

ASSESSMENT REPORT

Section 75W Modification

Orica Southlands Remediation and Warehouse Development Project – Flood Storage Reconfiguration (MP 06_0191 MOD 1)

1. BACKGROUND

Orica Australia Pty Ltd (Orica) is an Australian-based global company that produces and supplies mining, chemical and consumer products. Within NSW, Orica (formerly ICI Australia) operates three major sites at Botany, Padstow and Newcastle. Orica has operated a chemical manufacturing facility at the Botany Industrial Park (BIP) in Banksmeadow since the early 1940s.

In 1980, Orica purchased a vacant parcel of land adjacent to the BIP which is known as Southlands (refer to **Figure 1**). The site has remained undeveloped since its purchase except for some equipment and infrastructure (primarily pipes) required by Orica to maintain its Botany Groundwater Cleanup Project (BGCuP) (a project approved by the EPA in 2005).

The site is surrounded by industrial and commercial premises. Nant Street, an unsealed roadway owned by Council, runs through the middle of the site, providing access from the McPherson Street site entrance to the Qenos tank farm located directly adjacent to the site's northern boundary.

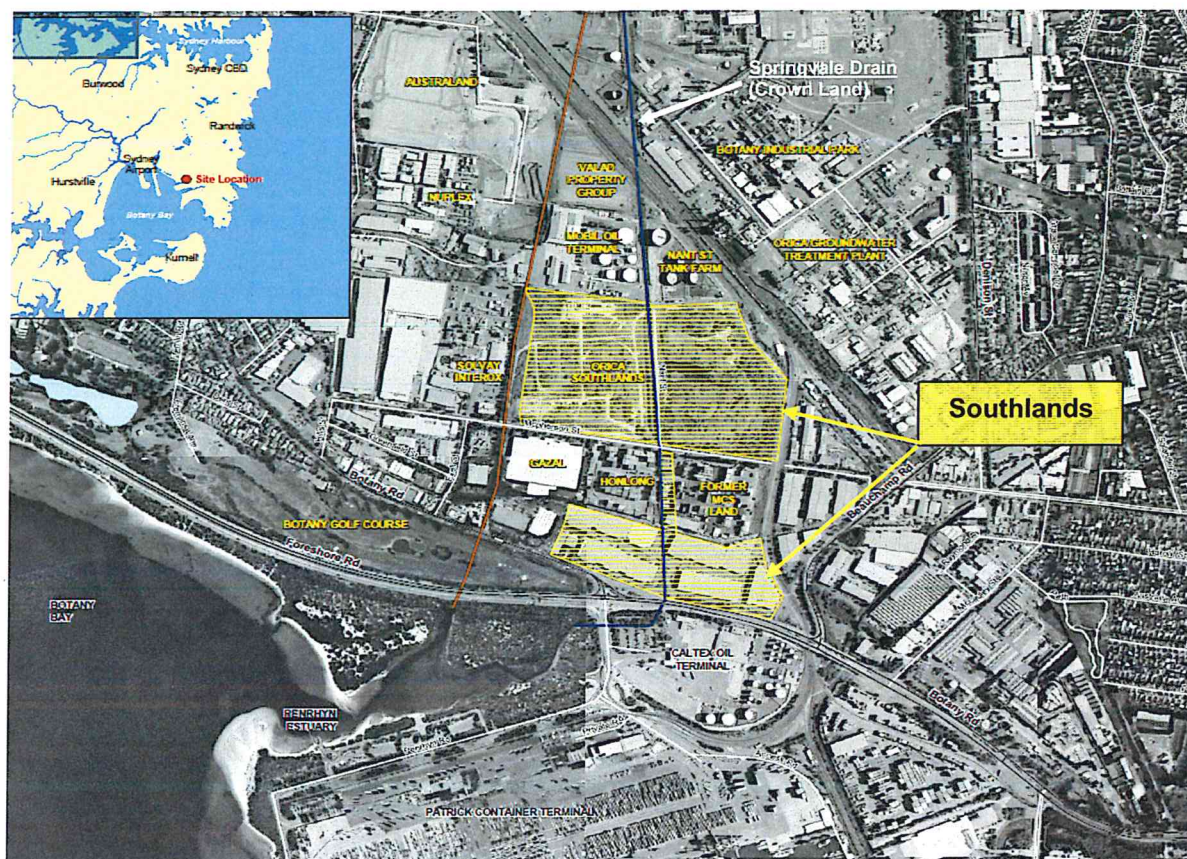


Figure 1: Site Location

On 16 April 2012, the Deputy Director-General, under the Minister for Planning and Infrastructure's delegation, granted approval for the construction and operation of an industrial warehousing estate at Orica's Southlands site.

The approval allowed for (see **Figure 2**):

- remediation works over the whole site (Areas 1, 2 and 3);
- flood mitigation and drainage works;
- staged subdivision into 9 lots (see **Figure 3**);
- filling of the land on the site's western side to raise it above the 1 in 100 year flood levels;
- establishment of 6 industrial use warehouses (with a gross floor area of 48,000m²) each with ancillary office components;
- traffic improvement works at the intersection of Hill Street and Botany Road;
- direct vehicle access for warehouses 1-4 off McPherson Street; and
- carparking and landscaping works.

