NSW GOVERNMENT
Department of Planning

MAJOR PROJECT ASSESSMENT: Redlake Enterprises Industrial Estate

Director-General's
Environmental Assessment Report
Section 75I of the
Environmental Planning and Assessment Act 1979

July 2009

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EXECUTIVE SUMMARY

Redlake Enterprises Pty Ltd (Redlake Enterprises) proposes to establish an industrial park on approximately 116 hectares of vacant agricultural land located on Tomago Road, Tomago in the Port Stephens local government area. Redlake Enterprises is seeking approval for the subdivision of the site to create approximately 130 lots in three stages, bulk earthworks across the site, as well as the construction and operation of an integrated WesTrac facility on 23 hectares of the site (Stage 1).

The project has a capital investment value of $130 million and would employ 400 to 600 people during the establishment of the industrial subdivision and the construction of the WesTrac facility (Stage 1). Up to 400 people would be employed as part of the operation of the WesTrac facility (Stage 1). The development of Stages 2 and 3 (subject to separate approvals) would employ in the order of 700 people once fully operational.

The site is within the Tomago Industrial Site, a State significant site under *State Environmental Planning Policy (Major Projects 2005).* The project is classified as a major project under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and consequently requires the Minister's approval.

The site has been identified as employment lands under the Lower Hunter Regional Strategy, with established industrial areas located to the north west of the site along Tomago Road. Areas to the east are predominantly rural with a number of rural residents located along Tomago Road. Other nearby sensitive receivers include the heritage listed Tomago House and Chapel (~700m to the west); the Hunter Estuary National Park (adjoining the south-east corner of the site), including the Ramsar listed Hunter Estuary Wetlands and SEPP 14 wetlands[1]; Tomago Sandbeds to the north; Fullerton Cove to the east and the Hunter River to the south (see Figure 1).

The Department exhibited the Environmental Assessment (EA) of the project from Friday 2 May 2008 until Wednesday 4 June 2008, and received 16 submissions on the proposal: 7 from government authorities, and 6 from the general public and 3 from special interest groups. Comments on the project were also received from Port Stephens Council and the Commonwealth Department of Environment, Water, Heritage and the Arts following the exhibition of the EA.

The majority of the government authorities did not object to the proposal and provided recommended conditions of approval. However, the Department of Environment and Climate Change (DECC) does not support Stages 2 and 3 of the subdivision due to impacts on threatened species, endangered ecological communities and Aboriginal cultural heritage. The Hunter-Central Rivers Catchment Management Authority also does not support the clearing of endangered ecological communities as part of Stage 2 and 3 of the proposal. In addition, the Roads and Traffic Authority raised concerns about traffic impacts and contributions towards regional road infrastructure.

Of the 9 submissions received from the general public and special interest groups, 3 objected to the proposal, while the remainder raised issues of concern. Issues raised related to amenity impacts (dust, noise, and visual impacts), impacts on threatened species; flooding; heritage items; and property values, as well as an increase in traffic, lack of community consultation and lack of details about Stage 2 and 3.

The Department has assessed the merits of the project in detail, in accordance with the relevant requirements of the EP&A Act.

This assessment found that the main issues associated with the project relate to the conservation of threatened vegetation, management of stormwater and wastewater discharges from the site, noise, transport and Aboriginal heritage. The Department is satisfied however, that these impacts can be adequately mitigated and/or managed to ensure an acceptable level of performance and has recommended a range of conditions to ensure this occurs.

With regard to impacts on threatened species and endangered ecological communities, the Department has recommended conditions of approval that would require Redlake Enterprises to

[1] Wetlands as mapped under *State Environmental Planning Policy No 14 – Coastal Wetlands*

revise the design of Stages 2 and 3 of the subdivision of the site to reduce the footprint of these stages and to avoid the endangered Coastal Saltmarsh community present in the south-east corner of the site. The DECC supports the recommended conditions of approval and with these measures in place the Department is satisfied that the project would maintain the conservation values of the adjoining Hunter Estuary Wetlands Ramsar site.

In addition, the Department's assessment recognises the significance and need for the project in terms of promoting the development of the Tomago Industrial Site, which is identified as a State significant site under *State Environmental Planning Policy (Major Projects) 2005*. The project is consistent with the objectives of the Lower Hunter Regional Strategy providing for the early development of employment lands and generating jobs in the area.

The Department is satisfied that the project has significant social and economic benefits for the Lower Hunter region and that it is therefore in the public interest.

Consequently, the Department recommends that the Redlake Enterprises Industrial Estate Project be approved, subject to conditions.

1. PROPOSED PROJECT

1.1 Project Description

Redlake Enterprises Pty Ltd (Redlake Enterprises) proposes to establish an industrial park on approximately 116 hectares (ha) of vacant agricultural land located on Tomago Road, Tomago (see Figure 1). The site is located approximately 8 kilometres to the south west of Raymond Terrace and 12 kilometres north west of Newcastle in the Port Stephens local government area (LGA).

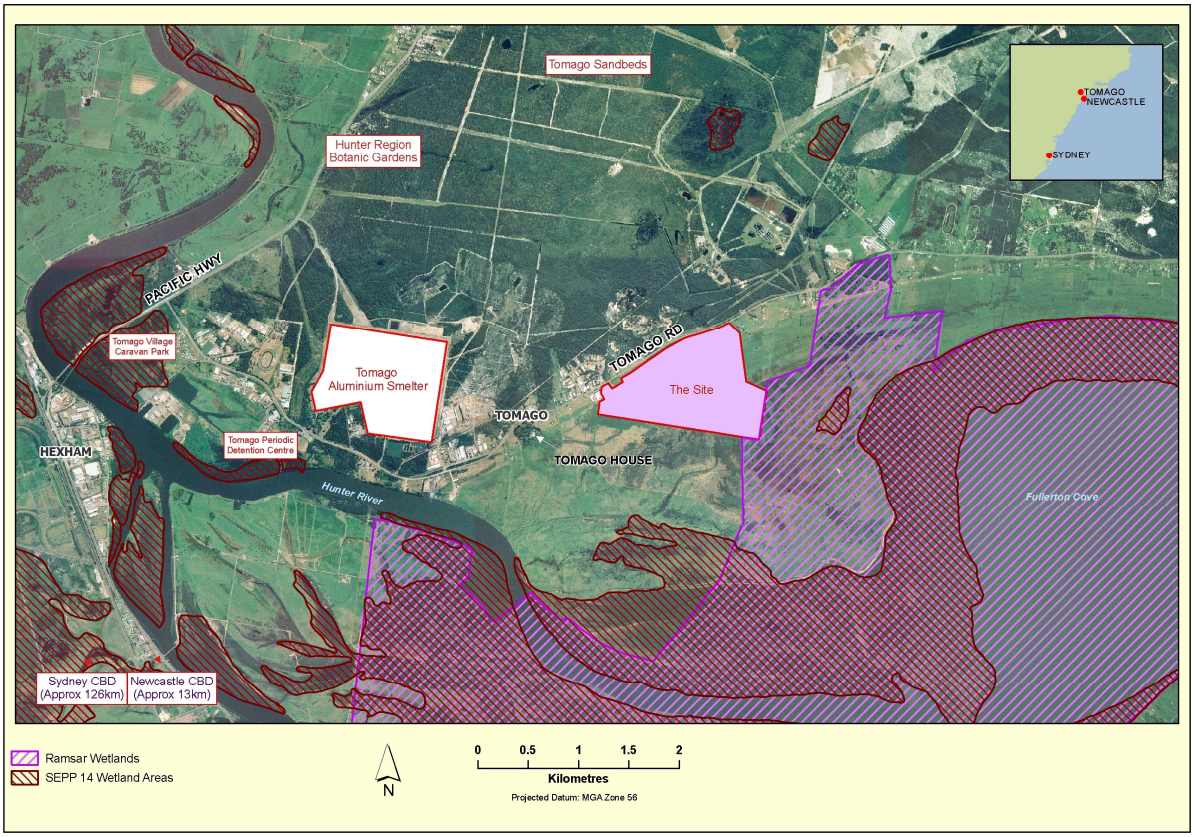

Figure 1: Regional Context

Redlake Enterprises is seeking approval for the subdivision of the site to create approximately 130 lots in three stages, bulk earthworks across the site, as well as the construction and operation of an integrated WesTrac facility on 23 hectares of the site (Stage 1).

The major components of the revised proposal are summarised in Table 1, depicted generally in Figures 2 and 3, and described in full in the Environmental Assessment (EA) (see Appendix G).

Table 1: Major components of the project

Aspect	Description
Project Summary	***The establishment of an industrial park on 116 hectares of land at Tomago and the construction and operation of a WesTrac Facility and associated infrastructure on 23 hectares of the site.***
Bulk Earthworks	Approximately 107 ha would be filled to the 1:100 year flood level, requiring 1.8 million cubic metres of fill.
WesTrac Facility (Stage 1)	Construction and operation of a WesTrac facility on 23 hectares of the site. Components would include: • component rebuild centre (i.e., manufacturing/assembly); • parts warehouse and distribution centre; • on highway truck servicing workshop and Bcon workshop;

Aspect	Description
	• training facility for WesTrac employees; • staff amenities building; • utility building including washbays, a diagnostic centre, sandblasting facilities, spray booth, machine shop; • hydraulic and High Velocity Oxygen Fuel facility; • administration/office; • fuel storage and oil waste depot; • solid waste depot; • carparking for 391 passenger vehicles and 22 motor bikes; and • landscaping.
Subdivision	Subdivision of the remainder of the site (~84 hectares) into approximately 130 lots for industrial purposes (Stage 2 and 3), including the provision of utilities and services. The development of Stages 2 and 3 would be subject to further approvals.
Access	Proposed seagull intersection to provide access to the site from Tomago Road.
Infrastructure	Provision of an on-site sewerage system, and stormwater management infrastructure. All other infrastructure (potable water, electricity and telecommunications) would be provided through the augmentation and/or extension of existing services. The relocation of the existing 132 kV line and easement would be required.
Employment	Construction workforce of 400 – 600 employees and an operational workforce of 300 - 400 employees as part of the operation of the WesTrac facility. The development of Stages 2 and 3 (subject to separate approvals) would employ approximately 700 people once fully operational.
Capital Value	$130 million
Hours of Operation	24 hours a day, 7 days a week

1.2 Project Setting

Historically, the project site has been used for agricultural purposes (grazing), however, it was zoned for industrial development in 2003 (under *State Environmental Planning Policy No 74 - Newcastle Port and Employment Lands* [SEPP 74]). The site is located off Tomago Road, and once formed part of the Tomago Aluminium Smelter buffer zone. The site is within an area of land that was acquired by the NSW State Government in early 2003 and was earmarked for a steel-making facility (incorporating the purple and green shaded area in Figure 4). However, this facility did not proceed and until recently the site remained vacant under the management and administration of the former Regional Land Management Corporation Pty Ltd (RLMC, now incorporated into Hunter Development Corporation).

In finalising the Lower Hunter Regional Strategy, the Government's 25 year land use strategy for the region (see Section 1.4 and Figure 5), the NSW Government reached agreement with four major landholders for the dedication of over 12,000ha of land for conservation purposes, in return for the recognition of additional development potential over 3,280ha. The details of the negotiated outcomes are set out in a series of Memoranda of Understanding (MOU) between the NSW Government and the landowners, including RLMC.

The MOU between the NSW Government and RLMC outlines that of the 592.9ha of land administered by RLMC at Tomago, 241.3ha would be transferred to the Department of Environment and Climate Change (DECC) for conservation purposes, with 351.6ha to be dedicated for employment purposes (see Figure 4).

To reflect the provisions of the MOU (which differed slightly from SEPP 74 provisions), SEPP 74 was repealed, and in June 2007 the RLMC land at Tomago was declared a State Significant Site (known as the Tomago Industrial Site) under *State Environmental Planning Policy (Major Development) 2005* (Major Development SEPP). The project site is located within the land dedicated for employment purposes under the MOU (see Figure 4).

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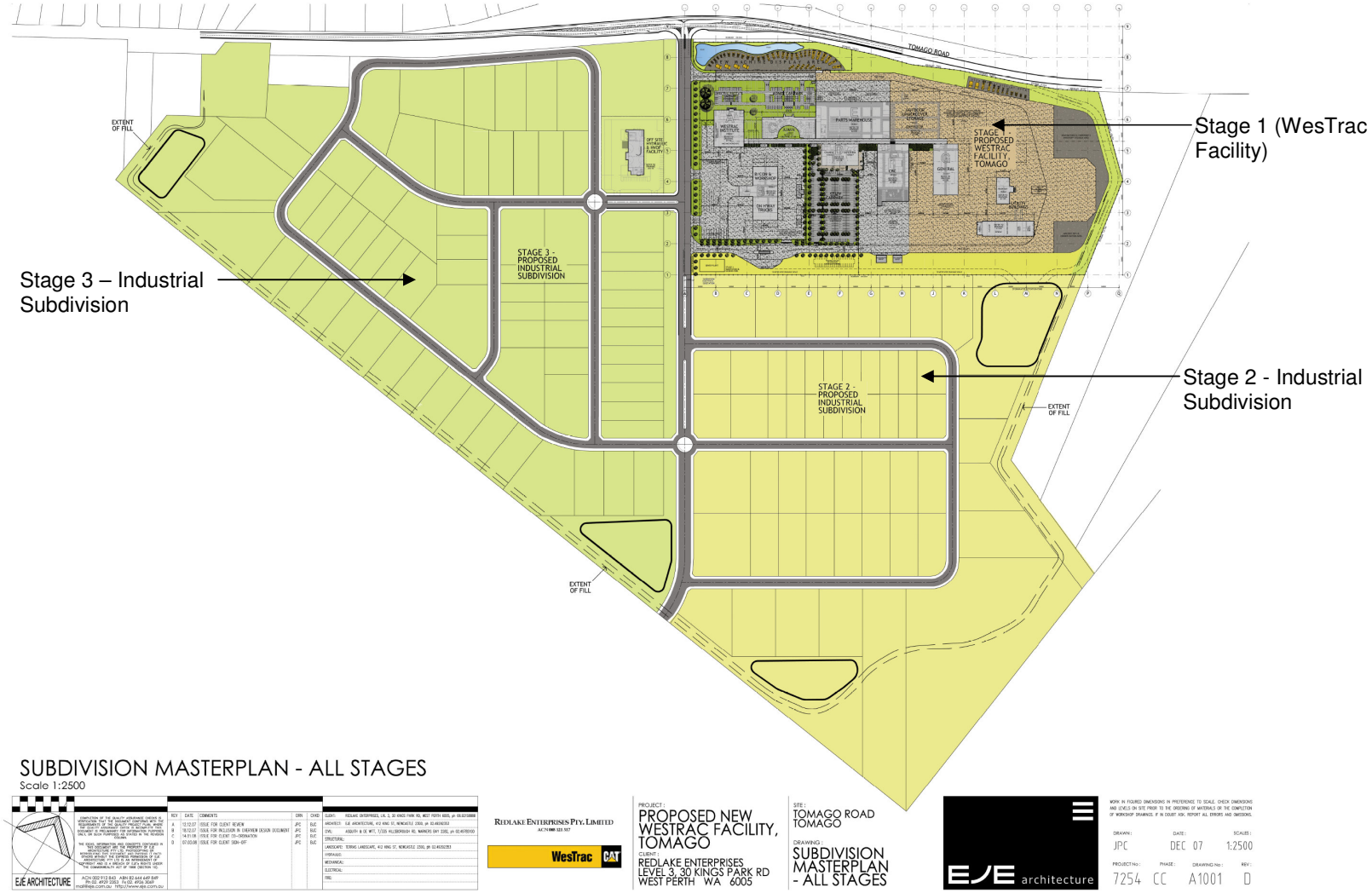

