

31.10.12

New Landfill Proposed for York

Project Summary

SITA Australia (SITA) is planning development of a new landfill on a small portion of Allawuna farm approximately 18 km west of York in Western Australia. It is important to us to hear your thoughts on this project and we welcome the opportunity to answer any questions you may have regarding the development of a state of the art landfill in your shire.

We want to assure you that we are developing this landfill with you and the local natural environment in mind. In the planning process we are working to address and satisfy all concerns of the Environmental Protection Authority (EPA), Department of Environment and Conservation (DEC), the Department of Water (DoW), the Fire and Emergency Services Authority (FESA) and the Shire of York.

We are looking forward to working with the local community during the planning stage and ongoing operation of the facility.

Environmental Investigations

At SITA, we are committed to the responsible management of our landfill sites using the latest technology and drawing on our extensive experience. We have engaged several specialist organisations to undertake investigations required prior to presenting the project to the EPA for environmental consideration.

Odour

A thorough investigation of the potential for odour generation at the site has been undertaken. Factors including waste type, waste volume, operational procedures and waste covering frequency have been used in a computer model to evaluate the spread of odour from the site. The model was calibrated based on odour measurements from a similar landfill site. The results of the odour modelling show that all odours should be contained well within the boundaries of Allawuna farm.

Noise

Detailed noise modelling was undertaken for both the construction and operation phases of the landfill. The type of heavy plant being used, their work areas and work hours were combined with measured background noise levels to generate a map of noise in the area. When we compared this map to the requirements of the *Environmental Protection (Noise) Regulations* we found that the landfill development should have no impact on the nearest neighbours.

Groundwater

We have installed a network of groundwater bores across the site to determine both the flow direction and the baseline quality of the water under the site. The results show that the groundwater flows in a northerly direction and away from the Mundaring Weir catchment. The water quality data collected will be used as a benchmark for future measurements to ensure the landfill is not having any impact.

Surface Water

The Allawuna landfill site was chosen specifically because it is very close to the head waters of the water catchment in the area. This means the quantities of runoff flowing past the landfill will be minimised. The landfill is sited adjacent to a small seasonally dry creek that contributes to Thirteen Mile Brook. Runoff from this small upstream catchment will be directed into a stormwater dam for onsite use.

Native Plants and Animals

A field survey of the complete works area has been performed looking for rare or endangered plants and animals. As the landfill is being constructed on already cleared cropland, unsurprisingly, no rare or significant plants were found. A few scattered remnant Gums, Wandoo and Marri trees on the site were carefully inspected for evidence of Black Cockatoo roosting or breeding and found to be all clear.

Geology

The site at Allawuna has excellent geology for the development of a landfill. The groundwater lies beneath a thick (6.5 to 9.5 m) natural layer of low permeability confining clay. This clay prevents stormwater from seeping down into the groundwater. This clay barrier will be retained as an effective natural barrier beneath the engineered multi layered landfill liner. The site has ample supplies of gravel for road making.

Greenhouse Gas Emissions

As a socially responsible company and a leader in resource recovery, we aim to continuously reduce greenhouse gas emissions derived from our operations. All our landfills are equipped with biogas capture, in fact we are Australia's largest producer of landfill biogas for the production of recovered energy.

Landfills are also one of the types of enterprises liable under the Clean Energy Future Act. The carbon price presents a further incentive for SITA to minimise the fugitive emissions from the landfill to limit its liability.

Early planning for future landfill gas collection, diligent maintenance of waste received records and progressive landfill capping and rehabilitation all serve to limit the carbon emissions from the site.

Waste

The landfill will accept only a small range of waste. This includes:

Municipal Solid Waste – Waste from your general waste wheelie bin,

Commercial and Industrial Waste – Waste from shops, restaurants and industry,

Construction and Demolition Waste – Bricks, concrete, soil, timber, plastic etc, and

Asbestos – sealed asbestos packages will be buried deep in the landfill.