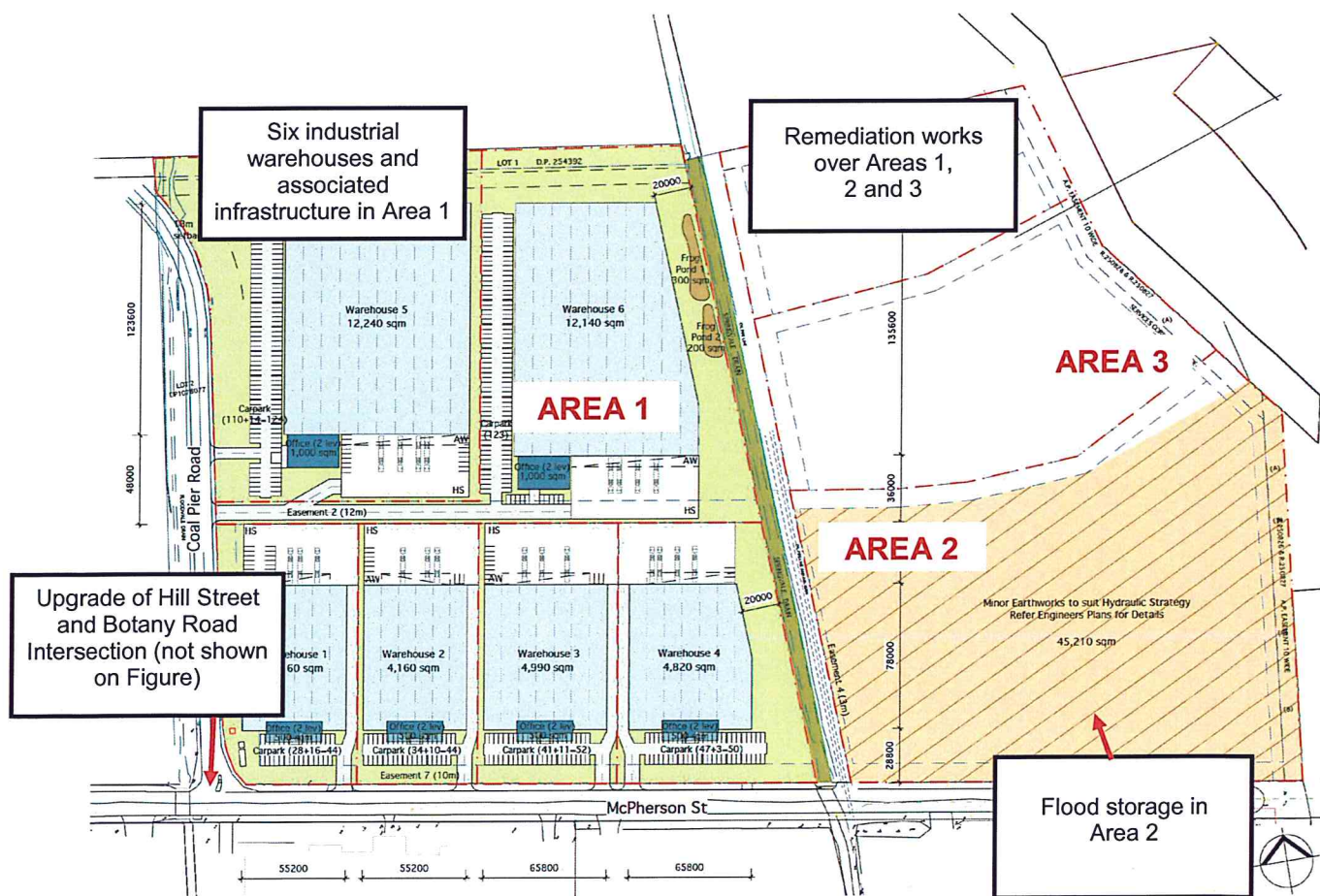


Figure 2: Approved Project layout

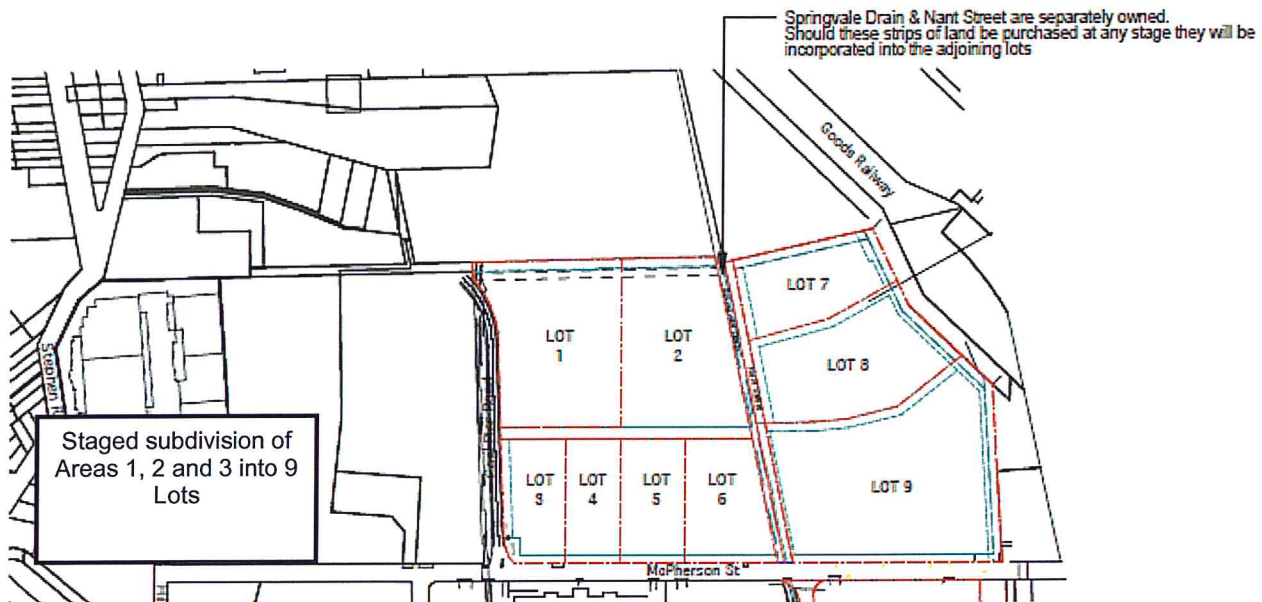


Figure 3: Approved Project subdivision

As one of the last remaining undeveloped areas, the Southlands site currently acts as a flood detention area for the broader locality. Floodvale and Springvale Drains form the trunk drainage system for the catchment, to the north of Orica's Southland's site. These two drains transect the site. Flooding of Floodvale and Springvale Drains results from a complex interaction of catchment runoff coupled with flat terrain, drainage patterns associated with previous developments in the catchment and undersized drainage infrastructure.

Development of the site is further complicated by shallow groundwater levels and groundwater contamination which limit options for transferring flood storage within the site. As such, one of the key issues identified in the original assessment was flood impacts and as such the Department engaged an independent flood consultant, WMAwater, to undertake a review of the Project and the proposed flood mitigation works.

Orica originally sought approval for two stages. However, only Stage One was approved due to the significant issues relating to flooding (and traffic) which could not be resolved at the time of approval. The approved Project addressed the flooding issue by providing for a large compensatory flood storage area (a large detention basin) in the south-eastern portion of the site (see **Figure 2**).

2. PROPOSED MODIFICATION

Additional site investigations undertaken as part of the Project's detailed design phase have revealed that the extent of the excavation works required for the construction of the flood storage basin could result in contaminated groundwater being disturbed and causing groundwater to enter the flood storage basin.