Figure 2: Site Plan

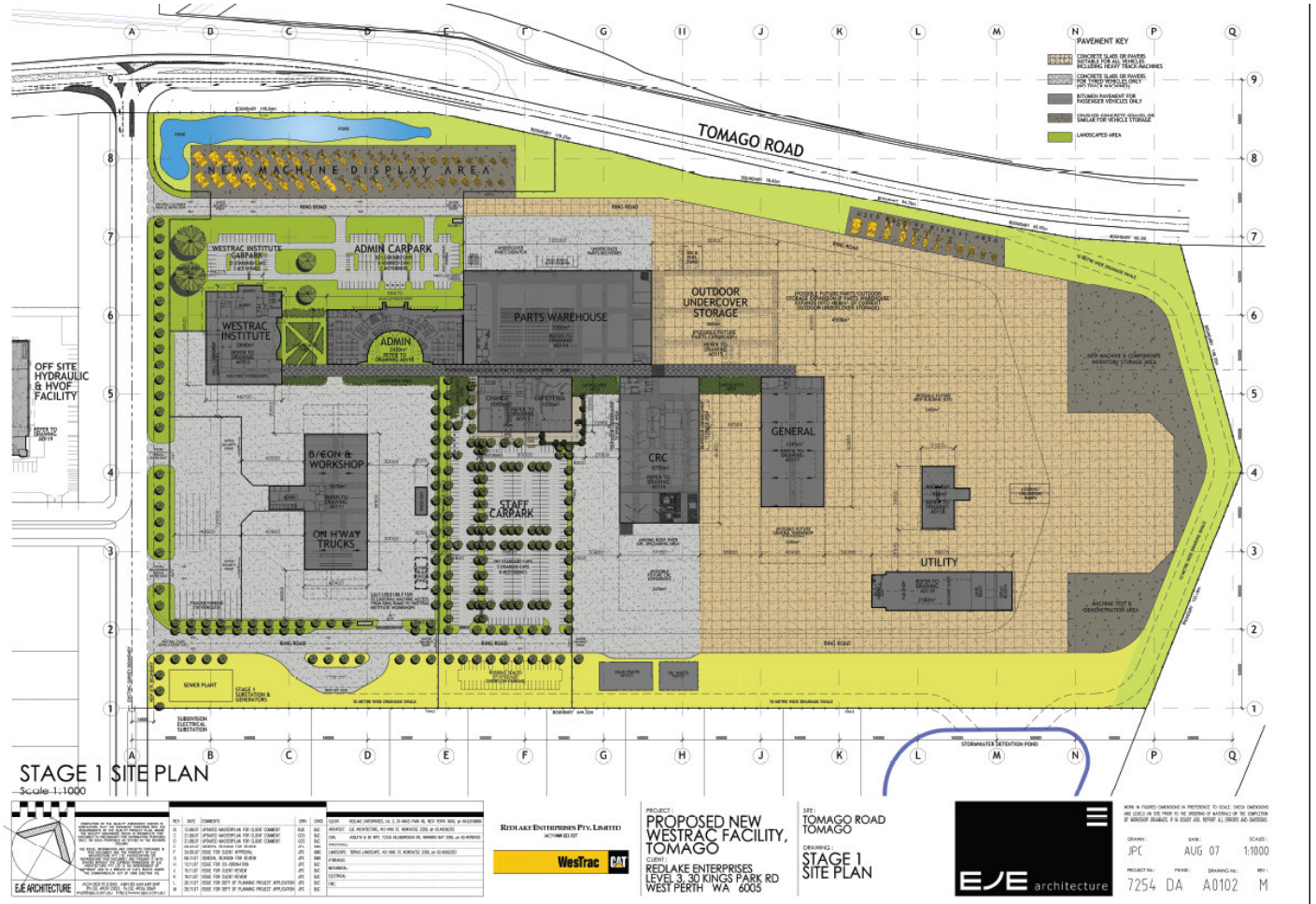

Figure 3: WesTrac Facility (Stage 1)

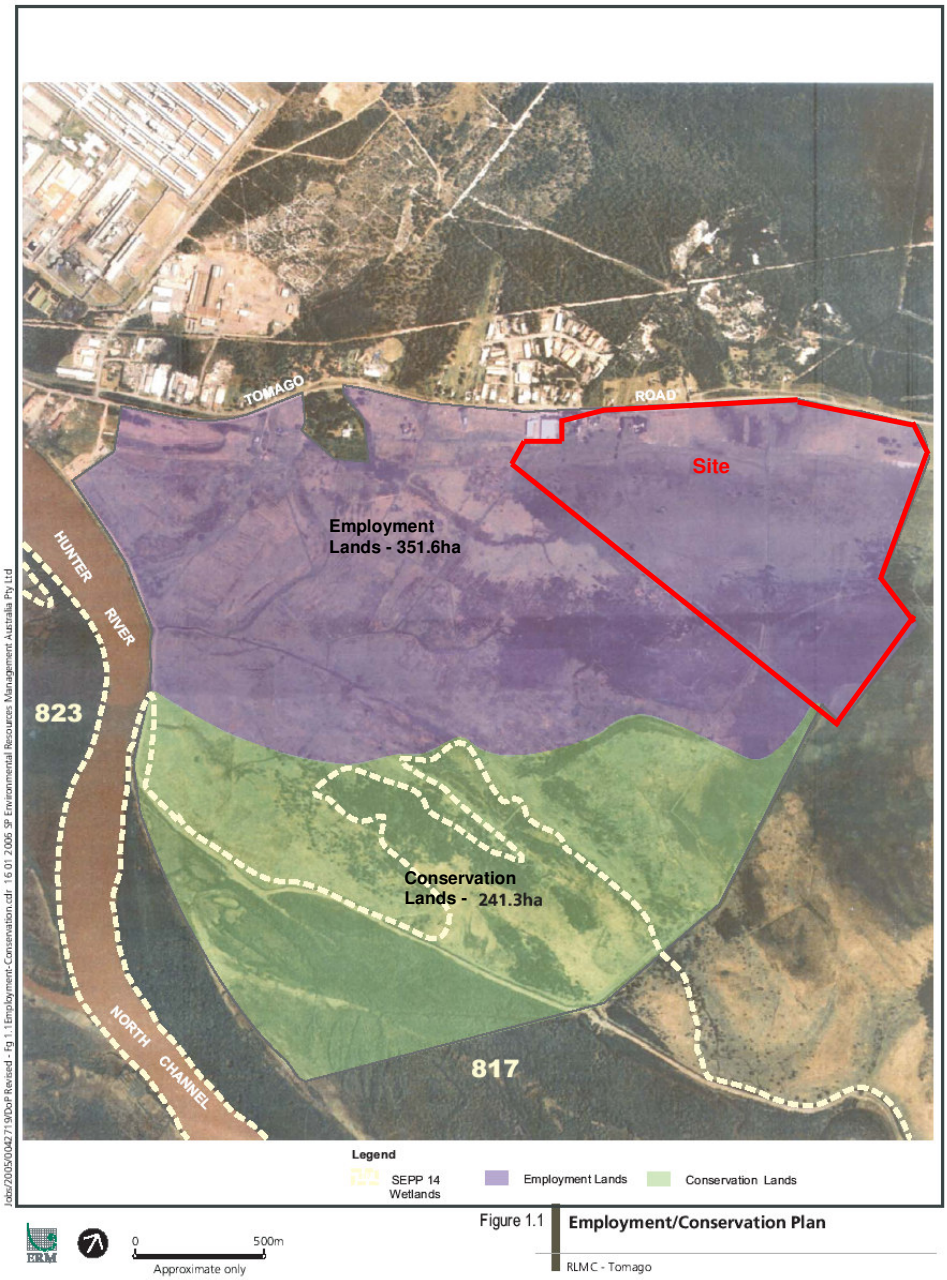

Figure 4: Tomago Industrial Site

The surrounding area consists of a mixture landuses, including conservation areas and industrial, rural and rural-residential development (see Figure 1). The project site adjoins the Hunter Estuary National Park. This National Park includes the Tomago and Fullerton Cove Wetlands and the Ramsar-listed Hunter Estuary Wetlands. These wetlands are recognised as a significant area of conservation for migratory birds, with a number of migratory birds recorded in this area listed under international treaties including the Japan-Australia and China-Australia Migratory Bird Agreements (JAMBA and CAMBA). Therefore, the site has strategic planning importance in relation to providing employment lands in the Lower Hunter region and contributing to the conservation values of the nearby Hunter Estuary National Park.

Other key natural features in the area include the Fullerton Cove to the east (~2 kilometres), and the Hunter River to the south and west (~1.5 kilometres).

The area on the northern side of Tomago Road and to the north-west of the Tomago Industrial Site consists of industrial development, and includes major developments such as the Tomago Aluminium Smelter. Areas to the east of Tomago Industrial Site are predominantly rural with a number of rural residents located along Tomago Road. The closest resident is located 60m east of the site boundary. Other nearby sensitive receivers include the heritage listed Tomago House (~700m to the west) (see Figure 1).

Key infrastructure in the surrounding area (see Figure 1) includes:

- Tomago Road, the main route between Newcastle and Newcastle Airport. The site is accessed from Tomago Road;
- the Pacific Highway, a major north-south transport and freight corridor, linking Sydney and Brisbane, located approximately 5 kilometres to the west of the site;
- the Port of Newcastle, approximately 8 kilometres to the south of the site;
- Newcastle Airport, which includes Newcastle's commercial airport as well as a Defence Force facility, located approximately 8 kilometres to the east of the site;
- a 132kV overhead powerline transverses part of the site, with the easement width being sufficient to allow an additional overhead line. This easement as well as the 132kV powerline would be relocated as part of the project; and
- Tomago Sandbeds, a groundwater aquifer providing approximately 20% of the lower Hunter's drinking water.

1.3 Project Need

Redlake Enterprises' initial imperative is to establish the WesTrac facility which will become WesTrac's NSW/ACT headquarters. WesTrac is one of the world's largest dealerships of Caterpillar equipment and machinery, servicing NSW, ACT, Western Australia and Northern China. A NSW/ACT headquarters is required to meet customer's needs as well as to allow WesTrac to expand its operations in NSW and the ACT.

Redlake Enterprises, on behalf of WesTrac, investigated a number of sites to identify an appropriate location for the WesTrac operations. The Hunter Region was identified as being of strategic importance due to its proximity to major infrastructure, and in particular the Newcastle Port and Newcastle Airport, and its primary customer base of mining companies and activities within the Hunter Valley.

Redlake Enterprises considers that the WesTrac facility together with the proposed subdivision would provide substantial employment opportunities for the area, consistent with the strategic planning for the Lower Hunter.

1.4 State Plan and the Lower Hunter Regional Strategy

The State Plan provides priorities for Government action in NSW, covering areas such as crime, community services, economic growth and the environment. The Department has assessed the proposal against these priorities and considers that the project would be consistent with a number of priorities in the State Plan. The project would provide jobs closer to home (priority E5), by generating employment opportunities close to Raymond Terrace, Maitland and Newcastle. The project has a capital investment value of $130 million and would increase business investment in NSW (priority P1), and in particular, regional NSW (priority P6).

The site has been identified as employment lands under the Lower Hunter Regional Strategy (see Figure 5). This strategy identifies land to accommodate the projected housing and employment needs for the region (Newcastle, Lake Macquarie, Port Stephens, Maitland and Cessnock LGAs) over the next 25 years. With an increase in population expected, the strategy outlines that an additional 66,000 jobs are required to maintain employment rates in the area. It is expected that of these 66,000 jobs, 25% or 16,500 jobs would need to be located in major employment lands. The project would employ 400-600 during construction and 300-400 during operation of Stage 1. As such, the proposal would assist in achieving the employment targets identified in the Lower Hunter Regional Strategy.

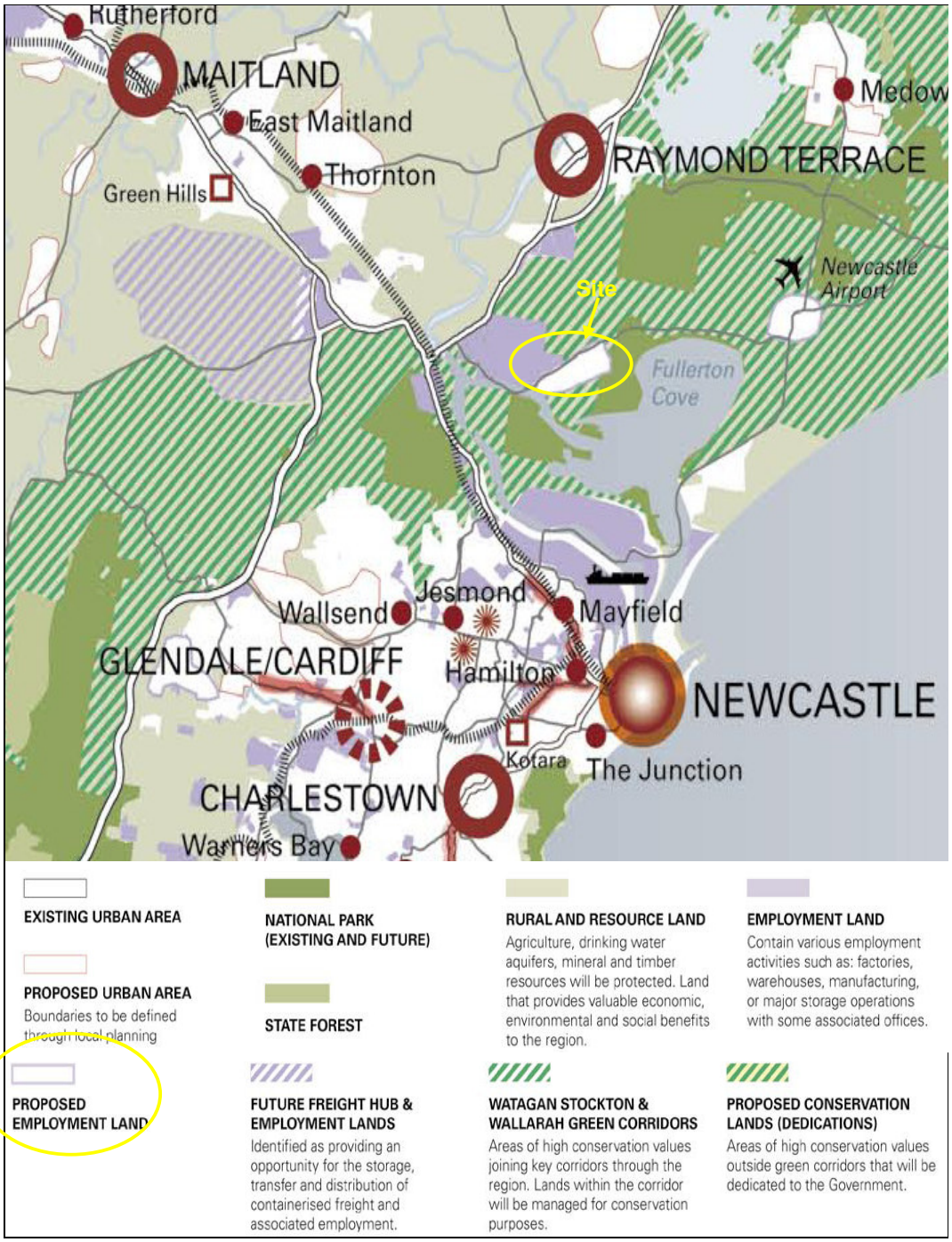

Figure 5: Extract from the Lower Hunter Strategy

2. STATUTORY CONTEXT

2.1 Major Project

The proposal is classified as a major project under Part 3A of the *Environmental Planning and Assessment Act 1979* (the EP&A Act) because it is located within the Tomago Industrial Site, a State Significant Site listed in Schedule 3, Part 10 of the Major Development SEPP and has a capital value greater than $5 million.

Consequently, the Minister for Planning is the approval authority for the project.

2.2 Permissibility

The site is zoned IN1 General Industrial under the Major Development SEPP. The project (including fill and industrial uses) is permissible with development consent in this zone.

Consequently the Minister may approve the carrying out of the project.

2.3 Exhibition and Notification

Under Section 75H(3) of the EP&A Act, the Director-General is required to make the Environmental Assessment (EA) of a project publicly available for at least 30 days.

After accepting the EA for the project, the Department:

- made it publicly available from Friday 2 May 2008 until Wednesday 4 June 2008:
  - on the Department's website, and
  - at the Department's Information Centre, Port Stephen's Council's office and the Nature Conservation Council;
- notified landowners in the vicinity of the site about the exhibition period by letter;
- notified relevant State government authorities and Port Stephens Council by letter; and
- advertised the exhibition in the Newcastle Herald, Port Stephens Examiner and Sydney Morning Herald.

This satisfies the requirements in Section 75H(3) of the EP&A Act.

During the assessment process the Department also made a number of documents available for download on the Department's website. These documents included the:

- project application;
- Director-General's environmental assessment requirements;
- EA; and
- Redlake Enterprises' responses to issues raised in submissions.

2.4 Environmental Planning Instruments

Under Section 75I of the EP&A Act, the Director-General's report is to include a copy of or reference to the provisions of any:

- *State Environmental Planning Policy* (SEPP) that substantial govern the carrying out of the project and;
- environmental planning instrument that would (but for Part 3A) substantially govern the carrying out of the project and that have been taken into consideration on the environmental assessment of the project.

The Department has considered the project against the relevant provisions of several environmental planning instruments (including SEPPs 14, 33, 44, 55, 64, 66, 71 and Infrastructure SEPP; as well as the *Port Stephens Local Environmental Plan 2000*). The Department is satisfied that, subject to the implementation of the recommended conditions of approval, the proposal is generally consistent with the aims and objectives of these instruments (see Appendix C).

2.5 Environment Protection and Biodiversity Conservation Act 1999

On 11 April 2007, the project was determined to be a "controlled action" under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), as it was considered likely that the proposal could have a significant impact on wetlands of international importance, listed threatened species and communities, and listed migratory species.

Following the lodgement of the project application, it was agreed that the proposal would be assessed under the bilateral agreement between the Commonwealth and NSW Governments. The bilateral agreement allows the assessment regimes under Part 3A, Part 4 and Part 5 of the EP&A Act to be accredited under the EPBC Act. This means that separate assessment processes are not required under both the EPBC Act and the EP&A Act for a development that is declared to be a controlled action, and the NSW assessment process is to be followed.

