

# ASSESSMENT REPORT

## Section 75W Modification Orica Villawood Remediation Project – Water Storage Ponds (09\_0147 Mod 1)

### 1. BACKGROUND

Orica Australia Pty Ltd (Orica) own a site within an industrial area in the suburb of Villawood, in the Bankstown local government area (the Project site, see Figure 1).



**Figure 1: Site location**

The Project site, which is a smaller part of an original larger holding, was used by Taubmans (1946-1953) and then ICIANZ (later known as Orica) to make hydrocarbon-based agricultural and pharmaceutical pesticides. Orica ceased manufacturing on the site in 2000 and it remains under Orica's care and maintenance.

As a result of the above activities, hydrocarbon-based compounds contaminate the soils underlying the Project site. The compounds present include chlorinated hydrocarbons. Some of the chlorinated hydrocarbons present, such as the pesticides; DDT, Lindane and Dieldren, degrade very slowly in the

environment, potentially causing long term harm unless treated. These kinds of compounds are also listed as Persistent Organic Pollutants under the Stockholm Convention<sup>1</sup>.

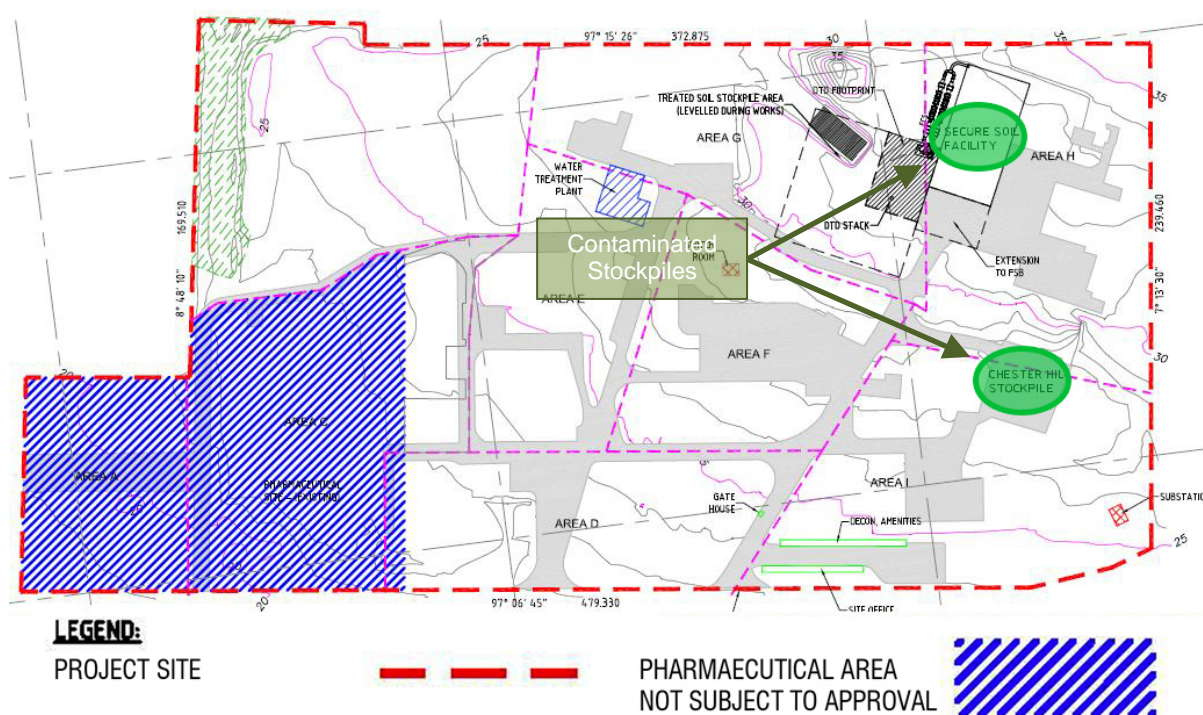
The site also contains two stockpiles of contaminated soil, one from a former remediation site in Chester Hill, and one from another remediated part of the Villawood site (the pharmaceuticals area). Both stockpiles are stored in a Secure Soil Facility in accordance with an EPA Licence.