The investigations identified that the eastern boundary of the Southlands should remain unexcavated and above the 1:100 year flood level. Due to the need to reconfigure the flood storage basin, additional changes are also required to other aspects of the approved Project (see below).

On 28 February 2013, the Proponent lodged a modification application seeking to reconfigure and increase the surface area of the approved flood storage basin.

To achieve the required onsite flood storage basin configuration, a number of other changes to the Project are also required. These include a reduction to the approved building footprints and amendments to the approved subdivision plan.

The key changes sought by Orica are illustrated in **Figures 4** and **5** and summarised below:

- reconfiguration of the approved compensatory flood storage basin;
- reduction in the warehouse gross floor area from 46,500m² to 36,170m²;
- slight reconfiguration of internal traffic circulation to allow trucks to move through the site in a one way direction;
- a weir comprising a natural channel constriction in Springvale drain (the original approval did not define the type of weir);
- a revised subdivision and easement plan which proposes:
 - minor reconfiguration and reduction in size of lots 1-6;
 - reconfiguration of approved Lots 7, 8 and 9 to create three development Lots (7, 8 and 12) over the eastern, unexcavated portion of the site, and Lot 9 (the compensatory flood storage basin on the eastern half of the site);
 - two additional Lots (10 and 11), in place of the originally proposed easements for the Botany Groundwater Clean Up Project (BGCuP); and
- relocation of the frog ponds.

To cater for the reduced flood storage area along the sites eastern boundary, the Proponent now seeks to extend the compensatory flood storage basin further to the north and to west.

The approved remediation works would remain unchanged.