The Department has closely consulted with the Commonwealth Department of Environment, Water, Heritage and the Arts (DEWHA) throughout the assessment process, and the Department's assessment of Commonwealth matters are detailed in Section 4 of this report.

2.6 Objects of the Environmental Planning and Assessment Act 1979

The Minister is required to consider the objects of the EP&A Act when he makes decisions under the Act. These objects are detailed in Section 5 of the Act, and include:

'The objects of this Act are:

- *(a) to encourage:*
  - *(i) the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment,*
  - *(ii) the promotion and co-ordination of the orderly and economic use and development of land,*
  - *(iii) the protection, provision and co-ordination of communication and utility services,*
  - *(iv) the provision of land for public purposes,*
  - *(v) the provision and co-ordination of community services and facilities, and*
  - *(vi) the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats, and*
  - *(vii) ecologically sustainable development, and*
  - *(viii) the provision and maintenance of affordable housing, and*
- *(b) to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and*
- *(c) to provide increased opportunity for public involvement and participation in environmental planning and assessment.'*

The objects of most relevance to the Minister's decision on whether or not to approve this project are those under Section 5(a)(i), (ii), (iii), (vi) and (vii).

With respect to ecologically sustainable development (ESD), the EP&A Act adopts the definition in the Protection of the Environment Administration Act 1991. Section 6(2) of that Act states that ESD 'requires the effective integration of economic and environmental considerations in decision-making processes' and that ESD 'can be achieved through' the implementation of the principles and programs including the precautionary principle, the principle of inter-generational equity, the principle of conservation of biological diversity and ecological integrity, and the principle of improved valuation, pricing and incentive mechanisms. In applying the precautionary principle, public decisions should be guided by careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment and an assessment of the risk-weighted consequences of various options.

The Department has fully considered the objects of the EP&A Act, including the encouragement of ESD, in its assessment of the project application. This assessment has sought to integrate all significant economic and environmental considerations, and strike an appropriate balance between the two considerations that is in the public interest.

Redlake Enterprises has also considered a number of alternatives to the proposed project (including alternative sites) and undertaken an environmental risk analysis of the project.

2.7 Statement of Compliance

Under Section 75I of the EP&A Act, the Director-General's report is required to include a statement relating to compliance with the environmental assessment requirements with respect to the project.

The Department is satisfied that the environmental assessment requirements have been complied with.

3. ISSUES RAISED IN SUBMISSIONS

During the exhibition period, the Department received 16 submissions on the proposal:
- 7 from public authorities;
- 6 from the general public; and
- 3 from special interest groups.

A summary of the issues raised in submissions is provided below. A full copy of these submissions is attached in Appendix F.

3.1 Public Authorities

The **NSW Rural Fire Service** did not object to the proposal.

Hunter-Central Rivers Catchment Management Authority (CMA) does not support the clearing of Endangered Ecological Communities on site and considers that these areas should be conserved.

EnergyAustralia requires that the full cost of the relocation of the easement is to be borne by Redlake Enterprises and that electricity supply to the site will need to conform to EnergyAustralia Network Standards.

While the **Department of Environment and Climate Change (DECC)** is supportive of Stage 1 of the proposal (construction and operation of the WesTrac facility), it does not support Stage 2 and 3 of the project (including the filling and subdivision of the remainder of the site) due to impacts it would have on threatened species, endangered ecological communities and Aboriginal culture heritage.

The **Roads and Traffic Authority** (RTA) raised concerns about the traffic assessment report and in particular the methodology used to generate traffic rates. It also requested that Redlake Enterprises be required to pay contributions towards the upgrade of a number of roads and intersections in the locality.

Hunter Regional Development Committee did not object to the proposal and provided recommended conditions of approval.

Hunter Water provided advice on water supply and wastewater treatment and provided recommended conditions of approval.

Port Stephens Council (Council) and the Commonwealth DEWHA did not provide a submission on the proposal during the exhibition period. However, Council subsequently provided recommended conditions of approval and the DEWHA raised concerns about the potential impacts of the proposal on the green and golden bell frog and adjoining Ramsar wetland (including noise, lighting, exposure of acid sulphate soils and stormwater runoff)

3.2 Community and Interest Groups

Of the 6 submissions received from the general public, 3 objected to the proposal and the remaining 3 raised issues of concern. The main issues raised included:
- amenity impacts including noise, air quality and visual impacts;
- increase in traffic;
- impacts on property values;
- lack of community consultation;
- flooding, drainage and water quality impacts associated with the raising of ground levels and stormwater runoff; and
- lack of detail regarding Stages 2 and 3.

Submissions were also received from the following special interest groups:
- **National Trust** raised concerns about the lack of assessment on the heritage listed Tomago House and Chapel;
- **Nature Conservation Council of NSW** raised concerns about the clearing of endangered ecological communities and habitat for threatened species; and

- **Hunter Bird Observers Club Inc** does not object to the WesTrac facility but is concerned that Stages 2 and 3 will have detrimental effects on the surrounding wetlands due to the removal of Saltmarsh, changes to hydrology, noise and lighting.

3.3 Response to Submissions

Redlake Enterprises has provided response to the issues raised in submissions and has made some minor modifications to the site layout (see Appendix D). The response has been made publicly available on the Department's website.

The Department has considered the issues raised in submissions, and Redlake Enterprises' responses to these issues, in its assessment of the merits of the project.

4. ASSESSMENT

4.1 Flora and Fauna

The proposal has the potential to impact on flora and fauna directly through the removal of vegetation on-site, and indirectly through the discharge of stormwater and wastewater off-site, as well as lighting and noise.

4.1.1 On Site Impacts

The majority of the site is highly modified and degraded as a result of clearing and grazing (a historical aerial photo of the site indicates that the northern two thirds of the site were cleared prior to 1954). However, a survey of the site identified two endangered ecological communities and 6 threatened fauna species (Eastern Freetail Bat, Greater Broad-nosed Bat, Little Bentwing Bat, Grey-headed Flying Fox, Grass Owl and the Wallum Froglet).

Of the 6 threatened fauna species identified on site, one species (Grey-headed Flying Fox) is classified as vulnerable under the EPBC Act. In addition, it was determined that suitable habitat is present on site to support another 5 threatened fauna species (Large-footed Myotis, Australasian Bittern, Black Bittern Masked Owl and Green and Golden Bell Frog), including one species (Green and Golden Bell Frog) that is listed as vulnerable under the EPBC Act. No threatened plant species were identified on the site.

Flora

The two endangered ecological communities (EEC) that have been identified on site (see Figure 6), include the:

- Swamp Oak Floodplain Forest of the New North Coast, Sydney Basin and South East Corner Bioregions (Swamp Oak EEC); and
- Coastal Saltmarsh in the NSW North Coast, Sydney Basin and South East Corner Bioregions (Coastal Saltmarsh EEC).

The proposal would result in the removal of:

- 5.35ha of the Swamp Oak EEC; and
- 15.5ha of the Coastal Saltmarsh EEC. Approximately 22ha of this EEC is present on site, with 15.5ha to be removed and the remaining 7ha to be conserved as part of the project.

Redlake Enterprises is not proposing to offset the removal of these EECs as part of the project. Redlake Enterprises argues that the:

1. development of the site has been offset through the dedication of around 240 hectares of land to the south-east of the site for conservation (as depicted in Figure 4); and
2. removal of the EECs as part of the project would not have a significant impact on these communities, as the vegetation to be removed on site represents a small percentage of these vegetation types in the locality and these communities are not at the limit of their known distribution.

DECC and submissions received from the Hunter-Central Rivers CMA, Nature Conservation Council and HBOC consider that development on site should be restricted to protect these EECs. DECC does not support Stages 2 and 3 of the development and has maintained throughout the assessment process that the project should avoid the area of Coastal Saltmarsh due to its conservation

significance and to provide a buffer between the project and the adjoining Tomago and Fullerton Cove Wetlands and the Hunter Estuary Wetlands Ramsar site.

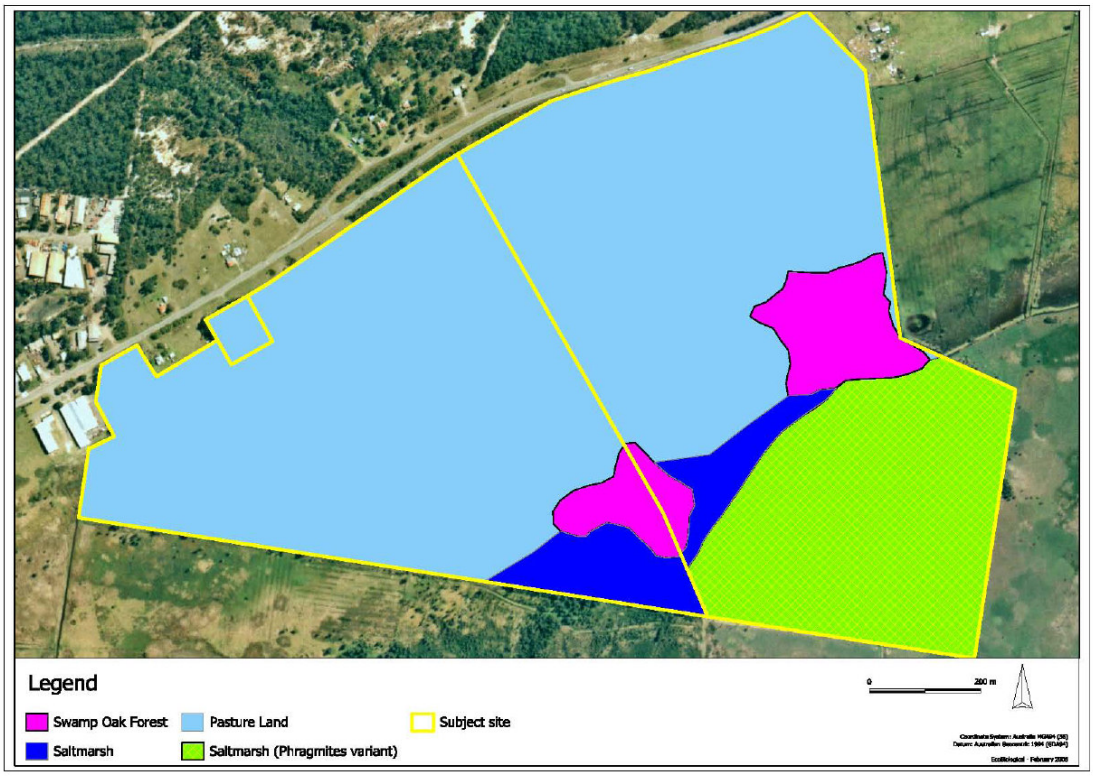

Figure 6: Vegetation communities identified on site

As previously discussed, the site is subject to a MOU between the NSW Government and the former landowner. The Department considers that the MOU is a document of intent, recognising the need to balance the development of the area for employment/industrial purposes with the protection of areas with high conservation value. The MOU identified that any development of the Tomago Industrial Site would be the subject of further structure planning and assessment. That is, the MOU did not remove the obligation of Redlake Enterprises to assess the impacts of its proposal on threatened species, communities and critical habitats.

The 5.35ha of Swamp Oak EEC present on site represents ~3% of this vegetation type in the area (~170ha of Swamp Oak is located in the vicinity of the site), while the 15.5ha of Coastal Saltmarsh EEC represents ~5% of this vegetation type in the area (~300ha of Coastal Saltmarsh is located in the vicinity of the site). The location and extent of the Swamp Oak and Coastal Saltmarsh EECs in the vicinity of the site are depicted in Figures 7 and 8, respectively.

As shown in Figure 7, the areas of Swamp Oak EEC on site are isolated, with no connectivity to other areas of this EEC located to the east and south of the site. The removal of the 5.35ha of Swamp Oak EEC as a result of the project would not affect habitat connectivity or critical habitat and as such it is considered that the area of Swamp Oak EEC on site is of lower conservation value. It is also considered that the removal of this EEC has been offset through the provisions of the MOU, where 241ha of conservation land has been dedicated to DECC. The Department and DECC therefore considers that the removal of the 5.35ha area of Swamp oak EEC is acceptable in this instance.

Figure 7: Areas of the Endangered Swamp Oak Community within the Locality

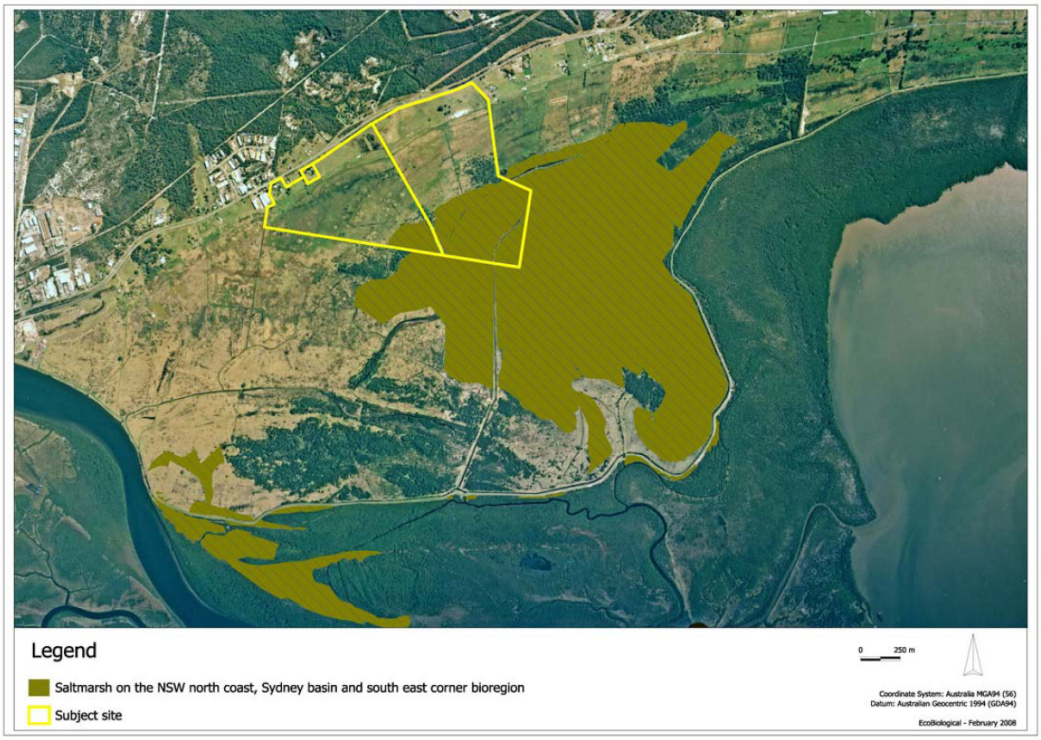

Figure 8: Areas of the Endangered Coastal Saltmarsh Community within the Locality

However, the area of Coastal Saltmarsh located in the south-east corner of the site is considered to have high conservation value. As depicted in Figure 8, the Coastal Saltmarsh EEC is linked east and west through the site and forms part of the Tomago and Fullerton Wetlands and Hunter Estuary Wetlands Rasmar site.

As previously discussed, these wetlands are recognised as a significant area of conservation for migratory birds, providing important feeding and breeding habitats. The wetlands are ecologically diverse, including a variety of wetland species and habitat types (mangrove and saltmarsh areas, as well as melaleuca swamp forest), and provide a refuge for a number of bird species during drought periods.

In 1993, the Hunter-Central Rivers CMA initiated the Kooragang Wetlands Rehabilitation Project (KWRP) to compensate for the loss of fish, shorebird and other wildlife habitat in the Hunter estuary. The KWRP incorporates the area of the Tomago and Fullerton Cove Wetlands and the Hunter Estuary Wetlands Ramsar site, and current projects in the vicinity of the project site include the restoration of a migratory shorebird high-tide roost site and the enhancement fisheries nursery habitat. This is being achieved through the opening of flood gates to the south of the project site which is re-introducing tidal flows to this area.

The proposal has the potential to impact on the surrounding wetlands and restoration works through the loss and fragmentation of a considerable area of the Coastal Saltmarsh EEC.

Due to the high conservation value of the Coastal Saltmarsh EEC, the works currently being undertaken to enhance and restore wetlands within the Hunter estuary and the linkages between the area of Coastal Saltmarsh EEC on site and the surrounding wetlands, the Department agrees with DECC that the impacts on the area of the Coastal Saltmarsh EEC should be avoided.

In this regard, the Department has recommended conditions of approval that requires Redlake Enterprises to revise the subdivision plan to avoid any development within the 22 hectare area of Coastal Saltmarsh (see Figure 9). However, as impacts relate to Stages 2 and 3 of the subdivision, the Department considers that the re-design of the subdivision plan should not delay the commencement of construction of the WesTrac facility (Stage 1). As such, the Department considers that revision of the subdivision plan for Stages 2 and 3 can occur concurrently with the construction of Stage 1.

