



Orange City Council

Orange Resource Recovery and Waste Management Project

Preliminary Environmental Assessment

13 February 2009



Orange City Council





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List of Acronyms

Abbreviation	Name
AHD	Australian Height Datum
AWT	Alternative Waste Technology
C&I	Commercial and Industrial
DA	Development Application
DECC	NSW Department of Environment and Climate Change (incorporating the former NSW Environment Protection Authority/EPA)
DG	Director General
DOP	Department of Planning
EA	Environmental Assessment
EMP	Environmental Management Plan
EPA	Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Commonwealth Environment Protection and Biodiversity Conservation Act 1999</i>
GHD	GHD Pty Ltd
LEP	Local Environmental Plan
LES	Local Environmental Study
LGA	Local Government Area
MGB	Mobile Garbage Bin
MRF	Materials Recovery Facility
MSW	Municipal Solid Waste
NPW Act	<i>National Parks and Wildlife Act 1974</i>
NPWS	National Parks and Wildlife Service
NSW	New South Wales
OHS	Occupational Health and Safety
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
REP	Regional Environmental Plan
RL	Reduced Level
RRC	Resource Recovery Centre
SEPP	State Environmental Planning Policy
TSC Act	<i>Threatened Species Conservation Act 1995</i>
TSP	Total Suspended Particulates
VEM	Virgin Excavated Materials
WARR Act	<i>Waste Avoidance and Resource Recovery Act 2001</i>
WARRS	Waste Avoidance and Resource Recovery Strategy



Executive Summary

Orange City Council (the proponent) is seeking to have a Resource Recovery and Waste Management Project assessed and approved under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The project is necessitated by the local and regional demand for sustainable waste management and efficient resource recovery services in the Orange Local Government Area (LGA). It is also driven by the strategic direction for waste management in NSW and the proponent's own strategic drivers as set out in Orange City Council's Draft Sustainable Waste Management Strategy.

This Preliminary Environmental Assessment (PEA) has been prepared to provide the Department of Planning (DoP) with information on the project so that DoP can prepare Director General's Requirements (DGRs) for the Environmental Assessment (EA) under Part 3A of the EP&A Act. The PEA outlines the approvals process for the project, describes the existing environment, and outlines key issues that need to be addressed in the EA.

The project includes an integrated plan for improved resource recovery and residual waste management with new operations at two separate sites owned by the Proponent:

- » The existing Ophir Road Resource Recovery Centre (RRC); and
- » The proposed Euchareena Road Resource Recovery Centre (RRC).

The waste management and resource recovery strategy involves five new activities.

- » New residential waste collection system - a food and garden organics collection service would be provided for residents of Orange City and offered to surrounding LGAs (subject to existing Council waste contract arrangements);
- » Processing of food /garden organics at the Euchareena Road RRC - food and garden wastes would be composted at a new facility at the Euchareena Road RRC to produce high grade compost.
- » Baling of mixed residual waste at the Ophir Road RRC - mixed residual wastes (with most of the food and garden organics removed) would be delivered to a new facility at the Ophir Road RRC (located in the existing Material Recovery Facility (MRF) building) for recovery of recyclables, and baling of the remaining wastes;
- » Recovery of dry recyclable materials at the Ophir Road RRC - the existing kerbside recycling system would be maintained, and recyclables would be delivered to a new MRF to be constructed within the Ophir Road RRC; and
- » Disposal of mixed residual waste at Euchareena Road RRC - the bales of mixed residual waste would be transported to the Euchareena Road RRC for disposal in a specially designed landfill. Bulky wastes and other wastes unsuited to baling would be separately transported to the Euchareena Road RRC for landfill disposal. The landfill would receive approximately 1.5 million tonnes of waste over its life, of which approximately 450,000 tonnes would be from other regional Councils.

As part of its commitment to regional cooperation, Orange City Council has long provided waste disposal and resource recovery services for surrounding regional Councils. Five LGAs currently take advantage of the MRF at the Ophir Road RRC for sorting of kerbside collected recyclables (Cabonne, Forbes,



Parkes, Blayney, and Bathurst). Process residuals are currently sent to the landfill at the Ophir Road RRC. These would in future be transferred to the landfill at the Euchareena Road RRC for disposal.