On 22 April 2005, the EPA declared the site to be a 'Remediation Site' under the *Contaminated Land Management Act 1997* and on 2 November 2005 issued Remediation Order No. 23019 - Area 3200.

On 18 May 2012, the Minister for Planning and Infrastructure granted approval for the remediation of the site (MP 09\_0147). Under this approval, Orica is allowed to:

- excavate approximately 15,000m<sup>3</sup> of contaminated material;
- treat contaminated material, including the two existing stockpiles, in a Directly-heated Thermal Desorption (DTD) plant to remove contaminants; and
- treat any contaminated water in a Wastewater Treatment Plant.

The approved Project site is shown in Figure 2.



**Figure 2: Approved Project Site**

### Water Treatment

As part of the approved project, any contaminated water encountered during Project activities would be treated in the Wastewater Treatment Plant (WTP). Project activities which have the potential to generate contaminated water include:

- rainwater collected from excavation areas, stockpile areas, wash down and from decontamination facilities;
- water from wheel washes;
- rainwater falling on the concrete slab of the DTD plant area; and
- water bled out of the DTD plant scrubber and evaporative cooler systems.

<sup>1</sup> The Stockholm Convention is an international environmental convention, which aims to eliminate or treat Persistent Organic Pollutants. The Convention was adopted on 22 May 2001 in Stockholm, Sweden. The Convention entered into force on 17 May 2004 and Australia is a party to it. The convention sets out human and environmental health objectives for listed organic pollutants that have toxic properties, resist degradation, bio-accumulate and are transported, through air, water and migratory species, across international boundaries and deposited far from their place of release, where they accumulate in terrestrial and aquatic ecosystems.



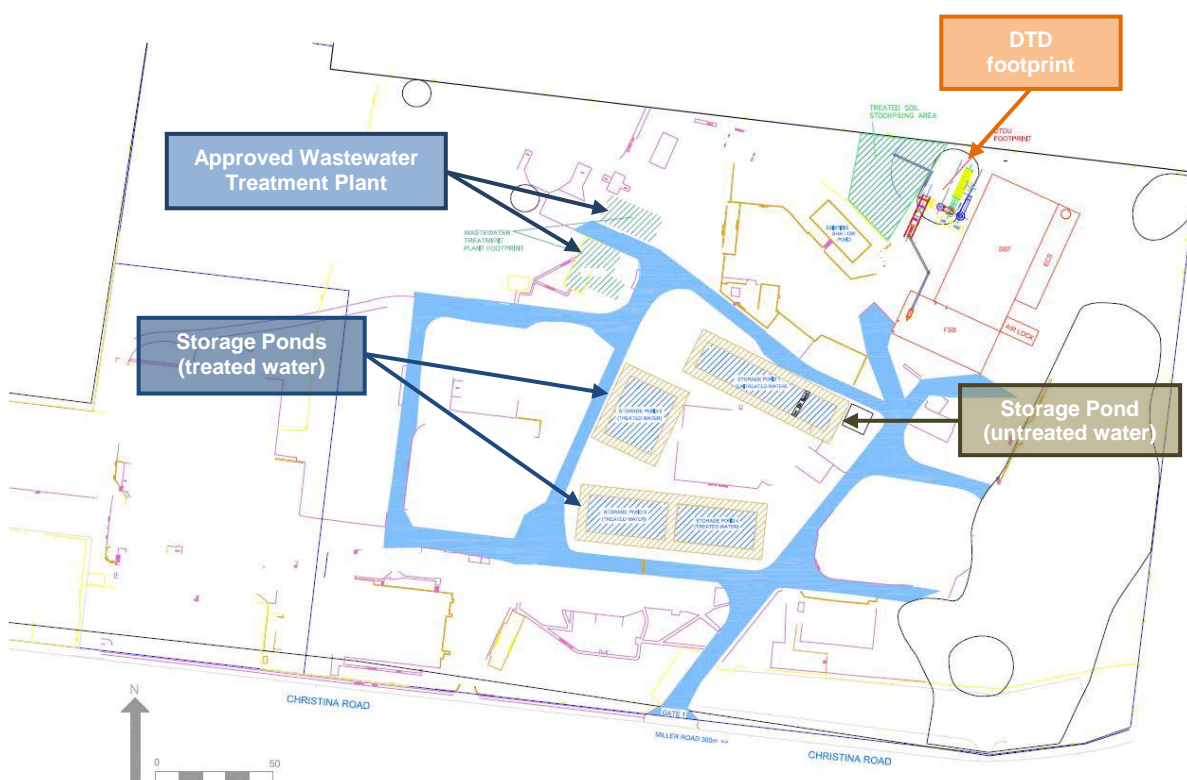
Under the approved project, Orica proposed to store water treated by the WTP in on-site tanks.