Figure 9: Area of Saltmarsh Coastal EEC to be avoided

The Department is satisfied that the implementation of the recommended conditions of approval would ensure that the project would not result in unacceptable impacts on the endangered Coastal Saltmarsh community. In addition, this area would provide a buffer between the project and the adjoining Tomago and Fullerton Cove Wetlands and the Hunter Estuary Wetlands Ramsar site, minimising off-site impacts associated with the project relating to lighting, noise and weed invasion (see Section 4.1.2).

Fauna

As previously discussed, 6 threatened fauna species were identified on-site and suitable habitat is present on-site to support an additional 6 threatened fauna species. An assessment of the impact of the proposal on these species is provided in Table 2

Table 2: Summary of Potential Impacts of Threatened Fauna Species

Species	Potential Use of the Site	Comment
Eastern Freetail Bat and Greater Broad-nosed Bat	• Individuals detected on the site. • Foraging and roosting habit is available on the site.	• The project would result in the loss of 5.35ha of potential roosting habitat and 94ha of foraging habitat. • Other suitable foraging and breeding habitat is located in the vicinity of the site (including 241.3ha of conservation land and the Hunter Estuary National Park). • The Department is satisfied that the project would have minimal impact on this species.
Little Bentwing Bat and Large-footed Myotis	• Individuals detected on the site. • Foraging habit is available on the site.	• The project would result in the loss of 94ha of potential foraging habitat. • Other suitable foraging and breeding habitat located in the vicinity of the site (including 241.3ha of conservation land and the Hunter Estuary National Park). • The Department is satisfied that the project would have minimal impact on this species.
Grey-headed Flying Fox	• Individuals were identified foraging on the site. • No roosting locations were identified on site.	• The project would result in the loss of ~20 suitable foraging trees on site. • Other suitable foraging and breeding habitat, is located in the vicinity of the site (including 241.3ha of conservation land and the Hunter Estuary National Park). • The Department is satisfied that the project would have minimal impact on this species
Grass Owl	• Individuals were identified foraging on the site. • No evidence that this species is using the site for roosting or nesting.	• The project would result in the loss of 94ha of foraging habitat. • Grass Owl roost sites have been identified within the Hunter Estuary National Park, ~500m to the east of the site, and ~1.5km to the south-west of the site. Up to 6 individuals were recorded at these locations. • Investigations indicate that the Grass Owl population forages over an area of ~785ha. • The project would result in the loss of 94ha of potential foraging habitat. • As other suitable foraging and breeding habitat is located in the vicinity of the site (including 241.3ha of conservation land and the Hunter Estuary National Park), the Department is satisfied that the project would have minimal impact on this species.
Wallum Froglet	• A single individual of the Wallum Froglet was identified near the northern boundary of the site.	• A population of more than 50 individuals of the Wallum Froglet was identified approximately 80m to the north of the site in an acid paperbark swamp, the preferred habitat for this species. • This type of habitat is limited on site and the Department is satisfied that the project is unlikely to impact on this population of Wallum Froglets.
Australasian Bittern	• No species were identified on site. • Opportunistic foraging in areas of the Coastal Saltmarsh EEC	• Other suitable foraging and breeding habitat, is located in the vicinity of the site (including 241.3ha of conservation land and the Hunter Estuary National Park). • The Department is satisfied that the project would have minimal impact on this species

Species	Potential Use of the Site	Comment
Black Bittern	• No species were identified on site. • Opportunistic foraging in areas of the Coastal Saltmarsh and Swamp Oak EEC	• The project would result in the loss of 5.35ha of potential foraging habitat. • Suitable foraging and breeding habitat, that is protected, is located in the vicinity of the site (including 241.3ha of conservation land and the Hunter Estuary National Park). • The Department is satisfied that the project would have minimal impact on this species.
Masked Owl	• No species were identified on site. • Potential foraging across the site.	• The project would result in the loss of ~94ha of potential foraging area. • This species has a large home range (up to a 1000ha). • Suitable foraging and breeding habitat, that is protected, is located in the vicinity of the site (including 241.3ha of conservation land and the hunter Estuary National Park). • The Department is satisfied that the project would have minimal impact on this species.
Green and Golden Bell Frog	• A targeted survey of the site was undertaken during suitable conditions (i.e., following rainfall and between the months of August to March), however, no green and golden bell frogs were identified.	• DEWHA raised concerns about impacts of the project on the Green and Golden Bell Frog. • While suitable habitat is present on site, discussion with DECC has indicated that, to date, the Green and Golden Bell Frog has not been located in areas north of the north arm of the Hunter River, with the majority of recordings located at Kooragang Island, approximately 4km to the south of the site. • The Department notes that suitable habitat is located immediately to the south of the site for this species, including the 241.3ha of conservation land. • The Department is therefore satisfied that the project is unlikely to impact on this species and that sufficient areas of suitable habitat are available in the vicinity of the site.

The assessment indicated that while the site includes suitable foraging and breeding habitat for a number of these threatened fauna species, the project was unlikely to have a significant impact on these species, particularly as:

- the project would not result in the removal of any critical habitat; and
- suitable foraging and breeding habitat is located in the vicinity of the site.

The requirement for Redlake Enterprises to avoid any development within the 22 ha of Coastal Saltmarsh EEC would also reduce the loss of foraging habitat. The Department is therefore satisfied that the project would not have a significant impact on these threatened species.

4.1.2 Off-Site Impacts and EPBC Act Matters

Potential off-site impacts of the project on flora and fauna predominantly relate to impacts on the adjoining Tomago and Fullerton Cove Wetlands and Hunter Estuary Wetlands Ramsar site. As discussed in Section 2.5, the project has been a declared a controlled action under the EPBC Act because of potential impacts on these wetlands, listed threatened species and communities, and listed migratory species.

The Department's assessment of the potential impacts of project on matters of national environmental significance is detailed below.

Wetlands of International Importance (Ramsar Wetlands)

The project would not result in any areas of the Hunter Estuary Wetlands Ramsar site being destroyed or substantially modified. Notwithstanding, the DEWHA, DECC and HBOC raised concerns about the impacts of the project on the adjoining Tomago and Fullerton Cove Wetlands and Hunter Estuary Wetlands Ramsar site, particularly in relation to changes to the hydrology of the area (including changes to flooding behaviour as a result of the importation of fill and the discharge of additional stormwater runoff post development) and impacts from noise, lighting, soil erosion, exposure of acid sulfate soils and changes to water quality.

The Department engaged an independent consultant to review and assess the stormwater water management strategy for the proposal. Further details are provided in Section 4.2 and the report is included in Appendix E. This report indicates that the proposed stormwater management strategy is

suitable for the site, in that, suitable stormwater detention would be provided to ensure post development flows would not exceed pre-development flows and that the proposed stormwater treatment methodology would ensure water quality of the stormwater discharged from the would meet DECC water quality criteria. That is, impacts on the hydrology regime of the wetlands as a result of stormwater discharged from the site would be minimised and managed through the measures proposed by Redlake Enterprises. Additionally, the flood impact assessment indicates that the flood behaviour of the wetlands area would not be affected by the filling and development of site (see Section 4.2).

Redlake Enterprises has outlined a range of management measures to minimise impacts associated with soil erosion and sedimentation and the exposure of acid sulfate soils during construction (these are discussed in more in Section 4.2). The Department considers that these measures are appropriate and consistent with current guidelines.

The Department considers that the requirement for Redlake Enterprises to retain the area of Coastal Saltmarsh would ensure that there is a substantial buffer between the project site and the Tomago and Fullerton Cove Wetlands and Hunter Estuary Wetlands Ramsar site. The buffer area would range from 100m to 400m wide, and as such impacts on the wetlands from noise, lighting and weed invasion would be minimal. Nonetheless, the Department has recommended conditions of approval which include noise limits for the site as well as a requirement to mount lights in accordance with Australian Standards and in manner that would not create a nuisance to the wetlands area.

The Department is therefore satisfied that the commitments made by Redlake Enterprises together with the recommended conditions of approval would ensure that off-site impacts on threatened species, populations and communities as well as the Hunter Estuary Wetlands Ramsar site would acceptable.

Listed Threatened Species and Communities

As discussed in Section 4.1, the Grey-headed Flying Fox, which is classified as vulnerable under the EPBC Act, was identified on site. In addition, it was determined that suitable habitat is present on site to support the Green and Golden Bell Frog which is also listed as vulnerable under the EPBC Act. The assessment indicates that suitable habitat is not present on the site for other threatened species and communities listed under the EPBC Act.

The Department is satisfied that the project would have minimal impact on these species (see Table 2).

Migratory Species

The Hunter Estuary Wetlands Ramsar site is an important breeding and roosting area for a population of Palaearctic shorebirds (covering the area of Europe, northern Asia, northern Africa, and the northern and central parts of the Arabian Peninsula). In addition, the area is a waylay site for transient migratory birds, and supports a large number of birds that over-winter (i.e., pass the northern hemisphere winter in Australia).

No migratory species were identified during the survey of the site and the assessment of the site indicates that the habitat on site is generally unsuitable for a number of migratory species. However, as the project site adjoins the Hunter Estuary Wetlands Ramsar site, light and noise generated from the site could affect migratory bird species that may forage and roost nearby.

The Department has recommended a number of conditions of approval to minimise the impacts of the project, including noise and lighting impacts on migratory species. These conditions include:

- the retention of a 22 ha area of Coastal Saltmarsh that adjoins the Hunter Estuary Wetlands Ramsar site to provide a buffer area between development on the site and any nearby foraging and roosting habitat for migratory birds;
- noise limits for the site in accordance with DECC criteria; and
- the requirement for lights to be mounted in a manner that would minimise impacts on migratory species.

The Department is satisfied that with these measures in place the project is unlikely to have a significant impact on any migratory species.

4.2 Soils and Water

As discussed in Section 1, there are three sensitive water environments within the vicinity of the site that could be impacted by the construction and operation of the project. These sensitive environments include the:

- Tomago sandbeds;
- Tomago and Fullerton Cove Wetlands and the Hunter Estuary Wetlands Ramsar site; and
- Hunter River.

Potential impacts on these environments relate to erosion and sedimentation from filling and earthworks; soil contamination; exposure of acid sulfate soils; and changes to hydrology, particularly in relation to stormwater and wastewater runoff, and changes to flooding behaviour.

An independent expert was engaged to assist the Department with its assessment of the project on the hydrology of the area (see Appendix E for a copy of the report).

The Department's assessment of these issues is discussed below.

4.2.1 Soils

Construction

The construction of the project has the potential to impact on downstream water bodies (including drainage lines) through erosion and sedimentation from the importation of fill and bulk earthworks across the site. To manage potential impacts, Redlake Enterprises proposes to install the following controls:

- sediment fencing along the southern boundary of the site;
- sediment basin/dams – sized in accordance with Landcom's *Managing Urban Stormwater Soils and Constructions*;
- dedicated all-weather site access and internal roads;
- clean runoff diversions around construction areas;
- stabilising of fill stockpiles, as required; and
- truck wash-down bay for vehicles exiting the site to minimise dirt being tracked onto Tomago Road.

Initially a sediment basin would be constructed in the south-east corner of the site with runoff from the Stage 1 area directed to the basin (piped or channelled) for treatment/settlement before being discharged off-site. Any discharge would be via a mesh supported geotextile filter to minimise the amount of sediment being discharged. A number of smaller sediment dams would also be required across the site to control runoff, with runoff from these dams to be directed to the sediment basin prior to discharge.

The Department is satisfied that the erosion and sediment controls proposed by Redlake Enterprises are appropriate. However, it is noted the Department has recommended that Redlake Enterprises should exclude development within the area of the Coastal Saltmarsh EEC. This would include the establishment of the sediment basin and any sediment dams in this area. As such, these structures would be required to be relocated during the detailed design phase for the project. Therefore, the Department recommends that Redlake Enterprises should be required to prepare an erosion and sediment control plan prior to the construction of each stage to detail the location, function, capacity and maintenance requirements of the controls.

The Department is satisfied that the recommended conditions together with the measures proposed by Redlake Enterprises would ensure that impacts from erosion and sedimentation would be minimised and managed.

Acid Sulfate Soils

Acid sulfate soils (ASS) risk maps indicate that the site is located near the boundary of an area of low probability of occurrence of ASS and an area of high probability of occurrence of ASS. As such, soil samples were analysed for the presence of potential and actual ASS in accordance with NSW State Government's *Acid Sulfate Soils Manual*. Results indicated that soils below 1.5m AHD are potential ASS and soils above 2.5m AHD are not potential or actual ASS. Levels across the site range from 1m AHD to 8.5m AHD. Redlake Enterprises propose to fill the majority of the site to achieve a level of

2.3m AHD (i.e., above the 1 in 100 year flood level). A small sand dune located in the north-east area of the site (8.5m AHD) would be cut to achieve the final elevation of 2.3m AHD.

As the majority of the site would be filled, excavations that have the potential to disturb ASS primarily relate to the establishment of the stormwater management infrastructure for the site including wetlands, the infiltration pond and drainage lines. Redlake Enterprises has indicated that the base of the stormwater infrastructure would be at natural ground level with embankments formed above ground to create the storages, minimising the need for excavation works (i.e., there would be minimal disturbance of ASS).

It is noted that ASS testing of soil samples from the area of sand dune to be cut during the construction of the WesTrac facility (i.e., Stage 1) indicated that actual and potential ASS were not present and therefore excavations in this area are unlikely to expose ASS. Therefore, the Department considers that the likelihood of exposing ASS as a result of the construction activities in this area would be minimal.

Redlake Enterprises propose to prepare an ASS management plan, which would be implemented in the event that ASS are disturbed during construction. The Department considers that the ASS management plan should be prepared in accordance with the NSW State Government's *Acid Sulfate Soils Manual* and this requirement has been incorporated into the recommended conditions of approval. The Department is satisfied that the potential risk associated with ASS can be minimised and managed.

Contamination

The site has the potential to be contaminated from previous land uses on site, as well as from dust deposition from the nearby Tomago Aluminium Smelter. As such, Redlake Enterprises undertook an assessment of the level of contamination at the site. This assessment indicated that key pollutants (heavy metals, petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, polychlorinated biphenyls and fluoride) are below relevant criteria. However, asbestos fragments were identified near an abandoned shed and in the vicinity of a former building.

The Department is satisfied that the site is suitable for the proposed development provided the asbestos is collected and disposed of in an appropriate manner by a contractor licensed by WorkCover, with removal to be in accordance with the Australian Government's *Code of Practice for the Safe Removal of Asbestos.* This requirement has been incorporated into the recommended conditions of approval.

4.2.2 Flooding

The majority of the site is flood-liable, with large sections of the site having an elevation of less than 1.0m AHD. Modelling for the area indicates that the peak 100 year recurrence flood level for the site is between 2.14m AHD at the eastern boundary of the site and 2.29m AHD at the western boundary of the site. As such, extensive filling of the site is required to ensure that floor levels of buildings and a range of infrastructure are above the peak 100 year recurrence flood level.

Redlake Enterprises' assessment of the existing flood behaviour for the area indicates that the site would be classified as a flood storage area in accordance with the NSW Government's *Floodplain Development Manual*. Flood storage areas are defined as *those parts of the floodplain that are important for the temporary storage of floodwaters during the passage of a flood.* Therefore the filling of the site has the potential to affect the flood behaviour of the surrounding area by decreasing the flood storage capacity.

The assessment undertaken by Redlake Enterprises investigated the impacts of the proposal on flood levels, flow velocity and changes to flood hazards (measure of the degree of difficulty to traverse flood affected areas and the likely damage to property/community) in the vicinity of the development. The assessment focussed on impacts associated with the peak 100 year recurrence flood level, as it was considered that impacts associated with smaller and less frequent flood events would be negligible (based on previous studies undertaken in the area).

The assessment indicates that post development:

- peak flood levels would increase by approximately 120mm within 15m of the western boundary, 70mm across sections of the grounds of Tomago House and 20mm near the Hunter River;
- peak flood levels would decrease by up to 90mm east of the site;
- peak flow velocity would remain relatively unchanged except near the south-eastern corner of the site were peak flow velocity would increase slightly; and
- the flood hazard of the surrounding area would remain unchanged.

The changes to flood levels are quantified in Table 3 and depicted in Table 8.