The landfill will not accept any hazardous wastes like oxides, heavy industrial waste, toxic or radioactive waste.

Landfill Design Features

A modern landfill is much more than just a hole in the ground filled with garbage and covered over. An engineered lining system, environmental monitoring and reporting program, gas collection and extraction system and progressive capping and rehabilitation are all designed to limit the impact of the landfill on the environment. We have designed this landfill in accordance with the current best practice standards for Western Australia. Where possible and practical, we have taken advantage of site specific benefits to surpass the requirements of the best practice guideline.

Lining System

The multi layered lining system covers the base of the landfill and is designed to collect both leachate (the water that has been in contact with the waste) and landfill gas. The liner consists of a layer of very low permeability clay material, covered by a durable 2 mm thick layer of plastic, welded together into one large sheet. The plastic liner is tested thoroughly for leaks before being covered. The plastic liner is covered with a protective cushion layer, a thick drainage collection aggregate layer and a filtration textile layer. Finally waste is placed on top of this composite system.

Groundwater Monitoring

Groundwater testing will be undertaken every 6 months by a specialist independent laboratory until the landfill becomes operational, at which time the frequency will increase to once every 3 months. [SITA publicly releases groundwater monitoring results for our landfill sites and plans to continue this policy at Allawuna.]

Gas Extraction

Extracting gas from the landfill and burning it in a flare or electricity generation turbine is beneficial to the environment as it breaks down the methane into much less harmful carbon dioxide. A network of gas extraction wells will be installed in the waste mass for this purpose. As the total volume of waste in the landfill increases, the gas generation also increases and more power can be generated.

Capping and Rehabilitation

By progressively capping and rehabilitating the landfill we can limit the amount of gas escaping and also limit the amount of water getting into the waste and generating leachate. The final shape of the capped landfill has been designed to fit into the surrounding hills. SITA will continue to manage the site for many years after the final cap is complete. Only when the landfill stops emitting gas and generating leachate will SITA be permitted by the DEC to finish operations at the site.

Construction Quality Assurance

As a component of the construction of the landfill, an independent third party will be engaged to verify the construction is completed to the standards required by the Department of Environment and Conservation. Special emphasis is placed on the quality of the installation of the plastic liner. Every weld is tested and audited to confirm there are no leaks.

Landfill Operation

Just as the landfill has been sited and designed with the current Western Australian best practice guidelines as the minimum benchmark, so too have our operational procedures. SITA has successfully run many landfills all over Australia and has an excellent track record in environmental protection and public satisfaction.

Waste Identification and Screening

All waste trucks entering the landfill will be weighed and inspected to ensure they meet the waste acceptance criteria. Any vehicle with non conforming waste such as liquid waste, unacceptable industrial waste or radioactive waste will be directed to use an alternative facility.

Waste Placement

The landfill tipping face is limited to a small area under 30 m in length. Trucks deposit their garbage at the face and a Dozer and Landfill Compactor work together to compact the waste. At the end of every day the waste is covered with a layer of soil to limit odour, landfill gas emission, windblown litter and vermin access.

Fire Prevention

To minimise the risk of fire on the site a fire management plan, developed in consultation with FESA describes the important fire prevention activities to be undertaken on site. The responsibilities of each staff member are clearly identified and key contacts in case of fire are listed. Fire breaks will be maintained and regularly inspected, fire fighting equipment, including a dedicated water storage tank and vehicle mounted extinguishers will be regularly inspected to ensure they are always in good working order. Flammable materials will be stored away from ignition sources.

Annual Reporting

As part of operating a Licensed Landfill, SITA will be required to report annually to the DEC. This report will detail any environmental issues or complaints, how they were investigated and how they were addressed. The report also includes the groundwater monitoring results for the preceding year and the volumes of different types of waste received.