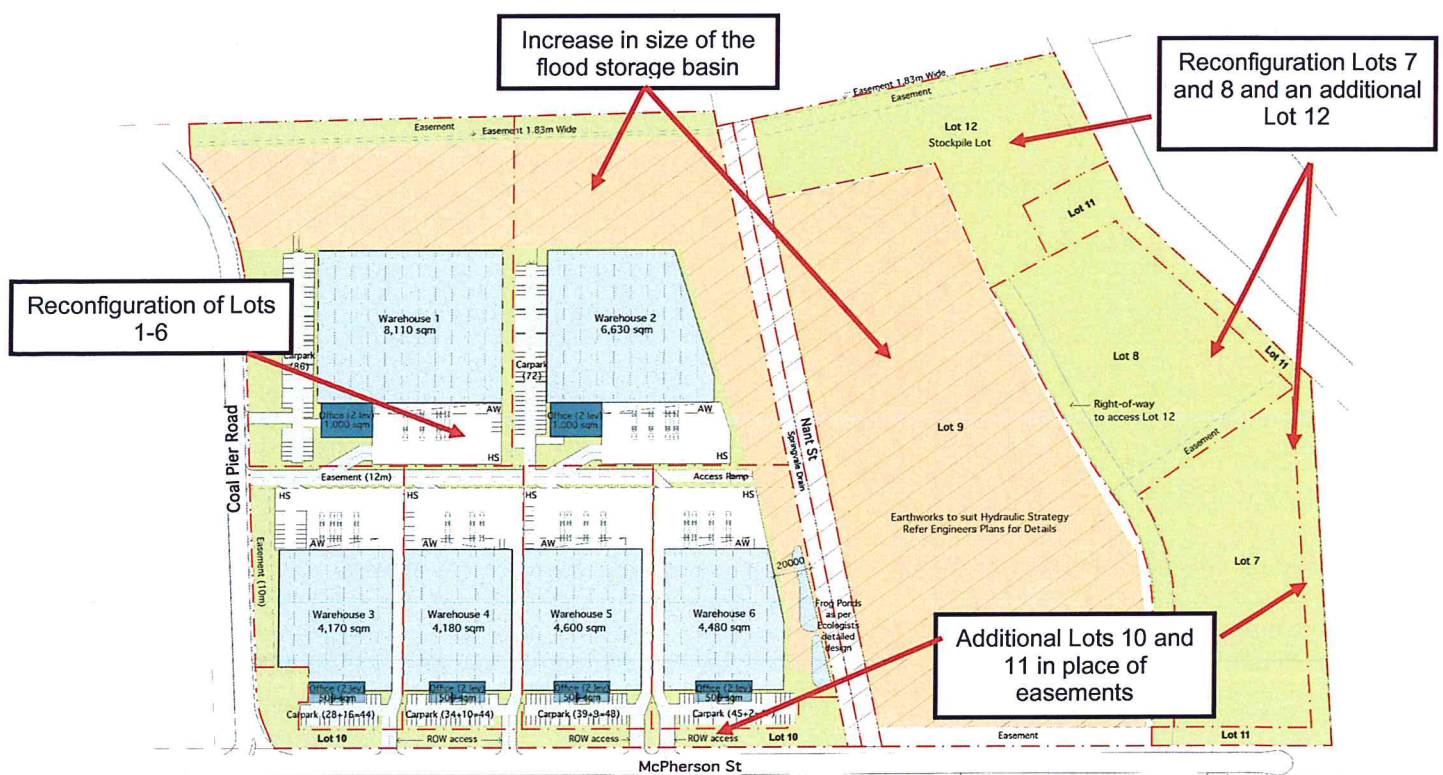


Figure 4: Proposed Modification to Site Layout

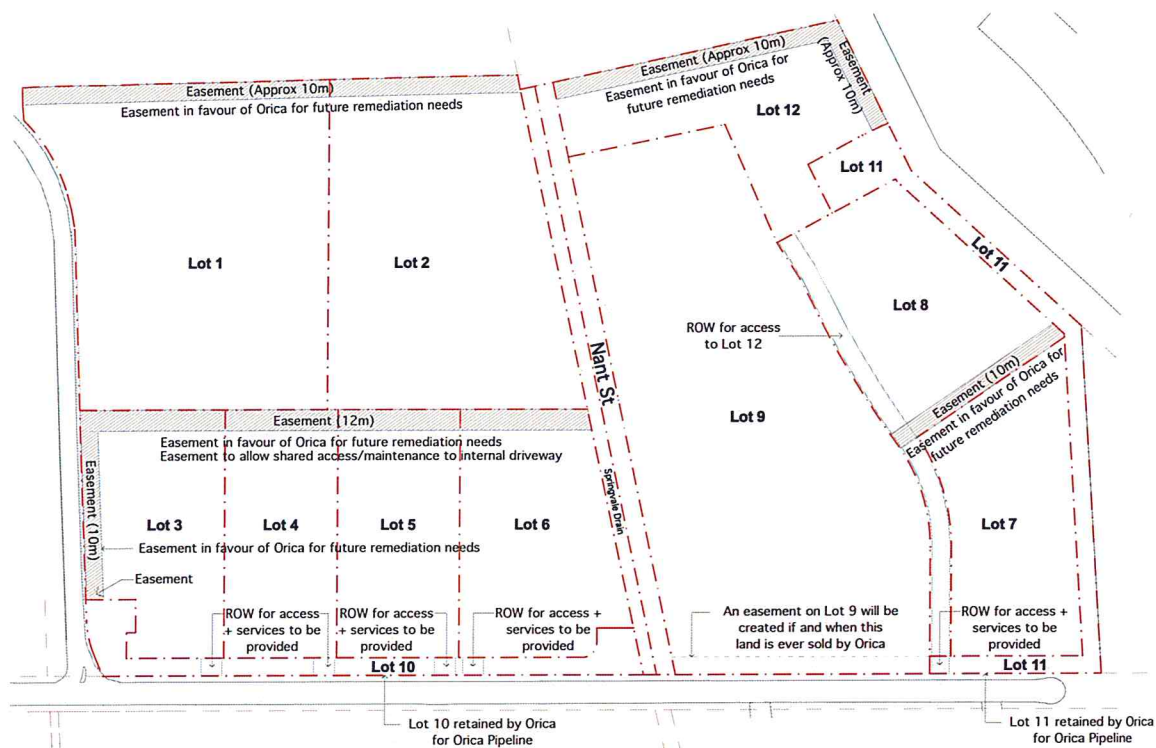


Figure 5: Proposed Modification to Subdivision Plan

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 what is proposed 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 consent.

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 approval, 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 10 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

In accordance with s75W of the EP&A Act, the Department made the application publicly available on its website and consulted with the Environment Protection Authority (EPA), City of Botany Bay Council (Council), the Roads and Maritime Services (RMS) and the Department of Primary Industries. The Proponent also consulted with Sydney Water.

The Department also consulted with the nine parties who made a submission in response to the original application.

The Department received seven submissions on the proposal:

- four from public authorities, including Council, EPA, RMS and DPI (NSW Office of Water and Crown Lands); and
- three from the general public.

The final Response to Submissions report was received on 18 June 2013 and provided clarification and additional information regarding issues raised. This document was also made publicly available on the Department's website and sent to the above agencies and public submitters.

A summary of the issues raised in the submissions is provided below. A copy of each submission is included in Appendix B.

