



**COMMUNITY
ENGAGEMENT PLAN**

**CONTAMINATED GROUNDWATER
STANLEY ROAD WASTE FACILITY**

17th November 2017

Introduction

The Bunbury-Harvey Regional Council (BHRC) has prepared this Community Engagement Plan (CEP) to identify efforts BHRC will take to inform and involve the community and stakeholders in major decisions regarding investigation activities at the Stanley Road Waste Management Facility (SRWMF).

A contaminated groundwater plume has been identified with a possible offsite impact on the groundwater quality of the neighbouring Catalano site to the west and possibly further south-west of the site. This contamination is attributed to historical waste management practises on the site.

There is no closure on the offsite plume and a Detailed Site Investigation will be undertaken to determine the true extent of the contamination and to identify the source.

Following the investigation, and if remedial action is required, BHRC will communicate openly and effectively with community members and stakeholders on a regular basis to ensure their health and safety, address any issues or concerns they may have and to provide ample opportunity for - participation.

BHRC is working closely with the Department of Water and Environmental Regulation (DWER), Contaminated Sites division.

Objective

Preparation of this CEP is required as part of BHRC's ongoing commitment to transparency and consultation to the community, stakeholders and all persons that access the site and as part of the DWER's actions required for *Identification, Reporting And Classification Of Contaminated Sites In Western Australia*. DWER enforce the *Contaminated Sites ACT* and *Contaminated Sites Regulations* including classifying the site in consultation with the Department of Health and making this information available to the public.

Upon completion of the Detailed Site Investigation, consultation with those involved in the site investigation, any relevant stakeholders and the DWER will decide on any remedial action that may be required.

BHRC will establish an administrative record which will contain all records pertaining to the groundwater contamination including sampling results and technical reports, all records of communications requested and all information sent and received; and will make this available upon request. An analysis of any proposed plan agreed to during this time will also be contained within the file.

Site Description

BHRC was established in 1990 as a waste management authority to manage the municipal waste generated from both the City of Bunbury and the Shire of Harvey.

BHRC operate on behalf of the two councils, the Stanley Road Waste Management Facility (SRWMF) which includes a Class II landfill and recycling facilities. The site accepts domestic and commercial waste from Bunbury, Australind and surrounds.

The SRWMF is located approximately 14km north east of the city of Bunbury and 22km south west of the town of Harvey, off Stanley Road and the Australind Bypass. It sits within the Kemerton Industrial Park bushland buffer zone; however since operations commenced residential density has increased, with the closest receptors now located ~800 m to the west.

The site is located on the Swan Coastal Plain and is underlain by an unconfined superficial formation and a series of confined aquifers resulting from alternating sand and clay layers. This overlies a shale

unit at a depth of approximately 38m bgl, which caps the Leederville formation. The site is also underlain by the Yaragadee aquifer at a greater depth.

BHRC occupies approximately 24 hectares (ha) of the southwest portion of the property, with the remainder of the site being natural bush. Approximately 13ha of the 24ha of disturbed area have been used for the landfilling of waste.

This site also houses a purpose built Transfer Station and Trash and Treasure Store. The purpose of the store is to divert good quality items disposed of in the transfer station by on selling them to the general public through the store.

Surrounding land uses include:

- North: Kemerton Industrial Area, vegetated buffer zone;
- East: Pasture / Farmland;
- South: Sand extraction and Class I landfill; and
- West: Sand mine, processing and storage.

Groundwater extracted from these sites is primarily used for dust suppression.

As a prescribed premise the facility is required to hold an Environment Protection Licence under Part V of the Environmental Protection Act 1986 and is managed in accordance with the operating licences issued by the DWER. The current Licence L8949/2016/1 was issued on the 22nd January 2016 and expires on the 24th January 2020.

Landfilling at the SRMWF has historically occurred in unlined landfill cells which pose environmental risks to the surrounding environment. Currently waste is disposed of under very strict environmental controls but that was not always the case. Like many other Local Governments, we are faced with contamination issues from a site that operated under different regulations with historical contamination now an issue.

The BHRC and the DWER considers the risk of unlined landfill cells unacceptable, therefore BHRC is in the process of closing and rehabilitating the unlined landfill cells in accordance with the *Closure and Post-Closure Management Plan* (Talis, 2016).

For the long term security of regional and local community landfilling services, BHRC is planning to develop a modern landfill adjacent to the north eastern boundary of the existing landfill footprint using the side slope as part of the new cells. The new cells shall be separated from the closed landfill by installing an impermeable basal lining system, commonly known as a 'piggyback liner'. This liner acts as both:

- An impermeable basal liner for the new cells; and
- A capping liner for the existing waste mass preventing the ingress of stormwater and leachate into the old waste mass while diverting the landfill gas towards the landfill gas extraction wells.

Environmental Management

An Environmental Management Plan (EMP) for the Stanley Road Waste Facility has been developed to comply with ISO 14401: Environmental Management Systems and the Department of Waste and Environment Regulations legislation. The expected outcome of this is *continual improvement* in environmental management and to ensure that BHRC are managing the impacts and risks associated with the SRWFM to an acceptable standard, while ensuring compliance with the conditions of the environmental licence.

The EMP encompasses environmental management strategies and mitigation measures for all activities conducted on the SRWFM site. The EMP structure includes the following sections:

- Waste management facility description;
- Environmental management system – description of system for facility and linkage to policies;

- Environmental aspects, impacts and risk assessment – description and analysis of impacts and risk associated with the facility operation;
- Environmental management and mitigation – management plans to mitigate the impacts and risks of the facility; and
- Environmental Monitoring – To ensure that operations on site do not cause detrimental environmental impacts.

