

TECHNICAL NOTE

Job Name: Docksway Disposal Site – Area 2 Permit Revision Application
Job No: 14739
Note No: PR002
Date: March 2015
Prepared By: Kate Riley
Subject: **Review of Environmental Setting and Installation Design (ESID) report**

Context

Newport City Council (NCC) operate an Environmental Permit (EPR DP3733BK) for non-hazardous waste disposal at Area 2 of Docksway Disposal Site, and are applying to vary the permit to include a Stable Non Reactive Hazardous Waste (SNRHW) cell, for the disposal of asbestos waste, and to increase the slope angles and final restored height of the landfill.

For the original permit application, a ‘Conceptual Model, Environmental Setting and Installation Design’ (ESID) report was prepared. This technical note presents a review of the original ESID report and the amendments or additional sections considered appropriate for the proposed variations.

Section 2.2.2 Basal Engineering System

In addition to the engineering details and methodology for leachate extraction contained in the original ESID report, there are additional details specific to the proposed SNRHW cell as described below.

The leachate extraction system within the SNRHW cell will be separate and isolated from the leachate extraction system in adjacent non-hazardous waste cells. There will be no connection between the two systems. The design philosophy and construction details of the leachate collection and management system will be the same in the SNRHW cell as the non-hazardous waste cell. However, any leachate extracted from the SNRHW cell will be passed through a sand filter (to remove any loose asbestos fibres) into a storage lagoon on site, prior to laboratory testing and discharge to the surface water management system on the site.

Leachate from the non-hazardous waste cells will be prevented from entering the adjacent SNRHW cell by means of the proposed engineering design of the internal separation bund, which will be constructed in accordance with guidance provided in LFD1 – Understanding the Landfill Directive, and will additionally include leachate management measures as part of the construction to retain leachate in the non-hazardous side.

Further information is provided in the asbestos construction and operational plan submitted as part of the permit revision application (NCC, 2015).

Section 2.2.3 Side Slope Liner System

The original ESID report and stability assessment indicated that for long term stability, pre-settlement

DOCUMENT ISSUE RECORD

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landfill side slopes of 1(v):5.5(h) would be stable. The current proposals include increasing the landfill side slope angles across Area 2 to 1(v):4(h), and increasing the final pre-settlement height of the landfill. The revised stability assessment (PBA, 2015) carried out for Area 2 indicates that at the proposed slope angles, the landfill side slopes will remain stable, up to a maximum pre-settlement height of 40m AOD, assuming the leachate levels within the landfill are maintained as recommended in the revised stability assessment and revised Hydrogeological Risk Assessment (PBA, 2015) and other recommendations provided in the stability assessment are carried out.

Section 2.2.4 Capping System

In addition to the agreed capping system for the non-hazardous waste cells, the final top cover over the SNRHW cell will comprise of 2m of suitable material in accordance with EA guidance and the Landfill Regulations.

Section 2.4 Landfill Gas Management and Monitoring Infrastructure

The landfill gas management and monitoring infrastructure will remain as described in the original ESID for the non-hazardous waste cells in Area 2.

The SNRHW cell will not have any landfill gas infrastructure within it. There will be no biodegradable material disposed in the SNRHW cell (in fact only asbestos waste will be disposed in the cell) and therefore there will not be any landfill gas produced within the SNRHW cell itself. It is proposed to limit migration of landfill gas from the adjacent non-hazardous waste cell through active gas management within the non-hazardous waste cell including creating preferential pathways (by the addition of a drainage net on the non-hazardous side of the internal separation bund) and installation of additional pin wells on the non-hazardous side as required.

Amenity and Human Health Risk Assessment

The potential additional risks to human health related to the operation of a SNRHW cell have been considered and are described in the Asbestos Construction and Operational Plan, NCC 2015.

Habitats

It is not considered that the proposals for the inclusion of a SNRHW cell at the site present significant additional risk to sensitive habitats identified in the original ESID report, assuming the proposed asbestos construction and operational plan is adhered to.