Benefit for your Community

The landfill site will provide employment for 8 -12 people and make use of local suppliers for maintenance, equipment and supplies wherever possible. We welcome suggestions from the York community about ways the development can further benefit the shire. Suggestions to date have included private use of the weighbridge and depositing of locally collected York waste in the landfill, although the landfill will not be open to the general public.

Traffic

When operational, the landfill will receive one road train of waste every 20 minutes during the day. As road trains only leave the Perth transfer station when they are full, they are evenly spaced to reduce the impact on traffic along the highway. This ensures the total amount of traffic to and from the site will have minimal impact on the current traffic volumes.

As part of the development, SITA will be upgrading the turn off into Allawuna farm from the Great Southern Highway to include an overtaking lane for other vehicles to pass our road trains entering into the site and a speed up lane for our road trains departing the site to return to Perth.

Project Timeline

We hope to start construction of the landfill late 2013 or early 2014. Before that can happen we will need to finalise approvals from the EPA, DEC and the Shire of York.

For more information

Phone

You can call Nial Stock on (08) 9350 7101 or Adam Davies on (08) 9457 5899 during office hours.

Display

SITA have set up a display in the York Shire offices with some more detailed information and a cross section of the landfill lining system, showing the ground water protection properties of the liner materials.

Presentation and Council Meeting

SITA will be giving a presentation about the project at the York Town Hall before the November York Council Meeting. The presentation will cover the project in more detail. Representatives from both SITA and the expert engineering firm designing the landfill will be on hand to answer any questions you might have.

Venue: York Town Hall, 81 Avon Terrace (Cnr Joaquina Street)
Time and Date: 2 pm, Monday the 19th of November.

The normal monthly Council meeting will begin at 3 pm after the presentation from SITA. SITA will be available during and following the Council meeting to listen to any concerns you may have.

FREQUENTLY ASKED QUESTIONS

What sort of waste is going into the landfill?

Waste from residential wheelie bins, stores, restaurants and workshops will be accepted at the landfill.

Asbestos that is wrapped up will be safely buried deep in the landfill.

Nothing hazardous or toxic will be taken to the site. No radioactive or liquid waste will be accepted.

How long is the landfill going to be there?

At this stage, the lifetime of the landfill is estimated at 40 years. It really depends on how much waste we receive e.g. if less waste is received per year the life of the landfill increases.

How do you protect the surrounding environment?

The landfill is lined with a layer of plastic and clay on the bottom, and then covered with a cap on top as it fills. All of the water from the waste is captured and treated so that it doesn't harm the surrounding environment.

How do you make sure it doesn't leak?

Installing the liner involves a thorough leak testing program, verified by an independent third party observer.

How do you know the liner is working?

A set of monitoring bores installed around the site allow us to test the groundwater regularly and make sure its quality hasn't changed. The bores are tested at regular intervals, with the results made available to the public by SITA.

What impact will the landfill have on the surrounding nature reserves?

The landfill is going to be built on existing cleared cropland. No native bushland will be cleared to build the landfill. There is a buffer distance of 1 km between the landfill and the nearest nature reserve.

Is the landfill going to pollute the Avon river catchment?

Any water that comes into contact with waste is known as leachate. The leachate is captured and evaporated. The landfill is kept dry by pumping water out from the bottom of the waste and into evaporation ponds. The landfill is located near the catchment boundary and does not interrupt the flow of Thirteen Mile Brook. These factors, coupled with effective management and monitoring mean that the landfill will not affect the surface waters that feed into the Avon River.

How do you make sure the evaporation ponds are safe?

The ponds are fenced to prevent wildlife like kangaroos falling in or drinking the leachate. The fencing also helps to prevent accidental damage to the liner.

The dual layer design of the liner (plastic and clay) provides backup protection if the plastic surface is damaged. The ponds will be regularly inspected and any damage found will be repaired and tested.

Why are you building the landfill in York?