Table 3: Summary of Potential Changes in Flooding Behaviour

Location	Peak Flood Level	Predicted Change in Flood Levels	Percentage Change
Hunter River	1.5m	+20mm	+1%
Tomago House (grounds only)	0.5-1m	+70mm	+14%
Western boundary of the site (within 15m of the boundary)	0.5m	+120mm	+25%
Adjacent wetlands area to the south-east of the site	1-1.5m	+20-40mm	+3%
Residential properties to the east of the site	0.5-1m	-90mm	-20%

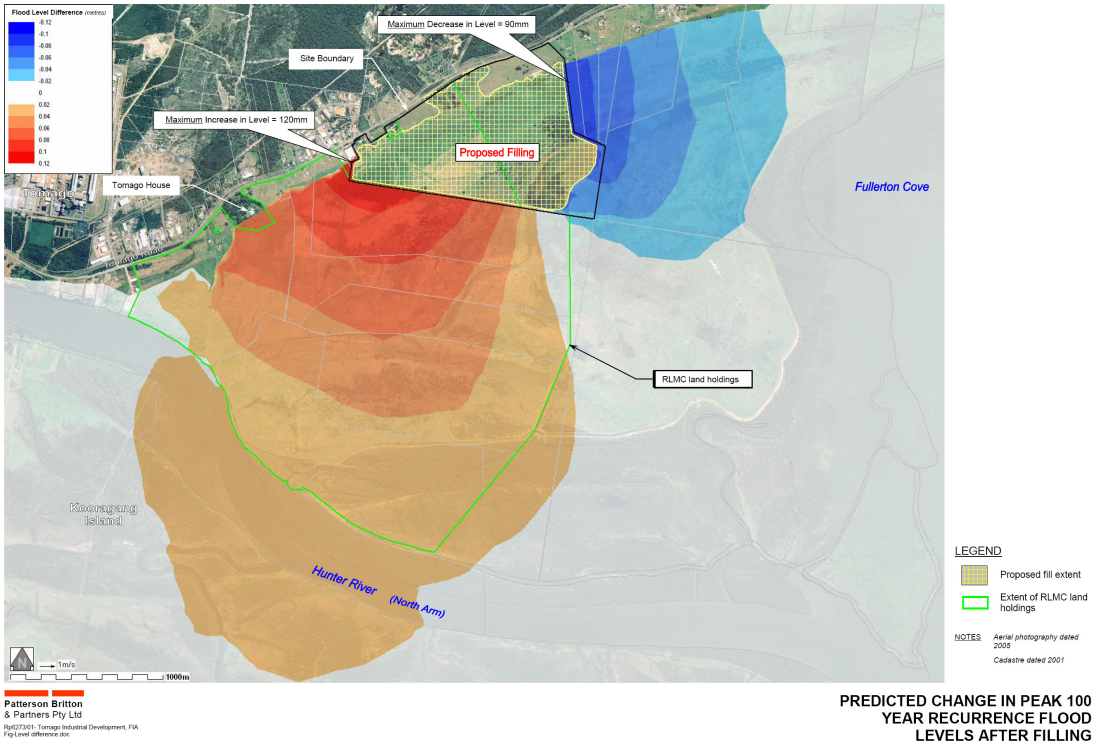

Figure 10: Changes to Flooding Behaviour Post Development

It is noted that the recommended conditions of approval restrict any development within 22 ha area located in the south-east corner of the site, and as such the extent of fill required would be reduced from that outlined in the EA. Consequently, the changes to flood behaviour post-development, as assessed by Redlake Enterprises, is expected to represent a worse-case scenario, and impacts are likely to be less than that predicted.

The flood assessment indicates that impacts on the Hunter River, rural-residential properties to the east of the site, and the adjoining wetlands would be minimal. Impacts on Tomago House would be restricted to a portion of the grounds only, with the buildings on site unaffected by the proposal.

The area most affected by proposal would be the site immediately adjacent to the western boundary of the site. However, as the site would be developed over a number of years, short term impacts associated from the Stage 1 of the development would be minimal. In addition, impacts of properties to the west of the site (including Tomago House) would be minimised in the medium to long term as a result of industrial development that is earmarked for this area. That is, the development of industrial land to the west of the site would require this land to be filled above the 1 in 100 year flood level, which in turn would minimise the area of flood liable land.

The Department considers that overall the proposal would have minimal impacts on flooding behaviour in the surrounding area.

4.2.3 Stormwater

The stormwater management system for the site consists of:

- rainwater tanks to collect water from roof areas for re-use on site (toilet flushing and irrigation);
- an infiltration system where water from the northern section of Stage 1 would be collected and diverted to an infiltration area for aquifer recharge;
- a series of gross pollution traps, swales, constructed wetlands and bio-retention basin for the treatment and retention of stormwater runoff before discharge.

The installation of the stormwater management system for the site would be undertaken in stages to coincide with the staged development of the site. The stormwater system for the WesTrac facility (Stage 1) as well as conceptual design for stormwater management for the remainder of the site is depicted in Figures 9 and 10, respectively. Stormwater would be collected and treated prior to being allowed to infiltrate to the Tomago Sandbeds (northern portion of the WesTrac site only) or discharged through existing drains to the adjoining wetlands (remainder of the site).

Redlake Enterprises considers that as a result of the proposed stormwater management system that:

- surface flows to the adjoining wetlands including the Hunter Estuary Wetlands Ramsar site would be maintained;
- aquifer recharge to the Tomago Sandbeds would be maintained post development; and
- stormwater would be treated to a level that would meet DECC criteria.

Potential issues relate to the quantity and quality of stormwater runoff post-development, and the potential impacts on the downstream environment. The Department engaged an independent consultant to review and assess the stormwater management strategy for the proposal. A summary of the independent consultant's assessment of the proposed stormwater management strategy is provided below, with the full report provided in Appendix E.

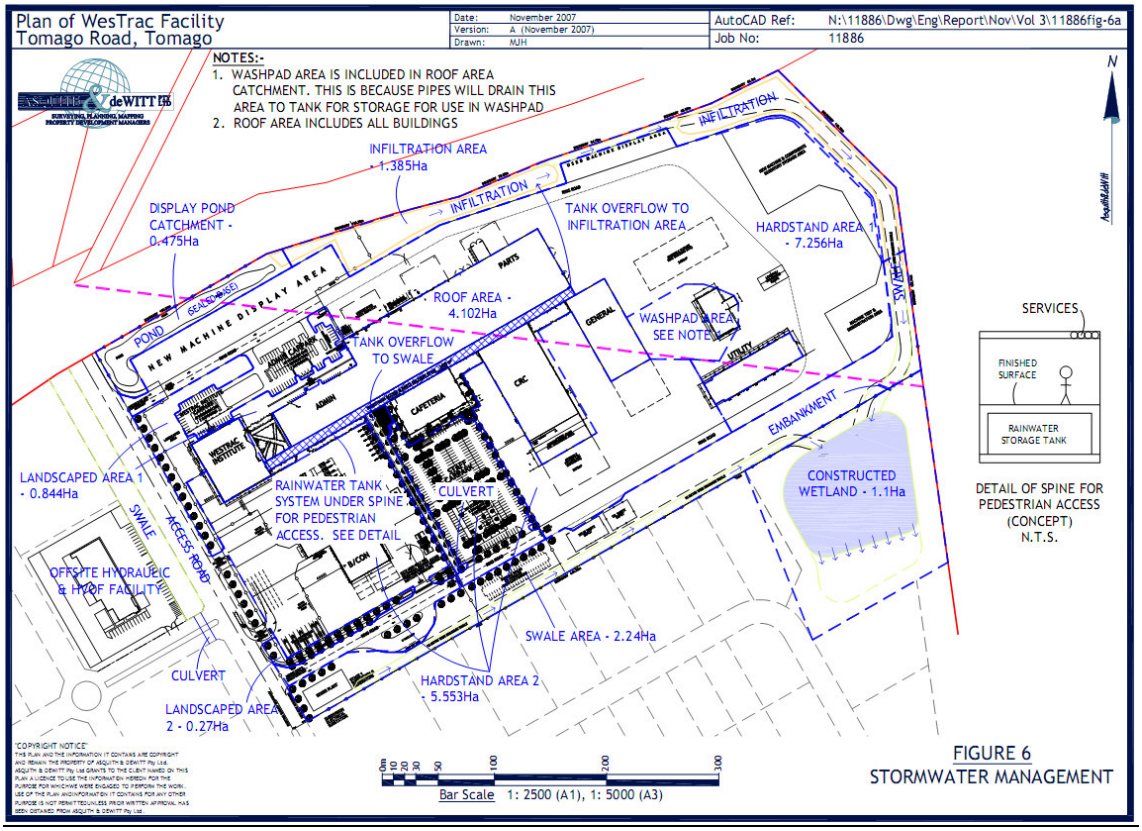

Figure 11: Stormwater Management System for the WesTrac Facility

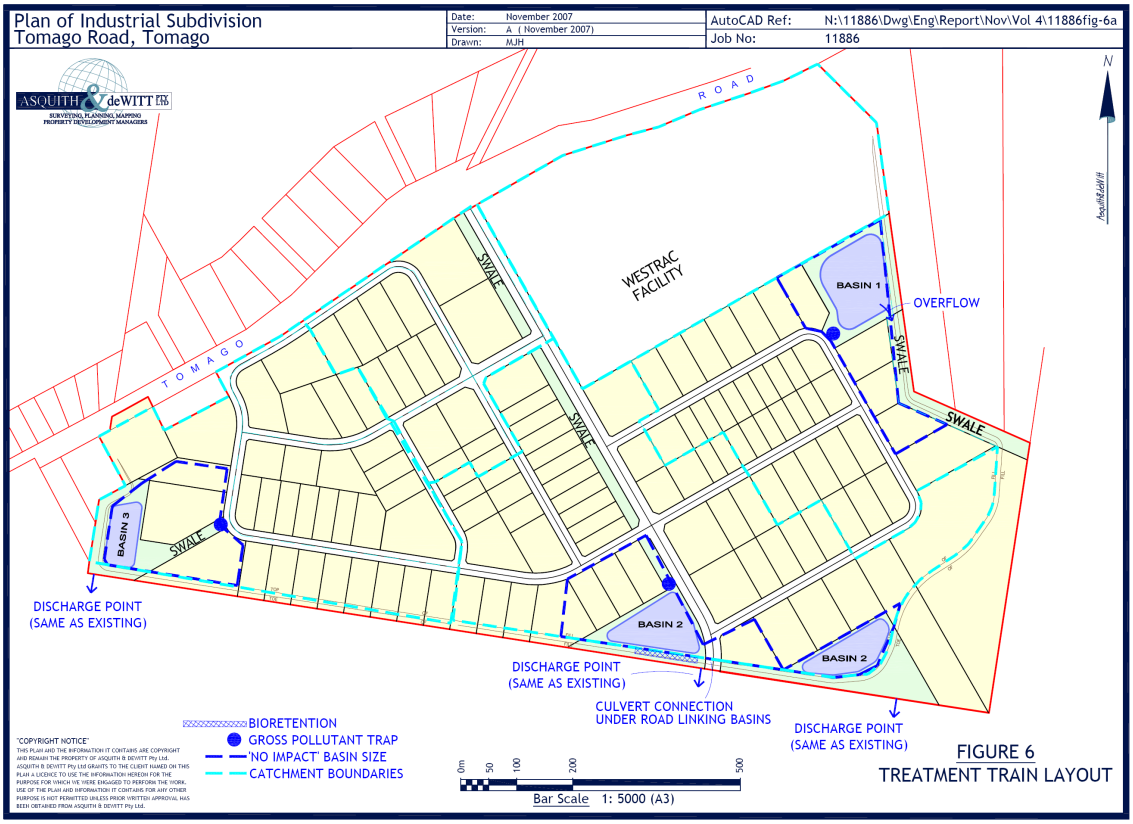

Figure 12: Conceptual Stormwater Management System for Stages 2 and 3

Discharges to the Wetlands and Hunter River

The proposed stormwater management for the site consists of swales and constructed wetlands, to ensure post development flows from the site are reduced to pre-development flows and stormwater is treated to an appropriate level prior to discharge. Redlake Enterprises proposes to discharge post-development flows via existing drainage channels located to the south of the site, which ultimately discharge to the adjoining wetlands and Hunter River.

Redlake Enterprises has indicated that approximately 42 million litres (ML) of treated stormwater would be discharged from the site annually. Measures to minimise stormwater runoff include the installation of rainwater tanks to capture roof water, and large areas of constructed wetlands allowing a higher rate of water loss through evapotranspiration.

Concerns were raised in submissions from the general public and DECC about the quality of the stormwater that would be discharged from the site and its impact on the adjoining wetlands. DECC also raised concerns as to whether the existing drainage channels would have the capacity to receive post development flows.

The proposed wetland area for the treatment and detention of stormwater generated from the site is 13ha. This area is larger than that required to meet DECC's pollutant load reduction targets (i.e., 85% reduction in suspended solids, 65% reduction in total phosphorus and 45% reduction in total nitrogen). While the independent review of the modelling undertaken for the proposal indicates that Redlake Enterprises may have overestimated the expected performance of the stormwater treatment system, the independent expert is satisfied that the proposed system would treat stormwater to an appropriate level (i.e., DECC criteria). As such the Department is satisfied that impacts on the water quality of the adjoining wetlands and Hunter River as a result of the proposal would be minimal.

In addition, Redlake Enterprises has committed to monitoring the quality of treated stormwater discharge from the site. The Department considers that Redlake Enterprises should also monitor the quantity of stormwater generated from the site, and has incorporated this requirement into the recommended conditions of approval.

In relation to the quantity of stormwater that would be discharged from the site post-development, the Department considers that the measures proposed by Redlake Enterprises to minimise stormwater runoff from the project (i.e., collection and reuse for stormwater on site and large constructed wetlands to maximise evapotranspiration) are appropriate and consistent with the recommendations of the Hunter & Coastal Coast Regional Environmental Management Strategy's (HCCREMS) *Water Sensitive Urban Design Solutions for Catchments above Wetlands*. However, the Department's independent expert questioned Redlake Enterprises' assumptions in calculating runoff volumes post development, particularly in relation to:

- the potential evapotranspiration rate used - a higher rate was used potentially overestimating evapotranspiration losses;
- losses through seepage/infiltration - Redlake Enterprises considers that infiltration would occur in the swales and wetland, however it is considered that the potential for seepage would be limited given that the site is generally described as waterlogged; and
- the high rainwater demands assumed for Stages 1 and 2 - Redlake Enterprises has assumed that the rainwater demand for Stages 2 and 3 would be almost 10 times greater than the demand for the WesTrac facility, even though end users are unknown at this stage.

The independent expert therefore considers that the quantity of runoff that would be discharged from the site is likely to be higher than that predicted by Redlake Enterprises. An increase in the stormwater discharge from the site has the potential to impact on the hydrologic regime[2] of the downstream wetlands. However, as the Department has recommended that the footprint of Stage 2 and 3 (i.e, site layout) be reduced to minimise impacts on the Coastal Saltmarsh EEC, there is some uncertainty about the quantity of stormwater that would be discharged from the site. That is, the quantity of stormwater that would be discharged from the site is related to the impervious area of the

[2] Hydrologic regime of a wetland refers to the depth, frequency, duration and temporal pattern of flooding and drying.

site and the restriction of development on 22ha of the site would reduce the quantity of stormwater generated by the project.

Notwithstanding, the Department's independent expert considers that provided that stormwater is appropriately detained, discharges are appropriately controlled and that drainage channels have the capacity to accept the quantity of stormwater to be discharged, then impacts on the hydrologic regime of the wetlands would be minimal.

As such, the Department considers that Redlake Enterprises should be required to:
1. revise the water balance following the redesign of the layout of Stage 2 and 3 (i.e., prior to any construction works). The revised water balance would ensure that the final stormwater management system is designed appropriately to minimise impacts on the hydrologic regime of the adjoining wetlands including the Hunter Estuary Wetlands Ramsar site; and
2. revise and finalise the stormwater management scheme for the site to;
    - verify that post-development flows would not exceed pre-development flows and existing stormwater drainage channels have the capacity to accommodate the post development flows;
    - detail the methods for the controlled release of treated stormwater from the site.

These requirements have been incorporated into the recommended conditions of approval. The Department is satisfied that impacts on the adjoining wetlands and Hunter River can be suitably minimised and managed through the recommended conditions of approval and the commitments made by Redlake Enterprises.

Discharges to Tomago Sandbeds

As previously discussed, approximately 20% of the Lower Hunter's drinking water is obtained from the Tomago Sandbeds, an underground water resource. The catchment area for the Tomago Sandbeds Special Area is approximately 100 square kilometres and a portion of this area (~9.6ha) extends into the northern section of the site.

Redlake Enterprises has estimated that 10.7ML of water would naturally infiltrate to the aquifer from this area of the site. To ensure that recharges to the aquifer are not reduced by the construction of hardstand/impervious areas associated with the WesTrac facility, Redlake Enterprises has set aside a 1.3ha area for infiltration purposes. A 7.25ha hardstand area would drain to the infiltration area and 35% of overflows from rainwater tanks would be diverted to this area.

The independent expert has reviewed the design of the infiltration area and considers that it is appropriately sized, however, is concerned about the:
1. lack of pre-treatment for runoff from the hardstand area (only gross pollutant removal is proposed);
2. extended detention depth which could result in compaction of soils (reducing hydraulic conductivity), allow fine sediments to settle (affecting surface clogging), and limit vegetation growth (affecting nutrient removal); and
3. potential for the infiltration area to cause groundwater mounding due to the proximity of the groundwater table (0.5m below ground level).