Council did not object to the proposed modification, however, it raised a number of concerns relating to Section 94 contributions and traffic impacts. Council also requested additional information regarding the amended flood storage basin, the Green and Golden Bell Frog ponds and the landscape plan. Further, it recommended a number of conditions relating to easements to allow for right of way for Lots 3-6 and covenants to ensure the flood detention basin is maintained into the future. Council's issues have been resolved by the Proponent in its Response to Submissions report and subsequent discussions and as such raised no further issues.

The **EPA** did not object to the proposed modification, however, it raised concerns with the groundwater wells and pipeline easements, the impacts of the flood water on the local hydrogeology, and the proposed relocation of the Green and Golden Bell Frog pond. These issues were resolved by the Proponent during the assessment process and RTS, and as such the EPA raised no further issues.

The **RMS** raised no objections to the proposed modifications.

The **NSW Office of Water** raised concerns that future access to the 'Primary Containment Area' borefield may not be possible. However, the Proponent has demonstrated that adequate easements would be provided to ensure ongoing access to the groundwater treatment system. NOW also requested clarification as to whether the 20m riparian zone required under Condition 31(b) of Schedule 3 is still proposed. Orica confirmed that it was.

Crown Lands confirmed that they support the replacement of 'rock rip rap' within Springvale Drain with 'reno mattress', and that no further approvals are required.

Three **General Public** submissions were received during the exhibition period, including two from nearby business operators (Solvay and Hynlong) and one from a nearby resident. The key issues raised in the submissions included:

- **Flooding** – One of the main concerns raised with flooding was the proposed use of a "natural channel constriction" to manage flood waters in lieu of a permanent defined structure. Other flooding related issues included concerns over the lack of detailed supporting information, increased flood impacts, inconsistencies with submitted data and modelling results for Lots 7 and 8. These issues have been addressed in Section 5.

- **Easements** – Solvay raised concerns over the submitted plans not showing its easements along the northern part of the site. This has now been rectified by the Proponent.
- **Traffic Generation** – It was requested that the traffic study be redone to remove any reference to Lots 7 and 8 which would not form part of this application.
- **Contamination** – concerns were raised over potential contamination of the Southlands site from the adjacent ChlorAlkali Plant.

All of the issues raised in submissions have been considered by the Proponent in its Response to Submissions report and by the Department in its assessment of the modification.

5. ASSESSMENT

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

- the Environmental Assessment, Preferred Project Report and the Director-General's environmental assessment report for the approved Project;
- existing conditions of approval;
- documentation supporting the proposed modification application (Appendix A);
- all submissions received (Appendix B);
- the Proponent's Response to Submissions report (Appendix A)
- relevant environmental planning instruments, policies and guidelines; and
- the requirements of the EP&A Act, including the objects of the Act.

In regard to the proposed modification, the Department considers the key environmental issues to be associated with flooding. The assessment of other issues including contamination, traffic, Green and Golden Bell Frogs and Section 94 contributions is outlined in **Table 1**.

5.1 Issues

Flooding

Flooding was one of the key issues assessed as part of the original Project Application.

As one of the last areas to be developed in the catchment, the Southlands site acted as a flood storage area for surrounding developments. As such, any activity with the potential to change the site had the potential to significantly impact flood levels and behaviour in the area.

Due to the above complexities, the Department engaged an independent flood specialist to provide technical advice on flooding related issues. A key outcome of the Department's assessment was to only approve Stage 1 of the Project due to insufficient information being available to demonstrate acceptable flood mitigation could be provided during Stage 2.

As part of the approval, Orica was required to still maintain some flood storage capacity on the Southlands site via a flood detention basin in the south-eastern corner of the site. This approach allowed some warehouse activities on land above the 1 in 100 year flood level while providing an added benefit of actually reducing existing flood impacts on some surrounding properties.

Need for modification

Orica has subsequently identified that reconfiguration of the compensatory flood storage area is required due to the detection of shallow groundwater along the eastern boundary of the Southlands site. If the basin was constructed as approved, this could potentially result in the incursion of contaminated groundwater into the flood storage basin.

The modified design is based on recent investigations and advice from the Proponent's hydrogeologist. The new information has meant that the basin has to be reconfigured, making it shallower and expanding to the western side of the site and further to the north (see **Figure 4**).

Orica's flood consultant (Aurecon) carried out hydraulic modelling of the proposed basin modifications. As part of the modification application, the Proponent was required to demonstrate that the modified Project would not have adverse flood impacts on the properties upstream or downstream of the site.

The Department again engaged an independent hydrological specialist (WMAwater, the same specialist who provided advice on the original Project), to review and provide technical advice on the revised flood assessment and proposed amended flood detention basin design.

A public submission initially raised concerns over what it perceived to be a lack of supporting information and inconsistencies in the modelling and requested an independent review. However, the Department's specialist confirmed that adequate information had been provided to allow a satisfactory assessment, and that independent review of the flood modelling is not required given that validation of the flood controls is required. Notwithstanding, the Department has recommended an amendment to this condition to ensure the validation is undertaken within an appropriate timeframe, prior to the occupation of each new building.

Flood impacts

The results of Aurecon's modelling indicate that the revised flood detention basin would still reduce existing peak flood levels on adjoining properties (see **Figure 6**).