A Landfill Environmental Management Plan (LEMP) has been developed detailing the environmental risks associated with the proposed construction and operation of lined landfill cells and outlines measures that can be taken to mitigate any risks identified.

The LEMP has been developed to ensure that the environment and the surrounding community is safeguarded from pollution and any off-site effects associated with the proposed construction and operation of the new lined landfill cells minimising any further contamination to the groundwater.

The depth to the surface of the superficial aquifer varies with topography. In low-lying areas the depth to groundwater can be as shallow as 4m bgl. The superficial aquifer extends to an underlying confining clay layer at approximately 10m bgl, giving a typical saturated thickness of approximately 6m (ATA, 2006).

Regionally, the direction of groundwater flow is westerly, towards the Leschenault Inlet. Locally, groundwater flow is inferred to be south westerly as a result of the influence of the Wellesley River.

The Wellesley River, which flows into the Brunswick River, is located approximately 600m southeast of the Site. The Leschenault Inlet is located approximately 3 km west of the site, receiving water from numerous rivers and connected to the Indian Ocean.

A detailed hydrogeological investigation was undertaken which highlighted the need to replace compromised bores and install additional wells to fill data gaps across the site.

The purpose of this groundwater investigation is to further characterise the distribution of landfill impacts in groundwater within the multi layered Superficial Aquifer and update the hydrogeological conceptual understanding of the fate and transport of any landfill impacts.

BHRC has recently undertaken a re-survey of all monitoring wells on site in order to establish depth and directional flow to ensure that we manage all surface and groundwater on site in accordance with our DWER Licence.

The SRWMF now has 20 monitoring locations with 43 wells. 19 Shallow, 19 Deep, 4 Intermediate and 1 being a leachate monitoring bore only

Groundwater monitoring is conducted quarterly in accordance with Table 2.3.2: Monitoring of ambient groundwater quality as part of Licence condition 2.3 in the environmental licence issued by the DWER.

BHRC will undertake all practical measures to prevent the emission of contaminated waters from the Facility. Management of water at the Facility is aimed at:

- Minimising the generation of contaminated water; and
- Preventing deterioration of water quality standards in local surface waterways and groundwater in the vicinity of the site.

Based on the data available at this time, the impacts on groundwater quality appear to be:

- Elevated nutrient concentrations that are unlikely to cause detrimental impacts to surrounding land users or ecosystems;
- Detectable heavy metal concentrations are generally within the relevant guidelines;
- Low concentrations of organic compounds that are largely below the limit of detection, and those that were detectable were limited to a small geographic area.
- ‘Spikes’ in the concentration of hydro-carbons at some locations that require further investigations.

A privately owned landfill is present to the south of the BHRC SRWMF and is licenced under Part V of the Environmental Protection Act and is also classified under section 13 of the Contaminated Sites Act. The DWER has noted that further investigation may find co-mingling groundwater contamination plumes from both of the landfills.

The assessment of the results from the groundwater monitoring bores at the adjacent Class I landfill may assist in providing a clearer understanding of groundwater flows and sources of contamination.

Consultation

The community engagement plan for groundwater contamination at the SRWMF is designed to provide the community and stakeholders with various opportunities to learn about and participate in any clean up works that may be required. It focuses on two-way communication between all parties, being responsive to their information needs and keeping them informed of progress on site when requested.

BHRC will work with all stakeholders through from the establishment of this CEP until the completion of the project. At any time the BHRC will be open to the community and stakeholders to express their viewpoint, request further information or for any discussion that they deem appropriate.

List of Contacts and Interested Parties

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Department of Water and Environmental Regulator	Rowena Beaton Contaminated Sites Officer (08) 6364 7178
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Catalano's	
Auditor	Steve Kirsanovs Kirs Environmental 0412 944 411
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As part of the consultation process, BHRC is required to release the information in a media release (as below).

Notice is intended for website publication

GROUNDWATER INVESTIGATIONS

Issued: 03/12/2018

Bunbury-Harvey Regional Council (BHRC) was established in 1990 as a waste management authority to manage the municipal waste generated from both the City of Bunbury and the Shire of Harvey and operate on behalf of the two councils, the Stanley Road Waste Management Facility (SRWMF).

The facility is located at Lot 45 Stanley Road, WELLESLEY in the Shire of Harvey and includes a Class II landfill and various recycling facilities which services both domestic and commercial customers.

As a prescribed premise, the facility is required to hold an Environment Protection Licence under Part V of the Environmental Protection Act 1986 and is managed in accordance with the operating licence issued by the Department of Water and Environmental Regulations (DWER).

Groundwater monitoring on site has detected elevated levels of contaminants in the groundwater with Petroleum Hydrocarbons being the predominant chemical of concern.

Currently waste is disposed of under very strict environmental controls but that was not always the case. Historical disposal practices that were considered appropriate in 1990 are no longer acceptable by today's environmental standards or the BHRC and may have resulted in contamination of the soil and groundwater on site. Groundwater flowing offsite in a south-westerly direction may also be affected.

BHRC has appointed a Contaminated Sites Auditor to review the data that is available and to clarify the way forward. Currently extensive monitoring is being undertaken to determine the extent, if any, of contamination. This review is expected to be completed by December 2019 with remediation works to commence immediately if required.

Rainwater and mains water are not affected by this issue.

For further information please contact:

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