Waste for direct disposal to landfill is routinely received at the Ophir Road RRC from other regional areas such as Cabonne. Waste is also received from other regional Councils and commercial waste contractors, including Bathurst and Blayney. Existing regional service arrangements would continue and be further developed at the proposed Euchareena Road RRC.

The Land and Environment Court judgement included four key reasons why the 2005 proposed development on the proposed site was not approved. These issues have been taken into account in the preparation of the PEA and in development of this proposal. Each of these issues would be addressed in the EA, together with Council's plans to resolve the issue as part of the new waste management and resource recovery strategy.

A number of potential environmental issues were considered during the preparation of the PEA, as well as proposed management and or mitigation measures and likely residual environmental impacts.

The PEA concludes that with appropriate management and mitigation measures integrated into the design and implemented during operation, the project is considered unlikely to have any significant environmental impacts. Detailed studies including air quality, noise, flora and fauna, heritage, land capability, and traffic would be prepared as part of the Environmental Assessment to confirm this.

It is considered that the project conforms with all legislative requirements of State and Council authorities.



1. Introduction

1.1 Overview

GHD has been engaged by Orange City Council (the Proponent), to prepare documentation to support a project application for a Resource Recovery and Waste Management Project (referred thereafter as “the Project”). The Proponent is seeking approval under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

Orange City Council proposes an integrated plan for improved resource recovery and residual waste management with new operations at two separate sites:

- » The existing Ophir Road Resource Recovery Centre (RRC); and
- » The proposed Euchareena Road Resource Recovery Centre (RRC).

The waste management and resource recovery strategy involves five new activities.

1.1.1 New residential waste collection system

A food and garden organics collection service would be provided for residents of Orange City and offered to surrounding LGAs (subject to existing Council waste contract arrangements). Figure 1-1 shows Orange LGA and the surrounding LGAs.

1.1.2 Processing of food /garden organics at the Euchareena Road RRC

Food and garden wastes would be composted at a new facility at the Euchareena Road RRC to produce high grade compost.

1.1.3 Baling of mixed residual waste at the Ophir Road RRC

Mixed residual wastes (with most of the food and garden organics removed) would be delivered to a new facility at the Ophir Road RRC (located in the existing Material Recovery Facility (MRF) building) for recovery of recyclables, and baling of the remaining wastes.

1.1.4 Recovery of dry recyclable materials at the Ophir Road RRC

The existing kerbside recycling system would be maintained, and recyclables would be delivered to a new MRF to be constructed within the Ophir Road RRC.

1.1.5 Disposal of mixed residual waste at Euchareena Road RRC

The bales of mixed residual waste would be transported to the Euchareena Road RRC for disposal in a specially designed landfill. Bulky non-putrescible wastes would be separately transported to the Euchareena Road RRC for landfill disposal.