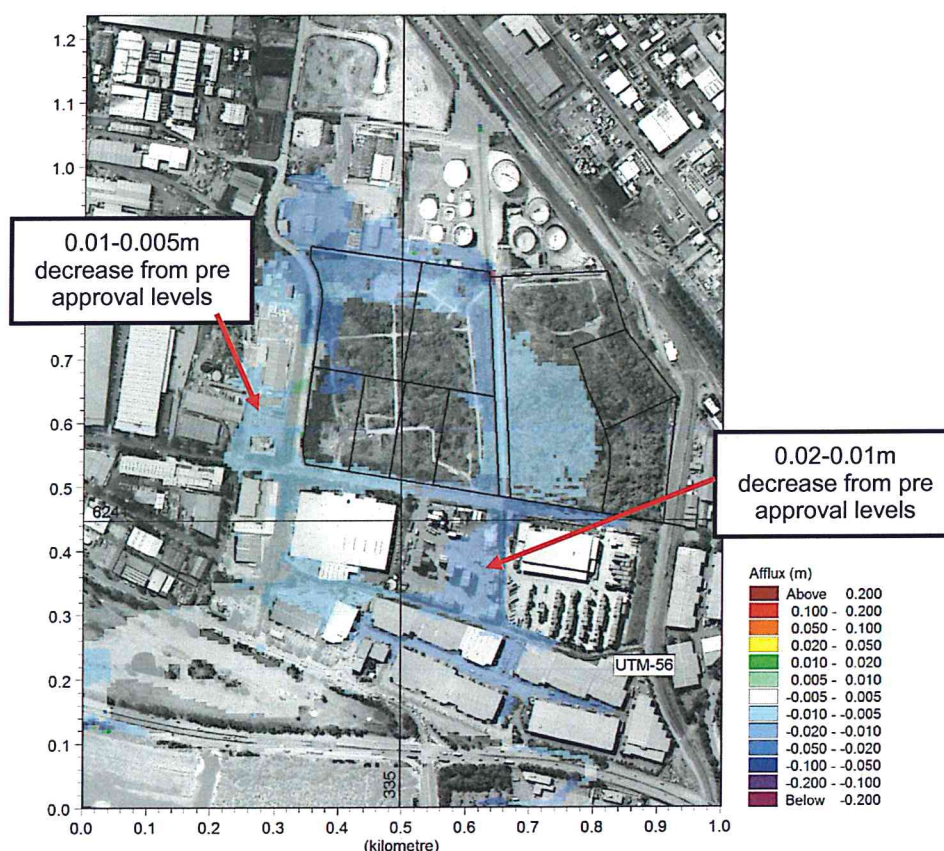


Figure 6 Modified Development Scenario 1% AEP flood level difference from Pre-Approval levels

However, the proposed modification would slightly increase the flood levels anticipated by the approved Project's design (see **Figure 7**). For example, the 2010 results indicated a 0.04 reduction in peak level at a certain location and the modified proposal results show only a 0.02 reduction at this location. This means that the peak levels have increased compared to the 2010 results but the design level is still below the existing or pre development level.

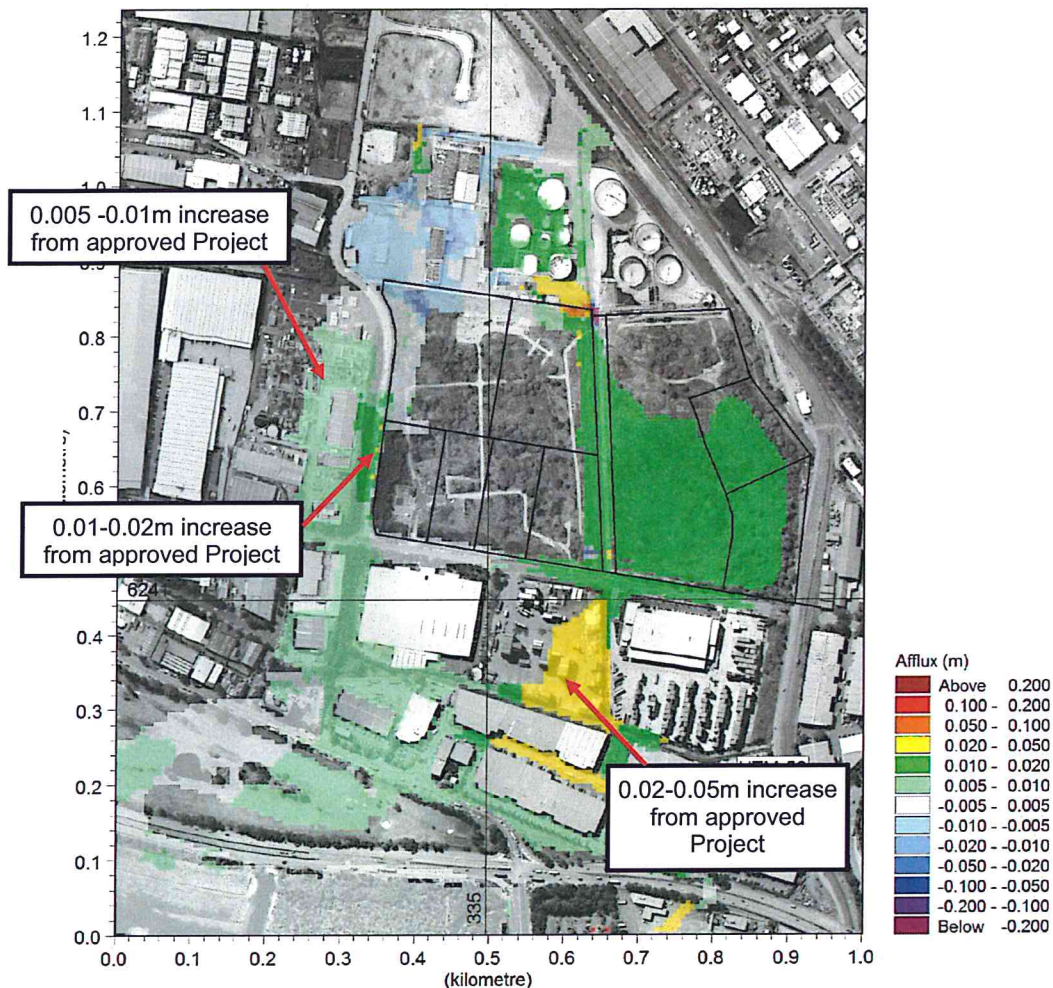


Figure 7: Modified Development 1% AEP flood level change from approved.