While Hunter Water has indicated that groundwater from the site is unlikely to flow towards its extraction points and therefore any filtration from the site is unlikely to affect drinking water for the region, stormwater infiltration could impact on other existing or future groundwater users, or groundwater dependent ecosystems. To minimise any potential impacts the independent expert has recommended that:
1. that the detailed design of the infiltration area include additional pre-treatment to reduce sediment and nutrient loads in accordance with DECC criteria;
2. the extended detention depth be reduced allowing vegetation growth but also minimising groundwater mounding; and
3. groundwater monitoring be undertaken.

The Department's recommended conditions of approval therefore require Redlake Enterprises to revise the stormwater management scheme for the project to incorporate the above requirements. The Department is satisfied that the proposed infiltration system would ensure aquifer recharge is maintained post-development, provided it is appropriately designed.

4.2.4 Wastewater

As previously discussed, the site is not serviced by sewer, and as such Redlake Enterprises proposes to establish a self-contained system on site for the WesTrac facility as an interim measure until a regional strategy is put in place by Hunter Water. The regional strategy would allow wastewater from the area to be collected and piped to the Raymond Terrace Wastewater Treatment Works for treatment (see Section 4.2). Discussions with Hunter Water indicate that the regional strategy would not be in place until at least 2011.

The proposed treatment system would only service the WesTrac facility, however, Redlake Enterprises has indicated that the system could be augmented to provide additional treatment capacity for the remainder of the site if required. The facility would treat domestic wastewater from the WesTrac facility as well as wastewater from washpads (used for cleaning heavy vehicle equipment). All wastewater would be collected, treated and disposed of on site. Wastewater would be treated to a level that would allow the treated wastewater to be irrigated on site.

The irrigation area has been restricted to a landscaped area located in the south-west corner of the Stage 1 area to limit any impacts on the Tomago Sandbeds. Following irrigation, any excess water would be diverted to a constructed wetland for further treatment prior to discharge.

The Department is satisfied that the measures proposed to treat and dispose of wastewater are appropriate, and that the irrigation area is appropriately located to provide a suitable buffer from the Tomago Sandbeds. In addition, the Department considers that adequate land is available on site for the disposal of wastewater by irrigation should it be identified that additional irrigation area is required in the future.

However, the irrigation of treated wastewater could affect soil and water quality. To minimise and monitor these potential impacts, the Department recommends that Redlake Enterprises should be required to prepare a wastewater management plan, outlining wastewater and soil quality impact assessment criteria, effluent treatment and irrigation system performance measures, details of a wastewater and soil monitoring program and procedures for reporting the monitoring results and any exceedences.

4.3 Traffic

Traffic generated from the construction and operation of the project would access the site via Tomago Road and as such the traffic generated has the potential to impact on the safety and capacity of Tomago Road and the broader road network.

4.3.1 Construction

Traffic generated by the construction of the project would include heavy vehicles associated with the importation of fill and building materials, and light vehicles associated with construction workers.

As previously discussed, approximately 1.8 million cubic metres of fill is proposed to be imported to the site. Based on a typical load of 40 tonnes, this equates to approximately 58,500 truck loads entering the site. For Stage 1 approximately 30,000m^3 of fill is required, equating to 975 truck loads of fill. However, the development of the site would be staged over approximately 10 years and as such heavy vehicles delivering fill to the site would be spread over a 10 year period.

Redlake Enterprises estimates that up to 50 trucks would transport fill to the site each day and considers that traffic impacts from the importation of fill would be minimal. Additional traffic generated by construction workers accessing the site and the delivery of construction materials other than fill has not been quantified. However, the traffic assessment indicates that Tomago Road has sufficient capacity to accommodate all traffic associated with the construction of the project.

To manage construction traffic, Redlake Enterprises has prepared a Traffic Management Plan. While the management measures proposed are appropriate, the Department considers that the plan should be revised to include the following information:

1. details of the staging plan for the construction works;
2. a risk assessment to identify hazards to traffic control associated with the site, the level of risk posed and control measure to be implemented;
3. a Vehicle Movement Plan for the management of construction traffic; and

4. a Traffic Control Plan in accordance with the RTA's *Traffic Control at Work Sites* manual.

Redlake Enterprises proposes that initially vehicles would access the site via a temporary access road during the initial stages of construction until the permanent access is constructed. Therefore, the Department's recommended conditions of approval would also require Redlake Enterprises to design and construct the temporary access to RTA's requirements.

The Department and RTA are satisfied that impacts from construction traffic can be managed to minimise impacts on Tomago Road.

4.3.2 Operation

Traffic Generation

Based on other industrial developments within the Lower Hunter, Redlake Enterprises expects traffic generation from the site (all stages) to be lower than traffic generation rates within RTA Guidelines. Predicted traffic volumes for each stage of the project during peak periods are provided in Table 4. It is expected that 10% of the traffic generated during peak periods would be heavy vehicles, with the remaining 90% of traffic generated being light vehicles associated with staff and deliveries.

Table 4: Predicted Traffic Volumes

Stage	***Traffic Volumes***	
	AM	**PM**
Existing - Tomago Road	*738*	*872*
Existing – Pacific Highway	*2,900*	*3,100*
Stage 1	312	312
Stage 2	592	705
Stage 3	798	950
Project Total	**1702**	**1967**

The assessment indicated that the Pacific Highway and Tomago Road have capacity to accommodate this additional traffic, although, the Pacific Highway would be operating at its full capacity once Stage 3 is implemented.

The RTA raised concerns that Redlake Enterprises has underestimated the traffic volumes that would be generated by the Stages 2 and 3 of the proposal and consequently Redlake Enterprises has not fully addressed the potential traffic impacts of the proposal, meaning that:

- the Pacific Highway could reach capacity sooner than predicted;
- additional traffic on Tomago Road, which when combined with other traffic likely to be generated by new development in the area, could create demand for Tomago to be upgraded (i.e., duplicated), particularly between the site and the Pacific Highway; and
- it is unclear whether the site access has been appropriately designed to accommodate traffic generated from the site.

It is estimated that the development of Stage 3 of the proposal is some years away (up to 10 years away) and any potential impacts on the Pacific Highway would be in the short to medium term as the Pacific Highway between the F3 and Raymond Terrace is scheduled to be upgraded in the future. That is, the Pacific Highway is likely to have enough capacity to accommodate any traffic generated by the project.

While there is currently enough capacity on Tomago Road to accommodate the project, the project would be removing much of the remaining capacity for other developments in the area. To be equitable, the Department and RTA believe Redlake Enterprises should make a contribution towards the upgrade of Tomago Road that would be required over the next 5 to 10 years to accommodate the predicted development in the region. The Department has therefore recommended conditions of approval to ensure this occurs. The conditions of approval would require Redlake Enterprises:

- to pay an equitable contribution towards the upgrade of Tomago Road; and
- verify the traffic to be generated by Stage 2 and 3 of the project prior to the construction of these stages to identify any road upgrades that may be are required.

With these measures in place, the Department is satisfied that the safety and efficiency of the surrounding road network would not be impacted by the project.

Oversized and Overmass Vehicles

In addition to the light and heavy vehicle movements that would be generated from all stages of the proposal, oversized and over mass vehicles associated with the delivery of large machinery would need to access the site. It is anticipated that 1 oversized or overmass vehicle would be delivered to/from the site each week

Oversized and overmass vehicles would access the site via the Pacific Highway and Tomago Road. The movement of oversized and overmass vehicles already occurs in the area, and as such the Pacific Highway and Tomago Road have the capacity to accommodate these types of vehicles.

Redlake Enterprises proposes to transport oversized and overmass vehicles at night to minimise impacts on safety of the surrounding road network, and as such propose to install street lighting along a 5km stretch of Tomago Road in accordance with RTA's requirements. The Department considers that the lighting should also be installed in accordance with Australian Standards and this requirement has been incorporated into the recommended conditions of approval.

Any transport of oversized or overmass vehicles requires a permit from RTA and the recommended conditions of approval require Redlake Enterprises to consult with RTA prior to the transport of oversized and overmass vehicles, with all transportation to undertaken in accordance with RTA's requirements.

The Department is satisfied that the surrounding road network has sufficient capacity to accommodate oversized and overmass vehicles and that existing RTA procedures for the transportation of these vehicles would ensure road safety is maintained.

Access

Access to the site would be via a seagull intersection as depicted in Figure 13. Initially, the intersection would not be signalised and a sheltered right turn land would be provided for traffic entering the site from the west, with a left turn deceleration lane for traffic entering from the east.

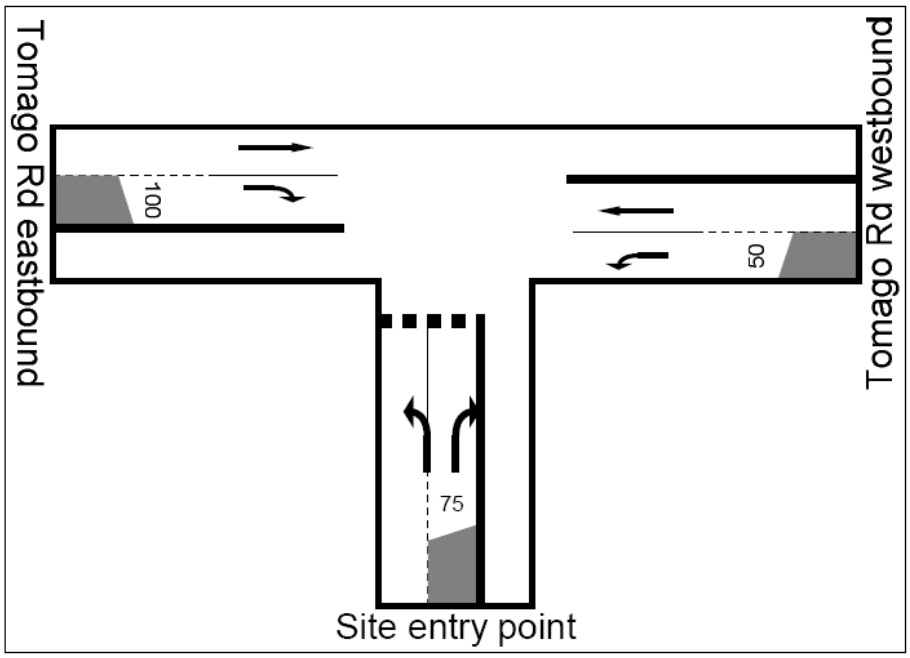

Figure 13: Proposed Conceptual Design of the Site Access – Stage 1

As oversized and overmass vehicles would also need access to the site as part of Stage 1 of the project, the intersection with Tomago Road would be sized accordingly.

Based on the proposed traffic generation rates, Redlake Enterprises considers that the intersection would need to include signals for Stage 2 (see Figure 14) and would require further upgrading for Stage 3. Upgrades proposed for Stage 3 would include dual right hand turn lanes and two through lanes along Tomago Road (as depicted in Figure 15).

The RTA considers that the proposed access is appropriate for Stage 1 and has provided requirements for the design of the access. These requirements have been incorporated into the recommended conditions of approval and would require Redlake Enterprises to construct the access in accordance with RTA and Austroad guidelines and to enter into a Works Authorisation Deed with the RTA.

However, given the uncertainty about traffic generation rates for Stages 2 and 3, the RTA is unable to determine whether the upgrades proposed for the site access for these stages would be appropriate. Notwithstanding, the Department considers that Stage 1 of the project should not be delayed while the final design of the site access for Stages 2 and 3 is resolved.

While the Department is satisfied that there is enough land available to accommodate the ultimate access required, the Department considers that Redlake Enterprises should be required to verify the traffic to be generated by Stages 2 and 3 to establish whether the site access can safely and efficiently accommodate the traffic from these stages. Should upgrades be identified, upgrades would need to be designed in accordance with RTA's requirements. The RTA considers that this approach is appropriate and this requirement has been incorporated into the conditions of approval.

The Department is satisfied that the conditions of approval would ensure the intersection with the site and Tomago Road is designed in a manner that would service the site without impacting on the safety or capacity of Tomago Road.

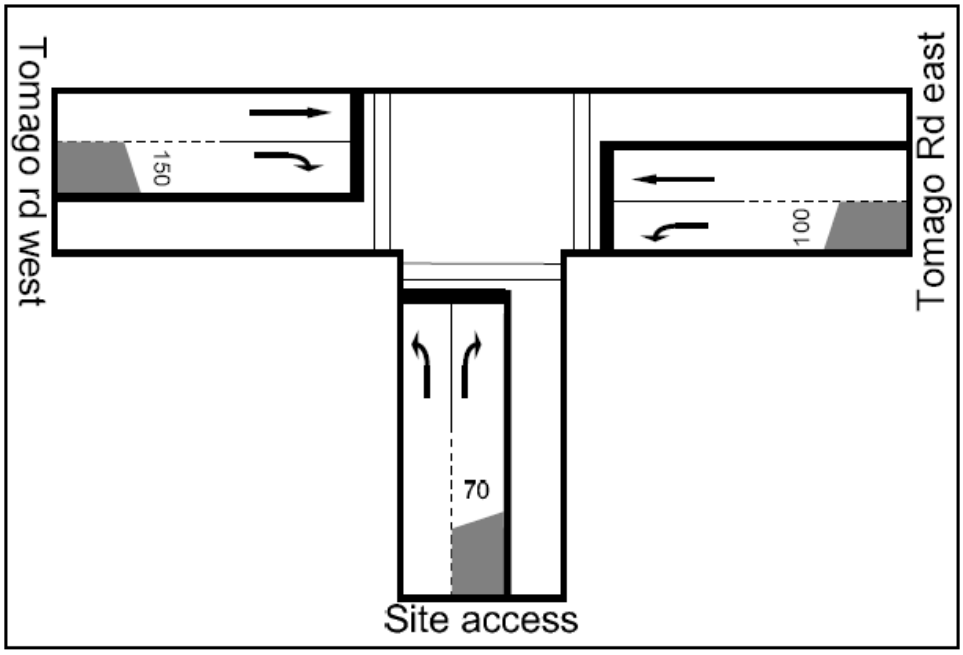

Figure 14: Proposed Conceptual Design of the Site Access – Stage 2

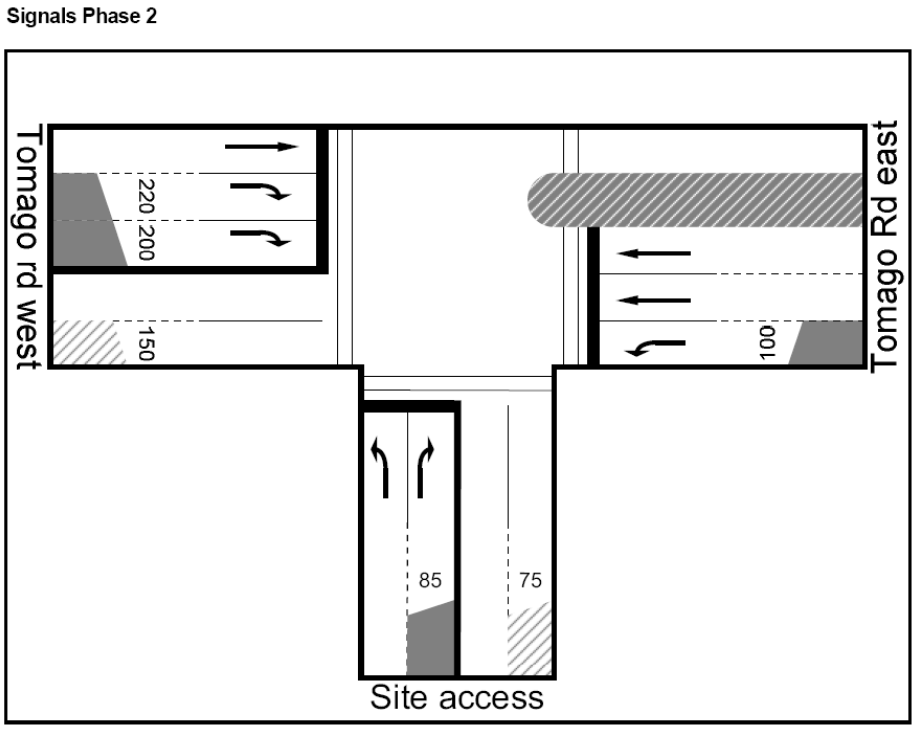

Figure 15: Proposed Conceptual Design of the Site Access – Stage 3

Parking

Redlake Enterprises proposes to provide 391 car parking spaces and 22 motorbike parking spaces for the WesTrac facility.

Redlake Enterprises has indicated that 400 people would be employed during the operation of the WesTrac facility, with up to 40 people attending training sessions at the WesTrac Institute. The Department considers that the proposed number of parking spaces has been sufficiently justified. The Department also considers that sufficient area is provided on site for truck queuing and parking.

Nonetheless, the Department has recommended conditions of approval requiring Redlake Enterprises to design the parking area in accordance with Australian Standards and ensure that no vehicles park or queue on public roads. In addition, the Department has recommended conditions of approval requiring Redlake Enterprises to provide bicycle facilities on site to encourage alternative forms of transport.