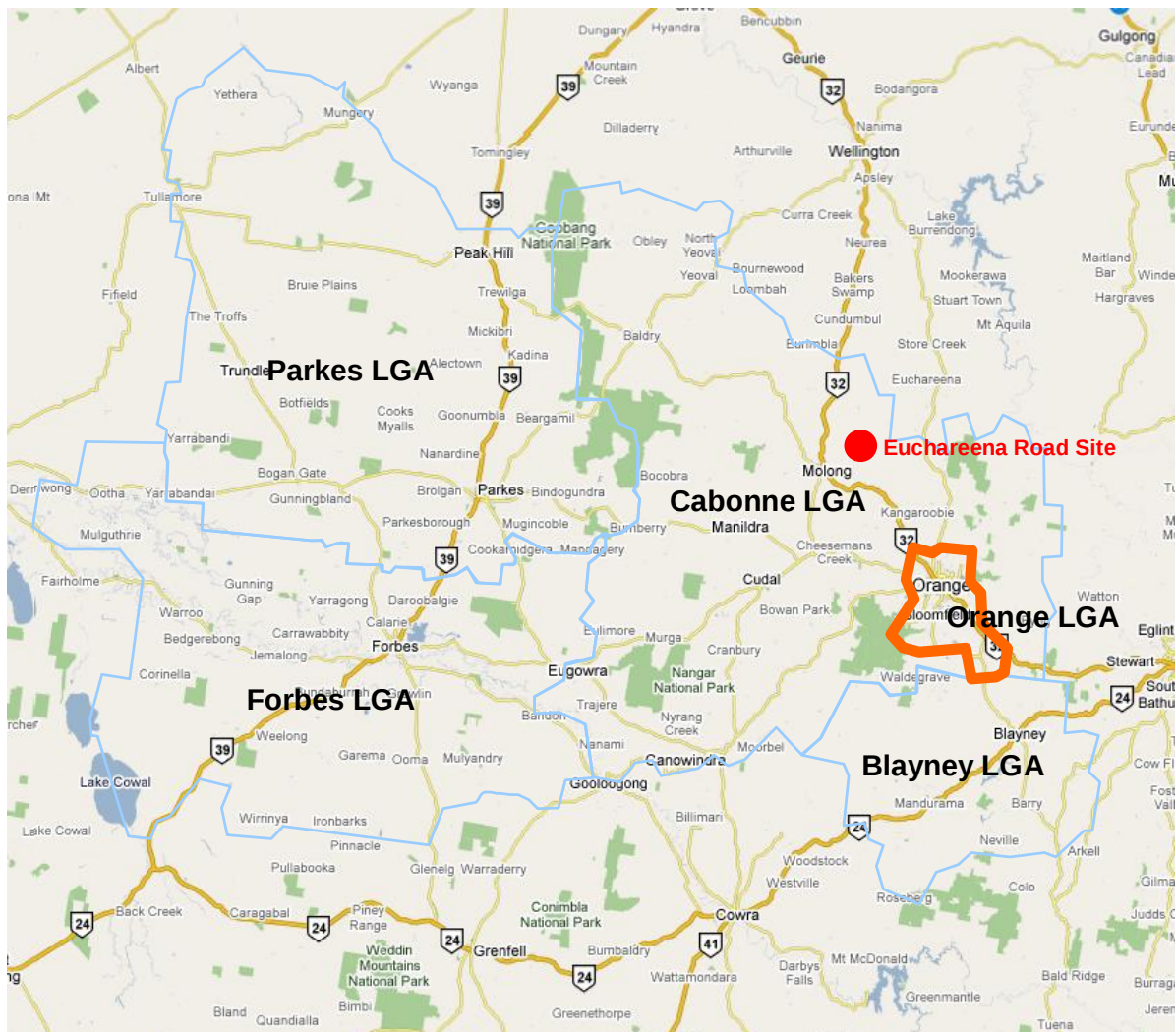


Figure 1-1 Regional Context

1.2 Purpose of this report

The aim of this Preliminary Environmental Assessment (PEA) is to provide the Department of Planning (DoP) with information on the project so that DoP can prepare Director Generals Requirements (DGRs) for the Environmental Assessment (EA) under Part 3A of the EP&A Act. The PEA outlines the approvals process for the project, describes the existing environment, and outlines key issues that need to be addressed in the EA.

1.3 The Proponent

The Proponent for the project described in this PEA is Orange City Council.

The Council (established 1860) is a democratically elected local government body, responsible for providing services to the residential, industrial and commercial community of approximately 40,000 people and to visitors of the city and surrounding areas. The Council provides physical infrastructure as well as environmental, social and cultural services. Furthermore, the Council aims to maintain the



natural heritage of the area and strives to attract appropriate value-adding development and investment into the region.

The inset on Figure 1-2 shows the boundary of the Orange City Local Government Area (LGA) which covers approximately 298 km² and the surrounding boundary limit of the Cabonne LGA, which covers approximately 6,000 km².

Orange City Council is the proponent of this project and owns the land at the Euchareena Road Site. Furthermore, existing and proposed infrastructure at Orange City Council's Ophir Road RRC would be owned and operated by Orange City Council. Both sets of infrastructure are integral to the full scope of the integrated waste management and resource recovery project described in this PEA.