Concerns were raised by a public submission over the modelled increase in flood impacts over the original Aurecon modelling (done as part of the Project Application). However according to the Department's expert, the change in flood levels is still satisfactory as the modification would still achieve a reduction in existing flood levels (as shown in **Figure 6**).

Furthermore, the Department also acknowledges that the design changes are necessary in order to avoid interacting with contaminated groundwater.

Weir

The approved Project included a level control structure (in the form of a compound weir or other control structure design) to be incorporated within Springvale Drain to divert flood waters to the detention area. The proposed modification indicated that the weir would be a natural channel constriction, in the form of a rock rip rack.

One of the main concerns raised with the revised flood detention basin was the proposed use of a "natural channel constriction" to manage flood waters in lieu of a permanent defined structure. The concern being that the natural channel construction would be more susceptible to erosion or alteration by maintenance activities.

In response to the concerns raised, the Proponent has committed to the installation of a permanent 'defined' control structure (weir / constriction) within Springvale Drain, with details to be shown on submitted plans to the satisfaction of the Department. A condition has been recommended to reflect this commitment.

A submission requested that Orica extend the permanent weir structure to all locations below the 1 in 100 flood level. The Department and WMAwater consider that this requirement would be onerous and unreasonable, particularly as these areas may be landscaped or be parts of driveways. Instead, the

Department has agreed to include a recommendation that Orica be required to undertake a detailed survey on not only all key structures as approved but areas including final surface levels either side of the Springvale Drain Flow Control Structure and any other locations affecting the discharge of flood waters from the Orica detention systems to Nant Street, Coal Pier Road, McPherson Street or the downstream reaches of Springvale or Floodvale Drains. WMAwater agrees that the condition should be amended as above as this would ensure that should changes be made to any of the outlet control works following certification, an amended design could be matched to the original.

Nant Street

The proposed modified design of the flood detention basin required some regrading of Nant Street. Council raised concerns over the amount of cut and fill proposed as it perceived that this would allow Nant Street to be used as a weir for the compensatory flood storage basin. The Proponent's flood modelling has demonstrated that both existing and future flood levels cause Nant Street to be inundated. Council subsequently confirmed that Nant Street may be used as a weir if the Proponent resolves the issue relating to the proposed amount of cut and fill.

Following discussions with Council, Orica agreed to retain the existing levels of Nant Street, with the exception of the first 40m. Council has indicated that it is now satisfied with Orica's proposed road levels, provided Orica seal the section of the road to be regraded. This would be addressed through Orica's Road opening permit.

Management of Flood Detention Basin

Council raised some concerns over the future management of the revised flood detention basin given that it has been extended into lots that would be sold. As such, a number of conditions have been recommended to ensure that the flood detention basin is appropriately managed following the sale of Lots 1, 2, 6 and 9.

The Department is satisfied that the modification would not increase existing flood impacts on adjacent land and is therefore consistent with the impacts of the original approval. Further, existing and proposed conditions would ensure that the Project is monitored throughout construction and prior to occupation.

Table 1: Assessment of other issues

| Issue | Assessment | Recommendation |
|---------------|---|--|
| Contamination | <ul style="list-style-type: none"> ▪ Past activities adjacent to and on the site have resulted in contamination of soil and groundwater within the Southlands site. ▪ A submission raised concerns over the potential for mercury contamination at the Southlands site from the historic operations of the adjacent Orica-owned ChlorAlkali Plant. ▪ The Department notes that the original assessment identified soil contamination on the site and included a RAP which has been endorsed by an accredited site auditor. The modification does not propose any changes to the approved remediation works. ▪ The Department is satisfied that existing conditions are suitable to manage any on site contamination. <p><u>Groundwater</u></p> <ul style="list-style-type: none"> ▪ Groundwater remediation is regulated by the EPA through the Botany Groundwater Cleanup Project (BGCUP). Some of the BGCUP's infrastructure (including groundwater pipe network and extraction wells) are located beneath the Southlands site and must be maintained as part of the modification. ▪ The modification proposes two (2) additional Lots to cover some of the BGCUP infrastructure which is to be kept in Orica's ownership in lieu of easements as approved. | <p>Recommended conditions require the Proponent to:</p> <ul style="list-style-type: none"> • create an easement in accordance with the Easements Plan SRD DA017(H) to allow for all activities related to the approved VMP or other regulatory instrument and potential future remediation works prior to the sale of Lot 9; and • maintain the site for the duration of the site occupation and operation in accordance with the auditor approved LTSEMP. |