4.4 Noise

Construction

Construction of Stage 1 (WesTrac facility) is expected to take up to 2 years, while the construction of Stage 2 and 3 (fill and bulk earth works across the site, as well as development of Stage 2 and 3) could take up to 10 years depending on demand. Therefore, construction noise has the potential to impact on nearby sensitive receivers over an extended period.

Major noise sources during construction would include earthworks (tip truck delivering fill to the site, and dozers levelling the site), metal fabrication (building woks), operation of a crane and diesel generator as well as light vehicle movements.

The assessment indicates that the noise levels associated with the construction of Stage 1 would be 43dBA and would not exceed current DECC criteria (43dBA) at the closest residence at Tomago Road (located approximately 60m to the east of the site boundary) and Graham Drive (located approximately 110m to the north of the site boundary). The Department is therefore satisfied that the construction of Stage 1 of the project would not result in significant noise impacts.

It is noted that no assessment of the construction noise for Stage 2 and 3 has been undertaken. However, the Department is satisfied that construction noise impacts would be minimal as these areas are situated further away from residences, with major noise sources relating to the importation of fill and bulk earth works only (building works associated with Stage 2 and 3 would be subject to further assessment and approvals), and works would staged according to demand.

Nonetheless, to minimise any potential impacts the Department has recommended conditions of approval limiting construction works to normal working hours, with no works on Sundays or public holidays.

Operation

The WesTrac Facility would operate 24 hours a day, 7 days a week and therefore noise from the operation of the facility has the potential to impact on nearby residents at Tomago Road and Graham Drive.

The noise assessment indicates that predicted noise levels could exceed the evening criteria by 5dBA and the night-time noise criteria by up to 7dBA at the closest residential receiver, located directly east of the site. This assessment is based on a worst case scenario with the dominant noise source being the operation of a crane in the outdoor inventory area during evening and night-time periods. The assessment indicates that the operation of the project would meet project specific noise limits (PSNL) at all other residences.

To minimise impacts, Redlake Enterprises propose to install a 3.5m high acoustic wall along the eastern boundary of the site. With the noise barrier in place, noise levels would be below the PSNL. However, it is noted that under certain conditions, noise levels would be approaching the night-time criteria.

While there are currently no mandatory criteria for sleep disturbance, the Proponent has assessed the potential for sleep disturbance using current practice. This assessment indicates that the closest residence at Tomago Road and residences at Graham Drive may experience noise levels that may cause sleep disturbance.

To ensure that the amenity of residents is not adversely impacted, the Department has recommended conditions of approval that would:

- set noise limits for the operation of Stage 1, as well as for the site (i.e., the combined operation of Stage 1, 2 and 3);
- require Redlake Enterprises to provide the detailed specification of the noise barrier prior to its construction to demonstrate that it would meet the predications made in the EA;
- require Redlake Enterprises to verify the noise predictions for Stage 1 within 6 months of the commencement of operations of the WesTrac facility; and
- limit the hours that cranes can operate in the inventory area.

It is noted that a noise assessment has not been undertaken for Stages 2 and 3. This is predominantly a result of the fact that the end-users for these areas are unknown and development of these stages would be subject to further approvals. Nonetheless, the Department considers that there is a range of mitigation measures that could be implemented to minimise impacts. In addition, any future development and project applications for Stages 2 and 3 would need to demonstrate that noise limits for the site would be complied with.

The Department is satisfied that with the recommended conditions together with the commitments made by Redlake Enterprises would minimise noise impacts on nearby residences.

Traffic

During peak periods, the development of the site has the potential to generate up to 1,700 vehicle movements in the morning peak period and 1967 vehicle movements in the afternoon peak period. Approximately 400 vehicles utilise Tomago Road during the peak period and therefore the increase in traffic generated by the development of the site has the potential to impact on nearby residents from an increase in traffic noise.

The assessment has compared the predicted traffic noise levels for the development of all stages of the site to the criteria for a collector road in accordance with the *Environmental Criteria for Road Traffic Noise* (ECRTN). The assessment has focussed on noise impacts on residents located to the west of the site access point, as it is considered that the majority of traffic (85%) generated by the project would travel from the west and depart to the west along Tomago Road.

Predicted traffic noise levels for each stage of the proposal at provided in Table 5.

Table 5: Predicted Traffic Noise Levels

Component	**Noise Levels (dBA)**	
	AM Peak	**PM Peak**
No development (background)	59	59
Criteria	*60*	*60*
Stage 1	61.2	61.2
Stage 1 and Stage 2	63.7	64.1
Stages 1, 2 and 3	65.7	66.3

The Proponent argues that exceedences of noise criteria are minimal as, in accordance with the ECRTN, traffic noise would generally not exceed 2dBA for each stage when compared to existing levels. That is, Stage 1 levels would be within 2dBA of background noise, levels for Stage 2 would be within 3dBA of Stage 1 noise levels, and Stage 3 noise levels would be within 2dBA of noise levels for Stage 2. That is, traffic noise for all stages would exceed ECRTN criteria by approximately 5-6dBA.

The Department does not agree with this argument. The criteria provided in the ECRTN provides for an increase in existing noise levels of 2dBA over existing noise levels, but only where all feasible and reasonable mitigation measures have been applied. That is, the adoption of a 2dBA allowance is not a default position under the ECRTN and additionally, a development can not be divided into small segments to allow multiple uses of the 2dBA allowance. Consequently, even if a 2dBA allowance was allowed for the proposal it would apply to the combined operation of all stages, not to each separate stage.

The Department considers that an increase of around 6dBA above existing traffic noise levels has the potential to adversely affect nearby residents and consequently, consideration needs to be given to provision of mitigation measures at affected residents to minimise these impacts. However, it is recognised that any impacts would predominantly relate to Stages 2 and 3 and would be limited to approximately 15-20 properties located north and west of the site. Although, the number of properties likely to be affected by Stage 2 and 3 is likely to be less, given that the character of the area is changing from rural-residential to industrial.

Nonetheless, the Department considers that there are measures that could be implemented to manage and minimise traffic noise impacts, such as the installation of noise barriers and acoustic treatments (e.g., the installation of insulation, double-glazing and air conditioners) at affected properties. In this regard, the Department recommended conditions of approval would require Redlake Enterprises to revise the predicted noise levels for Stage 2 and 3, prior to the construction of these stages, to identify those residents where traffic noise levels would exceed the criteria in the ECRTN and to identify reasonable and feasible measures to mitigate impacts.

The Department is therefore satisfied that the recommended conditions would ensure that the amenity of nearby rural residents would be protected.

4.5 Infrastructure and Contributions

Redlake Enterprises has assessed the infrastructure requirements for the proposal and overall there is generally sufficient infrastructure in the area to accommodate the development of the site. A summary of the infrastructure requirements for the project is provided in Table 6.

Table 6: Infrastructure requirements to service the project

Infrastructure Requirements	***Comments***
External Roads	Upgrade works would be required to Tomago Road to allow access to the site. These upgrades would be staged as detailed in Section 4.2.

Infrastructure Requirements	*Comments*
Internal Roads	Redlake Enterprises would construct all internal roads, with estate roads to have a 13.0 metre wide carriage-way and minimum verge width of 4 metres. Redlake Enterprises proposes to dedicate all internal roads to Council.
Potable Water	Hunter Water has advised that the site can be supplied with water from an existing watermain in Tomago Road, however, Redlake Enterprises would be required to develop a water servicing strategy in consultation with Hunter Water to determine if any upgrades are required. This requirement has been incorporated into the recommended conditions of approval. Redlake Enterprises proposes to install rainwater tanks to collect roof water for reuse on site (e.g. a toilet flushing and irrigation), minimising the potable water demand of the project.
Sewerage System	The site is not connected to sewer and an on-site treatment system is proposed. This system would initially service the WesTrac facility until existing sewage infrastructure is upgraded. If required, additionally package units could be added to the treatment plant to service the remainder of the site. Hunter Water does not have any objections to an interim on-site wastewater treatment system, however, would like to ensure that it is designed in a manner that would allow it to be connected to a regional wastewater scheme. This requirement has been incorporated into the recommended conditions of approval. If not appropriately designed and managed, the privately owned and operated sewerage system could become a liability for the NSW Government. Therefore, the Department recommends that the system is designed in accordance with Hunter Water's and Council's requirements.
Stormwater	Redlake Enterprises proposes to install all the necessary stormwater and drainage infrastructure for the site. Stormwater from the site would be captured and treated prior to being discharged from the site (including infiltration to groundwater aquifer). The Department considers that suitable arrangements have been made for stormwater management, subject to the refinements that would be made during the detailed design of the project (see Section 4.2).
Electricity	Sufficient power is available to service the site. A 132kV overhead powerline traverses the site. As part of the project Redlake Enterprises would relocate the easement and powerline. EnergyAustralia has no objections to the relocation of the easement and powerline, but considers that the cost of the relocation should be borne by Redlake Enterprises. The recommended conditions of approval require Redlake Enterprises to seek approval from EnergyAustralia before relocating the easement and powerline.

The Department is satisfied that Redlake Enterprises has made adequate provision for infrastructure to service the development of the site. Nonetheless, the recommended conditions of approval would require Redlake Enterprises to complete all civil works and to provide all services and utilities required for each stage of the project prior to the issuing of a subdivision certificate for that stage.

Contributions

Council has recommended that Redlake Enterprises be required to pay contributions in accordance with its Section 94A Development Contributions Plan. This plan requires a contribution of 1% of the capital investment cost of the project, which in this case equates to $1.3 million.

As Redlake Enterprises proposes to provide all infrastructure required for the development of the site (including roads, drainage, and sewer), and the traffic generated by the project would predominantly use State Roads (Pacific Highway and Tomago Road), the Department considers this requirement to be unreasonable.

A closer analysis of Council's Section 94A Development Contributions Plan reveals that 66% of the contribution would be spent on roads, 31% on open space and recreation and 3% on community facilities. In the Department's view, the project is likely to create a demand for some limited expenditure on local roads, as 15% of the project's traffic is predicted to travel east of the site and use local roads in Port Stephens LGA.

Consequently, the Department considers that Redlake Enterprises should be required to contribute $129,933 towards local roads (i.e., 15% of 66% of 1% levy), and has incorporated this requirement into the recommended conditions of approval.

4.6 Heritage

Aboriginal

While there is no record of Aboriginal artefacts or sites on the site, a number of Aboriginal sites within a 5km radius of the site have been recorded/registered. Given the sites characteristics, its low elevation and proximity to wetlands and the Hunter River, it was considered that there was potential for Aboriginal artefacts and sites to be present on site.

An initial survey of the site identified seven Aboriginal sites consisting of artefact scatters (stone flakes, cores and backed blades) on the sandy ridge located along the northern boundary of the site. An isolated find was also identified in the north east corner of the site (see Figure 16). Redlake Enterprises considers that the seven sites are likely to be part of one large site (possibly a midden site).

Members of the Worimi Local Aboriginal Land Council (LALC) participated in the survey and consultation with the Worimi LALC indicated that further investigations were required to establish the cultural significance of the Aboriginal sites.

Three of the 8 sites were considered to have high archaeological significance, while the remaining sites were considered to be of low archaeological significance. As such, subsurface investigations were undertaken at the 3 sites that were considered to have potential for containing undisturbed sub-surface deposits (in the vicinity of T1, T7 and T8). Subsurface investigations were conducted under a permit issued by DECC under Section 87 of the *national Parks and Wildlife Act 1979*.

Only one stone artefact was identified during the subsurface investigations. Redlake Enterprises therefore considers that due to the extent of disturbance on the site, that the artefacts/sites identified have limited cultural significance. This position is supported by the Worimi LALC. Nonetheless, Redlake Enterprises has committed to salvaging the artefacts prior to the commencement of construction.

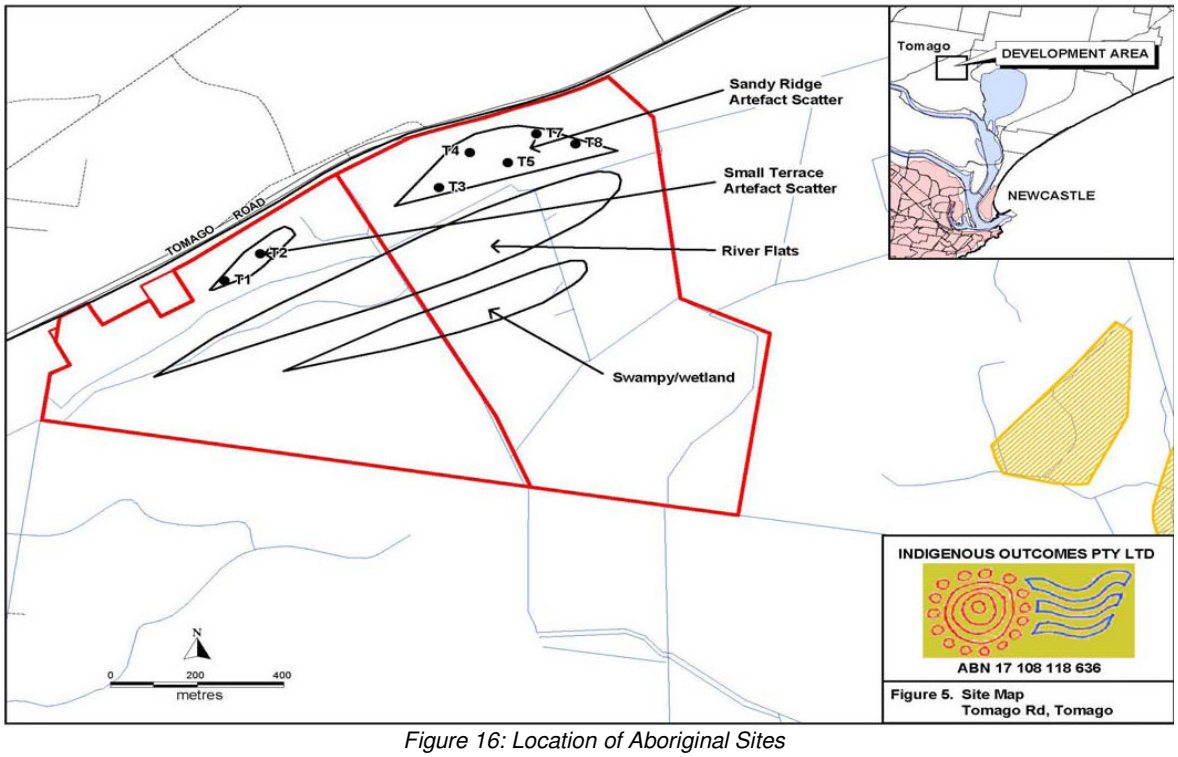

Figure 16: Location of Aboriginal Sites

DECC raised concerns that Redlake Enterprises had not undertaken broad based Aboriginal consultation, that a number of artefacts that were identified in the initial survey could not be located in the subsequent survey of the site, and that an inadequate assessment of cultural significance had been undertaken. In this regard, DECC required that:

- further details be provided on the consultation that was undertaken;
- Redlake Enterprises hold a community workshop to present the findings of the surveys;
- a Cultural Heritage Management Plan is developed for the site and Aboriginal Cultural Education Program is developed for the site; and
- be required to implement measures to avoid impacts on Aboriginal cultural heritage values.

Further details were subsequently provided by Redlake Enterprises regarding the consultation that was undertaken with Aboriginal groups, including members that are considered to represent the traditional owners of the area. The Department is therefore satisfied that an adequate consultation has occurred and that an adequate assessment of cultural significance has been undertaken. The Department considers that Aboriginal communities are the primary determinants of significance of their heritage and in this case the Worimi LALC considers that the site has limited cultural significance.

However, the Department considers that as artefacts have been identified on site, the potential remains that further artefacts could be discovered during excavation works. As such, the Department recommends that Redlake Enterprises be required to prepare and implement an Aboriginal Heritage Management Plan that outlines:

- measures to identify, salvage and store objects during construction;
- a program to train construction workers to manage and minimise impacts;
- procedures should previously unidentified objects be identified; and
- procedures for the ongoing consultation with Aboriginal groups.

The Department considers that with these measures in place that impacts on Aboriginal sites and artefacts can be managed.

European

The site is located approximately 700m to the east of the Tomago House and Chapel, which is of local and State heritage significance, being listed on the State Heritage Register as well as being identified as a heritage item under the *Port Stephens Local Environmental Plan 2000*. The National Trust of Australia has raised concerns about the impact of the proposal on this heritage listed item.

The Department acknowledges that the proposal would alter the current use of the site, with agricultural land being converted to industrial land. However, the site was first earmarked for industrial development when the site and areas to the west of the site were re-zoned for industrial purposes in 2003. It is noted, that other industrial land is also located to the north-west of Tomago House and Chapel.

The Department considers that impacts on the Tomago House and Chapel would be minimal as Redlake Enterprises is not proposing to alter the structure and fabric of this heritage item. In addition, the proposal is located some distance from Tomago House and Chapel (~700m) and therefore, the proposal would not have a significant impact on the curtilage of this heritage item.

