENOTES PROPOSED SURFACE LEVELS
- DD DENOTES HUMECEPTOR DOWNSTREAM DEFENDER
- COMPOSTING AND STORAGE SHED, CONCRETE FLOOR, DRAIN TO UNDERGROUND LEACHATE COLLECTION TANKS
- GREEN WASTE SHREDDING AREA, CONCRETE OR ASPHALT SURFACE, REFER TO DRAWING KF110816/C17
- DETENTION POND
- DENOTES STORMWATER PITS AND PIPES



PLAN
SCALE 1:500

Revision	Amendment or reason for issue	Issue date	Drawn by	Authorised
B	LEACHATE NOTES UPDATED	17 JUNE 14	WM	WM
A	SHED SEPARATED INTO TWO AREAS, COMPOST PROD VOLUME ADDED	20-03-2014	A.P.	W.M.

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