| Issue | Assessment | Recommendation |
|-------------------|--|---|
| | <ul style="list-style-type: none"> The EPA initially raised concerns over the removal of some of the easements. However, the Proponent advised that easements cannot be created to benefit an existing owner. To address this issue, the Proponent proposes to establish separate lots to allow access to the BGCuP infrastructure. The EPA raised no further concerns. <p><u>Long Term Site Environmental Management Plan (LTSEMP)</u></p> <ul style="list-style-type: none"> Orica requested, on advice from its EPA accredited site auditor, a modification to the wording of Condition 6, Schedule 3 which requires the preparation of an LTSEMP. The revision would ensure that the plan is maintained for the duration of operations on the site. The Department agrees that it is important that some mechanism for enforcement of the plan be in place, as such that the Department has recommended that the land be maintained in accordance with the LTSEMP for the duration of occupation. <p><u>Vapours</u></p> <ul style="list-style-type: none"> The original approval included a 20m setback from the flood detention basin as a measure to manage vapour risks. The proposed modification does not include this setback on the western portion of the basin, due site constraints. Initial concerns were raised by the EPA, however, Orica explained that historical data and recent monitoring in this area does not indicate significant contaminate concentrations and shows a decreasing trend. In addition, the basin in this area has been designed to minimise interception of shallow groundwater. The EPA was satisfied that its concerns have been addressed. In addition, the site auditor is not concerned with vapour risks from the detention basins, as the water is not likely to pond for longer than a few days. The Department is satisfied that the proposed modification would not increase vapour risks from the Project, particularly as original conditions require ongoing monitoring of vapours from Springvale Creek and the proposed compensatory flood storage area. In addition, the site auditor-approved Long Term Site Environmental Management Plan would ensure any residual contamination on site is managed appropriately. | |
| Traffic & Parking | <ul style="list-style-type: none"> Traffic was one of the key issues identified in the assessment of the original Project; it being the other reason (apart from flooding) why Stage 2 was not approved. The Proponent estimates that the modification would actually result in a reduction in the Project's traffic generation from 235 vehicles per hour (vph) to 181 vph. This is due to the proposed reduction in floor area from 46,500m² to 36,170m² (a reduction of 10,330m²), The proposed modification provides for 341 car spaces, 99 less than originally approved. This is | <p>Recommended conditions require the Proponent to:</p> <ul style="list-style-type: none"> provide parking in accordance with the 06_0191 Mod 1 for each individual Lot. |

| Issue | Assessment | Recommendation |
|----------------------------------|---|--|
| | <p>considered to be commensurate with the reduction in floor space and is considered to be satisfactory.</p> <ul style="list-style-type: none"> Neither the RMS nor Council raised any concerns about traffic and parking. The Department is satisfied that the modification would actually further reduce traffic impacts from the originally approved Project. | |
| Green and Golden Bell Frog Ponds | <ul style="list-style-type: none"> The approved Project includes the construction of two small ephemeral ponds and associated foraging areas as a compensatory habitat for the Green and Golden Bell Frog (GGBF). As part of the modification, the proposed site for the GGBF ponds has been relocated to the southern part of the Springvale Drain in Lot 6, not far from the intersection with McPherson Street. Both Council and the EPA raised concerns over the revised location. Council's concerns were related to the closeness of McPherson Street, the EPA were concerned that the ponds were located in the footprint of the flood detention basin and would be subject to periodic inundation. The Proponent's ecologist endorsed the location of the ponds and advised that the location was specifically chosen to take advantage of the flooding nature of the drain. Further the Ecologist recommended that the ponds be cleared of floating debris periodically to ensure that the frog's habitat is satisfactorily maintained. Both Council and the EPA were satisfied with the Proponent's response. Council requested that the ecologist's recommendations be included as a condition. The Department agrees and has included the ecologist's recommendation as a recommended condition of approval. | <p>Recommended conditions require the Proponent to:</p> <ul style="list-style-type: none"> submit a revised Green and Golden Bell Frog Management Plan to the satisfaction of the Director-General; and clean the GGBF ponds on a monthly basis and immediately after each storm event. |
| Developer Contributions | <ul style="list-style-type: none"> The Proposed modification would result in a reduction of developable floor space area. As Section 94 contributions is payable to Council based on the net developable area, the Proponent has submitted a revised letter of offer dated 7 May 2013 which commits to a Section 94 contribution of \$3,110,914 a reduction from the original offer of \$3,543,211 (or around \$432,297). Council have accepted the revised contributions offer. The Department recommends that the Condition be updated accordingly. | <p>Recommended conditions require the Proponent to:</p> <ul style="list-style-type: none"> pay developer contributions to a maximum amount of \$3,110,914 prior to the issuance of an Occupation Certificate payable to Council in accordance with Orica's offer dated 7 May 2013, for the provision of infrastructure within the Botany Bay local government area. |

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, the assessment has found that the proposed modification would ensure that contaminated groundwater is avoided, thereby reducing the risk of harm to human health and the environment. It would also still ensure that the peak post development flood level is less than the pre-development scenario, in accordance with the original approval.

The modification would also:

- reduce traffic volumes from those originally approved; and
- ensure that the infrastructure associated with the Botany Groundwater Clean-up Project is still accessible.

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

7. RECOMMENDATION

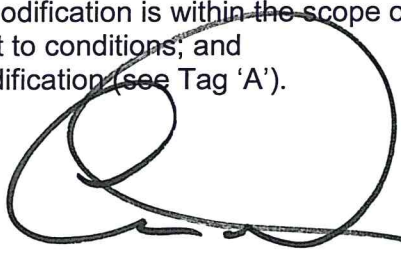
It is RECOMMENDED that the Executive Director, Development Assessment Systems and Approvals:

- **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').



Chris Ritchie
Manager - Industry
Industry Projects

14/8/13.



Chris Wilson
Executive Director
Development Assessment Systems and Approvals

14.8.13