Redlake Enterprises proposes to landscape the site and the proposal includes a landscape management plan for Stage 1 of the site. The Department supports Redlake Enterprises commitment to the landscaping proposed but considers that planting should occur as soon as possible, particularly along the western boundary of the site (i.e., prior to the implementation of Stages 2 and 3), to minimise views of the project site from the grounds of Tomago House and Chapel.

Consequently, the Department has recommended conditions of approval requiring Redlake Enterprise to revise its landscape management plan to include advanced plantings along the western boundary of the site.

The Department is therefore satisfied that with these measures in place the project would not have a significant impact on Tomago House and Chapel.

4.7 Other Issues

The following issues were also assessed and a number of conditions are proposed to ensure adequate management of these issues.

Table 7: Other Issues

Issue	***Key Impacts***	***Recommendation***
Loss of Employment Lands and site Design	• As discussed in Section 4.1.1, the requirement to avoid development within the 22ha area of Coastal Saltmarsh EEC would result in the loss of 17ha of employment lands (the proposed subdivision did not include development within 5-7ha of this area). • To compensate for this loss DECC and HDC are negotiating a land swap, where an area of low value conservation land would be exchanged for the 17ha of Coastal Saltmarsh EEC. • This is consistent with the provisions of the MOU and would ensure there is no loss of employment land. • Additionally, the Department considers there is a range of development controls that Redlake Enterprises could implement for Stages 2 and 3 to compensate for the loss of developable land, such as increasing the site coverage and redesigning the stormwater management system to minimise the surface area of wetlands required (~15% of the site has been set aside for constructed wetlands to manage stormwater from the site). • The development controls would also guide the development of Stages 2 and 3, ensuring these Stages are developed in a consistent manner and that relevant environmental limits would be met.	• The Department has recommended conditions of approval that would require Redlake Enterprises: - to develop a Development Control Plan for the site to guide the development of Stage 2 and 3, particularly in relationship to site coverage and stormwater management; and - transfer title of the Coastal Saltmarsh EEC to DECC.
Visual	• The proposal has frontage to Tomago Road and the greatest visual impacts would be associated with people travelling along Tomago Road and rural residential properties to the north and east of the site. • Buildings and structures on site would range from heights of 6m up to 18m, with buildings fronting Tomago Road setback at least 70m from the site boundary. • A sales/display area would also front Tomago Road • Redlake Enterprises has prepared a landscape management plan to minimise the visual impacts of the proposal from rural residential areas to the east and north. • The area to the north-west of the site is primarily industrial and the Department considers that the proposal is not inconsistent with the surrounding land uses. • The Department considers that visual impacts associated with the project would not be significant.	• The recommended conditions of approval require Redlake Enterpises: - to design the lighting in accordance with Australian Standards to minimise any potential impacts from the 24 hour operation of the project; - revise the landscape management plan for the site to include advanced planting along the eastern, western and northern boundary of the site; and - submit detail plans of any estate signage for approval.
Air Quality	• Construction works have the potential to generate dust emissions from filling, stockpiling of fill and bulk earthworks. • To minimise impacts from construction Redlake Enterprises proposes to implement a range of measures including covering of loads, limiting activities during excessive wind conditions, using water carts to minimise dust, vegetating unsealed sites and using truck wheel washes.	• The Department's recommended conditions of approval require Redlake Enterprises to: - implement dust management measures during the life of the project (particularly in relation to stockpiling of fill and filling activities); - cover loads; - not track dirt onto public roads; and

Issue	*Key Impacts*	*Recommendation*
Air Quality continued	These measures would be further outlined in a construction management plan. • The Department considers that the measures proposed by Redlake Enterprises to minimise dust during construction are appropriate. • Air emissions during operation of the project are expected to be mainly from traffic. • Other activities that have the potential to generate air emission such as spray painting would be undertaken within an enclosed building and as such air emissions from these activities are expected to be minimal. • The Department considers that air emissions from the operation of the WesTrac facility would be minimal.	- encourage alternative forms of transport to the site through the provision of bicycle facilities.
Waste	• Likely waste that would be generated from the construction and operation of the project include general waste, excess building materials, scrap metal, rubber tyres, paints, oil, • Redlake Enterprises proposes to either recycle the waste generated or dispose of the waste at a licensed facility. • While Redlake Enterprises has not quantified the waste that would be generated by the project, the Department is satisfied that the measures proposed by Redlake Enterprises to recycle or dispose of the waste are appropriate	• The recommended conditions of approval would require all waste generated by the project to be classified in accordance with DECC guidelines and to be disposed of lawfully.
Hazards	• A number of dangerous goods would be stored on site during the operation of the WesTrac facility including LPG, oil, diesel, acids, paints, acetylene and a range of other dangerous goods. • The assessment of the quantities of dangerous goods to be stored on site against the provisions of *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development* indicates that the WesTrac facility is not potentially hazardous. • Redlake Enterprises propose to store dangerous goods in accordance with Work Cover requirements. • The Department is satisfied that potential impacts from dangerous goods can be minimised through appropriate storage and bunding.	• The Department's recommended conditions of approval would require Redlake Enterprises to store and bund all chemicals, fuels and oils in accordance with relevant Australian Standards and DECC's *Storing and Handling Liquids: Environmental Protection* manual.

5. RECOMMENDED CONDITIONS

The Department has prepared recommended conditions of approval for the project (see Appendix B and summarised these conditions in Appendix A These conditions are required to:

- prevent, minimise, and/or offset adverse impacts of the project;
- set standards and performance measures for acceptable environmental performance;
- ensure regular monitoring and reporting; and
- provide for the ongoing environmental management of the project.

Redlake Enterprises has reviewed and accepts the recommended conditions.

6. CONCLUSION

The Department has assessed the merits of the project in accordance with the requirements in the EP&A Act.

This assessment found that the main issues associated with the project relate to the conservation of threatened vegetation, management of stormwater and wastewater discharges from the site, noise, transport and Aboriginal heritage. The Department is satisfied however, that the majority of impacts can be adequately mitigated and/or managed to ensure an acceptable level of performance and has recommended a range of conditions to ensure this occurs.

With regard to impacts on threatened species and endangered ecological communities, the Department has recommended conditions of approval that would require Redlake Enterprises to revise the design of Stages 2 and 3 of the subdivision of the site to reduce the footprint of these stages and to avoid the endangered Coastal Saltmarsh community present in the south-east corner of the site. With these measures in place the Department is satisfied that the project would maintain the conservation values of the adjoining Hunter Estuary Wetlands Ramsar site.

In relation to traffic impacts and contributions towards regional infrastructure, the Department is satisfied that recommended conditions of approval ensure that there is a mechanism in place for Redlake Enterprises to make an equitable contribution towards regional infrastructure while the strategic planning for the area is being finalised.

The Department considers that the proposal is consistent with the objectives of the State Plan and Lower Hunter Regional Strategy and would offer significant economic and social benefits to the Hunter region. Primarily as it would attract up to $130 million worth of capital investment and create up to 400 jobs close to the homes within Newcastle, Raymond Terrace and Maitland.

Consequently, the Department believes that the project is in the public interest and should be approved subject to conditions.

7. RECOMMENDATION

It is RECOMMENDED that the Minister:

- consider the findings and recommendations of this report;
- approve the project application, subject to conditions, under section 75J of the *Environmental Planning and Assessment Act 1979*; and
- sign the attached project approval (see Appendix B).

Signed 31/7/09

David Kitto
A/Executive Director
Major Projects Assessment

Signed 2/8/09

Richard Pearson
Deputy Director-General
Development Assessment and Systems Performance

Signed 3/8/09

Sam Haddad
Director-General

APPENDIX A: SUMMARY OF CONDITIONS OF APPROVAL

Aspect	Condition	Requirement
Schedule 2: Administrative Conditions		
	7-8	Demolition and the removal of asbestos to be undertaken in accordance with relevant guidelines
	9-10	Protection of public infrastructure
	14-15	Local and regional contributions
Schedule 3: Specific Environmental Conditions		
Flora and Fauna	1	Excluding development within a 22 hectare area of endangered Coastal Saltmarsh
	2	Preparation of development control plan to guide development of Stages 2 and 3
	3	Details for restrictive and positive covenants to protect the 22 hectare area of endangered Coastal Saltmarsh and/or transfer to DECCW for conservation purposes
Soil and Water	5	Fill to be virgin natural excavated material or excavated natural material
	6	Sets discharge limits for the project
	7	Bunding and storage requirements for fuels, oils and chemicals
	8 - 12	Preparation and implementation of a Stormwater Management Plan detailing controls and management measures for the construction and operation of the project.
Traffic and Transport	15	Management requirements for construction traffic
	16 - 18	Design requirements for the site access
	19 – 23	Requirements for street lighting, car parking, over sized and over mass vehicles and bicycle racks
	25	Requirement for a traffic verification study for Stages 2 and 3
Noise	25 – 27	Construction and operation hours and noise limits
	28	Requirement to provide details of the noise barrier prior to installation
	29	Requirement to undertake a noise audit within 6 months of the commencement of operation
	30	Requirement to verify traffic noise for Stages 2 and 3 prior to the commencement of construction of these stages
Cultural Heritage	31	Requirement to prepare and implement an Aboriginal Heritage Management Plan to identify, salvage and management heritage items and sites.
Air Quality	32 – 35	Requirements to minimise and manage dust and odour
Visual	36	Requirement to revise the landscape management plan to include provide advanced plantings along the northern and eastern boundary of the site
	37 – 38	Requirement to seek approval for any signage or fencing on the site
	39	Lighting requirements
Schedule 4: Environmental Management, Monitoring Auditing and Reporting		
	42	Requirements to prepare an environmental management strategy and monitoring program
	43	Incident reporting requirements
	44	Requirement to prepare an annual report detailing monitoring results and non-compliances
	45	Requirement to submit works as executed plans prior to the commencement of operations

APPENDIX B: CONDITIONS OF APPROVAL

Refer to the Department's website

APPENDIX C: CONSIDERATION OF ENVIRONMENTAL PLANNING INSTRUMENTS

Section 75I(2) of the EP&A Act requires that reference be made to the provisions of any environmental planning instrument that would (but for Part 3A of the Act) substantially govern the carrying out of the project. Consideration of the proposed development in the context of the objectives and provisions of the relevant environmental planning instruments is provided below.

State Environmental Planning Policy No 14—Coastal Wetland
The aim of *State Environmental Planning Policy No 14—Coastal Wetland* (SEPP 14) is to ensure that coastal wetlands are preserved and protected for environmental and economic reasons. The policy applies to coastal local government areas outside the Sydney metropolitan area.

As previously, discussed the project would be located in the Tomago Industrial Site and under Clause 4 of the SEPP, this policy does not apply to land within the Tomago Industrial Site. Nonetheless, given the proximity and significance (these wetlands form part of the Ramsar listed Hunter Estuary Wetlands) of the nearby SEPP 14 wetlands, the Department has considered the provisions of SEPP 14 in its assessment. The Department is satisfied that the recommended conditions of approval would ensure that the project would have minimal impact on the nearby SEPP 14 wetlands proposal (see Section 4).

State Environmental Planning Policy No. 33 – Hazardous and Offensive Development
State Environmental Planning Policy No. 33 – Hazardous and Offensive Development (SEPP 33) aims to identify proposed developments with the potential for significant off-site impacts, in terms of risk and/ or offence (odour, noise etc). A development is defined as potentially hazardous and/ or potentially offensive if, without mitigating measures in place, the development would have a significant risk and/ or offence impact on off-site receptors.

A preliminary risk screening was undertaken in accordance with the SEPP 33, which found that the quantities and classes of hazardous materials that would be encountered on site and number of vehicle movements required to transport these materials did not reach the threshold to be classified as 'potentially hazardous'. Therefore, the proposed project is not considered potentially hazardous and/or potentially offensive and no preliminary hazardous analysis is required to be undertaken.

The Department is satisfied with the consideration of SEPP 33 contained in the Environmental Assessment.

State Environmental Planning Policy No. 44 – Koala Habitat Protection
State Environmental Planning Policy No. 44 – Koala Habitat Protection (SEPP 44) applies to Port Stephens LGA. Under clause 9 of the SEPP, the consent authority is not to grant consent unless it is satisfied that any "potential koala habitat" is not "core koala habitat" as defined under the SEPP.

A Koala Plan of Management (known as the Port Stephens Council Comprehensive Koala Plan of Management or CKPoM) has been prepared for the Port Stephens LGA in accordance with SEPP 44. The CKPoM identifies preferred, supplementary and marginal habitat for koalas in the Port Stephens LGA. While the CKPoM indicates that supplementary koala habitat is present on the project site, a survey of the site indicates that there is no preferred or supplementary koala habitat on located on the site (i.e., no core or potential koala habitat). As such, the project would have minimal impact on koala populations or koala habitat. The Department is satisfied with the consideration of SEPP 44 contained in the Environmental Assessment.

State Environmental Planning Policy No. 55 – Remediation of Land
State Environmental Planning Policy No. 55 – Remediation of Land applies to the site. SEPP 55 aims to ensure that potential contamination issues are considered in the determination of a development application. Clause 7 of SEPP 55 states that:

7(1) A consent authority must not consent to the carrying out of any development on land unless:
(a) it has considered whether the land is contaminated, and

(b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and

(c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.

Refer to Section 4.2.1 for further details.

State Environmental Planning Policy No. 64 – Advertising and Signage

SEPP 64 aims to ensure signage is appropriately located and designed and to regulate signage within transport corridors. The Department has recommended conditions to ensure detailed signage plans are prepared in consultation with Port Stephens Council, and for any signage visible from Tomago Road and to the satisfaction of the Director-General.

Draft State Environmental Planning Policy No. 66 – Integration of Land Use and Transport

Draft SEPP 66 aims to ensure that urban structure, building forms, land use locations, development designs, subdivision and street layouts help achieve the following planning objectives:

a) improving accessibility to housing, employment and services by walking, cycling and public transport,
b) improving the choice of transport and reducing dependence solely on cars for travel purposes,
c) moderating growth in demand for travel and distances travelled especially by car,
d) supporting the efficient and viable operation of public transport services,
e) providing for the efficient movement of freight.

The Department is satisfied the proposal is not contrary to the above objectives and considers the project would help achieve the objectives of draft SEPP 66 by providing employment lands within proximity to residential areas in Newcastle and Raymond Terrace, major transport routes including the Pacific Highway and Newcastle's commercial airport.

State Environmental Planning Policy No.71 – Coastal Protection

State Environmental Planning Policy No. 71 – Coastal Protection applies to the site as it is within the coastal zone. In broad terms SEPP 71 aims to ensure that the natural, cultural, recreational and economic assets of the NSW coast are protected and appropriately managed.

The relevant matters for consideration in clause 8 of the SEPP 71 include:

- the aims of the SEPP 71;
- the suitability of development given its type, location and design and its relationship with the surrounding area;
- the scenic qualities of the New South Wales coast, and means to protect and improve these qualities;
- measures to conserve animals and plants, and their habitats;
- measures to protect the cultural places, values, customs, beliefs and traditional knowledge of Aboriginals;
- likely impacts of development on the water quality of coastal waterbodies; and
- the conservation and preservation of items of heritage, archaeological or historic significance.

The Department is satisfied that the proposed development is broadly consistent with the aims and other matters for consideration in the SEPP 71. The Department considers that the site is suitable for the proposal and the project would be compatible with surrounding land uses. It would have a negligible impact on scenic qualities and water quality protection measures would ensure that adequate protection is provided for animals, plants and their habitats, including the Hunter River, Tomago and Fullerton Cove Wetlands and the Hunter Estuary Wetlands Ramsar site. The recommended conditions of approval would also require Redlake Enterprises to collect and preserve any heritage items identified during the construction activities.

State Environmental Planning Policy (Infrastructure) 2007

SEPP (Infrastructure) 2007 aims to ensure the RTA is made aware of and allowed to comment on projects for developments listed in Schedule 3 of the SEPP. Schedule 3 identifies development

including industry with a site area of more than 20,000m^2, or any purpose with a capacity of 200 or more motor vehicles. The project therefore triggers the Infrastructure SEPP. The project was referred to the RTA for comment in accordance with the Infrastructure SEPP.

Hunter Regional Environmental Plan 1998

The *Hunter Regional Environmental Plan 1998* (Hunter REP) aims to promote and provide direction for development in the Hunter region to ensure the economic, social and environmental outcomes are achieved. The objectives of the Hunter REP largely relate to the strategic planning of the region; however Part 7 (Environmental Protection) sets out the heads of consideration that an approval authority must consider when determining an application. These objectives require an authority not to grant approval unless it is satisfied that the impacts on air, noise, water and soil local environments are within acceptable levels and would not have an adverse impact. The Department has considered the project against these objectives within section 4 of this report, and is satisfied that the project satisfies the requirements of the Hunter REP subject to the recommended conditions of consent.

APPENDIX D: RESPONSE TO SUBMISSIONS

Refer to the Department's website

APPENDIX E: SUBMISSION FROM AN INDEPENDENT HYDROLOGY EXPERT

Refer to the Department's website

APPENDIX F: SUBMISSIONS

APPENDIX G: ENVIRONMENTAL ASSESSMENT

Refer to the Department's website