SITA looked at 19 potential sites for a new landfill across many Shires around Perth. Allawuna Farm has the most suitable conditions of the sites investigated. The geology of the area limits groundwater flow, making protection of the groundwater much easier. The site is very large (1,500 ha) meaning we can have large buffer distances to neighbours, waterways and nature reserves and the site is far away from major watercourses.

Why are you bringing all the waste from Perth and dumping it in York?

The Department of Environment and Conservation will not approve any new landfills on the Swan Coastal Plain. Not because they want to force landfilling out into the country, but because the geology of the plain is too sandy for building safe landfills.

Building a brand new landfill has a number of environmental benefits, it makes use of the latest technology and builds on many years of industry and SITA experience.

What are you doing at the site?

A modern landfill is highly engineered and uses the latest technology available.

Waste is compacted with specialised plant and covered with soil.

The landfill is progressively capped and rehabilitated as it fills. Capping contains gas, litter and water.

Gas is extracted and may be used to power turbines for electricity generation.

Will you employ local people at the landfill?

Our policy has always been to find the best person for the job, without discriminating based on where someone lives, who they are or what they look like. With that given, the travel distance from Perth means potential job applicants are more likely to come from the local York area.

What sort of facilities will you have on site?

In addition to the landfill and the evaporation ponds, various other structures are necessary to properly operate a landfill. A weighbridge with an office, a storage shed for landfill plant and equipment, a gas flaring and power generation facility and water tanks for fire fighting will all be built on site.

How come this is the first I have heard about it?

There is a lot involved with making sure a site is appropriate for a landfill. If we did all our environmental investigations into the surface water, ground water, geology, plants, animals, odour,

noise and road access and found there was a big 'red light' we would not waste your time or ours by talking about the project.

Now that we have the answers to the questions we think you are likely to ask, we are inviting everyone in the community to ask away.

Will you be burning any waste at the site?

There will be no burning of waste at the site.

What is the fire risk associated with the landfill?

SITA is very careful to limit the risk of fire in the design of the landfill, the operations procedures followed by our staff and our emergency response plans.

A comprehensive fire management plan will be developed for the landfill in consultation with FESA and the York Fire and Rescue Brigade. The plan will cover fire prevention, emergency response and performance review.

What is landfill gas flaring and how safe is it?

Landfills generate methane as the waste in them decomposes. The flaring of gas has a variety of functions: It reduces the greenhouse impact of the gas, converting methane into carbon dioxide, it removes the gas from the landfill, reducing the risk of fire and flaring also enables power generation by a gas turbine if the flow is sufficient.

All of the gas combustion happens inside a closed in gas power generation plant or in a shielded flare burner. There are no naked flames to start a fire. Burning of landfill gas does not give off sparks as there are no solids in the fuel.

Will Shire of York waste go into the landfill?

SITA are willing to negotiate the placement of York waste in the Allawuna Landfill.

Why did you put the landfill in that particular spot on the site?

The position of the landfill was chosen to avoid the course of Thirteen Mile Brook and also to maximise the buffer distances between the landfill footprint and the surrounding properties.

Will the landfill be visible from the road?

The landfill will not be visible from Great Southern Highway. The landfill is designed to have a final height lower than the surrounding ridgelines. This means that as it is capped and vegetated it will blend into the surrounding landscape, and won't change the line of the horizon.

What are you going to do at the road entrance?

SITA will upgrade the turn off into Allawuna to meet the requirements of Main Roads WA. We are currently in consultation with Main Roads to determine the exact form of the intersection. At this stage it looks like an eastbound overtaking lane for trucks turning right into the site and a westbound speed up lane will be required.

Who are you seeking approval from for the development?

Before construction of the landfill can begin, the Environmental Protection Authority (EPA), the Department of Environment and Conservation (DEC), the Department of Water (DoW), the Fire and

Emergency Services Authority (FESA), Main roads WA and the Shire of York must all be satisfied that the project is safe and well designed.