## 2. PROPOSED MODIFICATION

During the detailed design, Orica evaluated the Project's potential volumes of contaminated water to be collected and treated. Orica has determined that the most appropriate solution capable of managing various flows to and from the WTP would be through a series of water storage ponds to store both contaminated (untreated) water and treated water.

In preparing its Water Management Plan (WMP) for the site, Orica determined that based on the maximum area of excavation, paved collection areas and a 250mm rainfall event, a storage capacity of up to 1,500m<sup>3</sup> would be required to store contaminated (untreated) water. The untreated water storage ponds would allow Orica to manage flow rate to the WTP, ensuring less maintenance issues.

As such on 27 February 2013, Orica lodged an application to modify the existing project approval to allow for a series of water storage ponds in place of treated water storage tanks. The proposed layout of the water storage ponds is shown in Figure 3.



**Figure 3:** Project site with proposed water storage ponds

The ponds would be constructed 1 metre below ground level and would be lined with clay and then with high-density polyethylene (plastic).

To accommodate Sydney Water's requirements for detection of organochloride pesticides in any discharge to the sewer, Orica also proposes to construct three separate treated water storage ponds with a total storage volume of 3,600m<sup>3</sup>. Water that is treated through the WTP would be discharged into a storage pond and then tested prior to discharge to sewer in accordance with a Sydney Water Trade Waste Agreement. The provision of three separate storage ponds would allow for filling, testing and discharging to occur at an individual pond at any given time. In the event that contaminants are detected during the testing stage, the contaminated water would be retreated in the WTP to ensure a zero discharge of contaminants as required by the Sydney Water Trade Waste Agreement.

Orica have indicated that the use of tanks, as originally proposed, would be impractical due to the extensive civil works required to prepare the area for tank storage. In addition, Orica outlines that a complex piping system would be needed in order to fulfil the same purpose as the water storage ponds. This would increase the chance of leakage and further contamination.

All other aspects of the proposal remain unchanged.

### **3. STATUTORY CONTEXT**

#### Section 75W

In accordance with Clause 12 of Schedule 6A of the EP&A Act, section 75W of the Act as in force immediately before its repeal on 1 October 2011 and as modified by Schedule 6A, continues to apply to transitional Part 3A projects.

Under Section 75W of the EP&A Act, the Minister is obliged to be satisfied that the proposal is indeed a modification of the original proposal, rather than being a new project in its own right.

The Department notes that:

- the primary function and purpose of the approved project would not change as a result of the proposed modification; and
- any potential environmental impacts would be minimal and appropriately managed through the existing or modified conditions of approval.

Therefore, it is considered that the proposed modification is within the scope of section 75W of the EP&A Act. Consequently, the Department considers that the application should be assessed and determined under Section 75W of the EP&A Act rather than requiring a new development or project application to be lodged.

#### Approval Authority

The Minister was the approval authority for the original project application, and is consequently the approval authority for this application.

However, the Executive Director, Development Assessment Systems and Approvals, may determine this application on behalf of the Minister in accordance with the Minister's delegation dated 27 February 2013, subject to the following:

- where the relevant local Council/s has not made an objection;
- where a political donations disclosure statement has not been made; and
- there are less than 25 public submissions in the nature of objections.

The Department is satisfied that the application meets the terms of the delegation and that the Executive Director may determine the application under delegated authority.

### **4. CONSULTATION**

The Department made the EA of the proposal publicly available on its website and sought and received submissions from the Environment Protection Authority (EPA) and Bankstown City Council (Council). Consultation with other government agencies and neighbouring sites was considered to be unnecessary as the environmental impacts of the proposal would essentially remain unchanged.

The **EPA** initially raised concerns regarding the use of ponds as a method of water storage and the lack of modelling to address potential overflow issues. Orica consulted with the EPA regarding their concerns and agreed to implement further contingency plans in the unlikely event of overflow. The EPA is now satisfied with the proposed modification subject to a number of recommended conditions relating to Orica's WMP.

**Council** did not raise any concern with the proposed modification.

## 5. ASSESSMENT

The Department has assessed the merits of the proposed modification. During this assessment, the Department has considered:

- the environmental assessment, and Director-General's assessment report for the approved project;
- existing project approval;
- documentation supporting the proposed modification application;
- agency submissions;
- relevant environmental planning instruments, policies and guidelines; and
- the requirements of the EP&A Act, including the objects of the Act.

In regards to the proposed modification, the Department considers the key environmental issues to be associated with water, air quality and odour, soil and noise. The assessment of the environmental issues is outlined in Table 1.

**Table 1 – Assessment of Issues**

Issue	Consideration	Recommendation
Water	<ul style="list-style-type: none"> <li>▪ Groundwater interception is not expected as the water storage ponds would be constructed only 1 metre below ground surface level and lined with high-density polyethylene (plastic) and clay.</li> <li>▪ The existing conditions of approval require the Proponent to undertake groundwater monitoring to avoid migration of existing contaminated groundwater plumes.</li> <li>▪ Contaminated water encountered during remediation works would be stored in accordance with Orica's WMP prior to treatment through the approved WTP.</li> <li>▪ As part of the WMP, Orica propose to store contaminated water in a 15,000m<sup>3</sup> pond.</li> <li>▪ The EPA raised concerns regarding the potential for overflow of contaminated water, particularly in the event of rainfall or failure of the WTP.</li> <li>▪ In response, Orica clarified that the contaminated water storage pond is designed to accommodate a 250mm rainfall event, a rate never before recorded for the area.</li> <li>▪ In addition, Orica proposes daily monitoring of the storage pond's water levels in conjunction with implementing a system to alert operators of high water levels.</li> <li>▪ The EPA is satisfied with the proposed modification provided a number of contingency plans to manage potential overflow would be in place. The EPA indicated that it intends to monitor the site stormwater management in wet weather events.</li> <li>▪ Council raised no concern regarding contaminated water.</li> <li>▪ The Department is satisfied that adequate measures would be in place to avoid groundwater interception and manage the storage of contaminated water.</li> <li>▪ Notwithstanding, the Department has recommended that the Proponent update its WMP to include the EPA's recommendations to ensure appropriate contingency plans and operating procedures would be in place. The existing conditions require the WMP to be prepared in consultation with NOW, EPA and Council and must be approved by the Director-General.</li> <li>▪ In addition, the Department has recommended a condition requiring Orica to contain, transport and dispose of any excess contaminated water to an appropriately licensed facility in the event that all other appropriate on-site storage options are exhausted.</li> </ul>	<p>Recommended conditions requiring Orica to:</p> <ul style="list-style-type: none"> <li>▪ update the existing Water Management Plan to include contingency plans to manage potential overflows; and</li> <li>▪ contain, transport and dispose of off-site any excess contaminated water at an appropriately licensed facility.</li> </ul>
Air Quality and Odour	<ul style="list-style-type: none"> <li>▪ The storage of contaminated water has the potential to release odour.</li> <li>▪ Orica has explained that the main contaminants are insoluble in water and could be readily removed through a</li> </ul>	No additional conditions in relation to air quality and odour are recommended.

Issue	Consideration	Recommendation
	<p>transfer pump or vacuum tanker upon sedimentation.</p> <ul style="list-style-type: none"> <li>▪ Saturated sediment will be transferred to drying beds prior to sampling for reuse, or treatment in the DTD plant if found to be contaminated.</li> <li>▪ The nearest sensitive receiver is approximately 300m away from the water storage pond and is unlikely to be impacted by any odour.</li> <li>▪ The EPA and Council did not raise any concerns in regards to air quality.</li> <li>▪ As such, the Department considers that air and odour impacts associated with modification would be minor and could be managed by existing conditions of approval.</li> <li>▪ Existing conditions require the Proponent to ensure no offensive odours would be generated from the site and all measures would be undertaken to manage odours to the satisfaction of the EPA.</li> </ul>	
Soil	<ul style="list-style-type: none"> <li>▪ Construction of the water storage ponds would not take place in areas requiring remediation.</li> <li>▪ Material excavated for the ponds would be used for the construction of pond walls.</li> <li>▪ Any surplus excavated material would be temporarily stockpiled and sampled prior to any reuse on-site.</li> <li>▪ All pond bases and walls would be covered by high-density polyethylene (plastic) to prevent potential erosion and soil contamination.</li> <li>▪ The EPA raised no issues regarding the disturbance of soil associated with the proposed storage ponds.</li> <li>▪ The Department considers that impacts on soil associated with the modification would be minor and could be managed by existing conditions of approval.</li> </ul>	No additional conditions in relation to soil are recommended.
Noise	<ul style="list-style-type: none"> <li>▪ The area surrounding the Project site is predominantly industrial. The construction of the water storage ponds would be approximately 300m away from the nearest private residence.</li> <li>▪ Any noise impacts as a result of the proposed modification would be associated with the construction equipment for the storage ponds.</li> <li>▪ The construction period associated with the storage ponds would be short term (2 to 3 weeks) and within the approved construction period and working hours.</li> <li>▪ The EPA and Council did not raise any concerns in regards to noise.</li> <li>▪ The Department is considers that noise associated with the modification would be minor and could be adequately managed through the existing conditions of approval.</li> </ul>	No additional conditions in relation to noise are recommended.

## 6. CONCLUSION

The Department has assessed the merits of the proposal in accordance with the requirements of the EP&A Act. This assessment has found that the proposed modification would have negligible impacts beyond those originally assessed and approved. The Department considers that any impacts can be managed by the existing and modified conditions of approval.

In addition, this assessment has found that the proposed modification would improve management of contaminated and treated water for the duration of remediation works, reducing the risk of harm to human health and the environment.

Consequently the Department believes the proposal should be approved subject to some minor amendments to the existing conditions of approval.

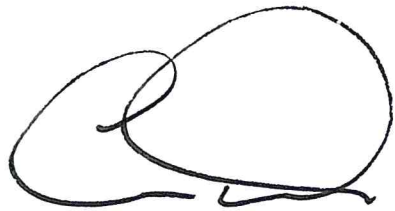
## 7. RECOMMENDATION

It is RECOMMENDED that, as delegate for the Minister, the Executive Director, Development Assessment Systems and Approvals:

- **consider** the findings and recommendations of this report;
- **determine** that the proposed modification is within the scope of section 75W of the EP&A Act;
- **approve** the application subject to conditions; and
- **sign** the attached notice of modification (see **Tag 'A'**).

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