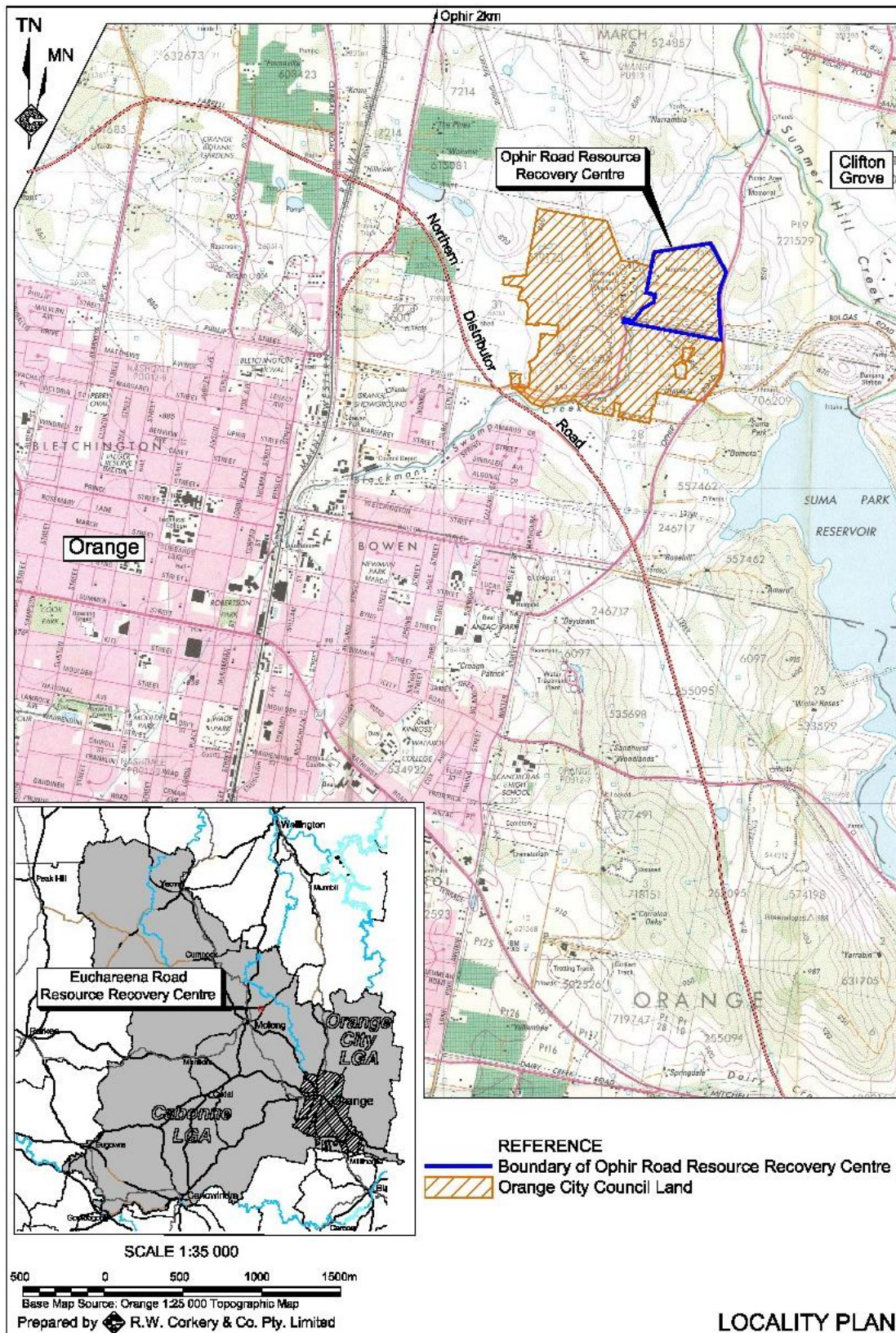


Figure 1-2 Orange LGA



1.4 Background and Context

Recognising the pressing need to provide facilities to manage future waste and resource recovery requirements, Orange City Council (the Proponent) commenced planning and consulting with the community in 1996. After lengthy consideration of alternatives, the Proponent (supported by a joint venture with Cabonne Council) submitted a Development Application (DA) and accompanying Environmental Impact Statement in 2005 for a regional resource reprocessing facility and waste landfill referred to as the “Hub Waste Management Proposal”. This infrastructure was planned to be the centrepiece of a comprehensive waste management plan with substantially increased resource recovery and a basis for future disposal of residual waste following completion of the landfill at the Ophir Road Resource Recovery Centre in Orange.

The DA was assessed by the Department of Planning and the Minister for Planning consented to the DA in January 2007.

The proposal was subsequently challenged in the Land and Environment Court (L&E Court). During the Court hearing, Orange City Council submitted a supplement to the EIS addressing each of the issues before the court. In March 2008, the Court declined to grant development consent for the proposed waste facility. The decision of the Court prompted the Proponent to review the approach it has taken to sustainable waste management and Council commissioned an independent review, by sustainable waste strategy consultant, Tony Wright¹, to consider all aspects of the previous Hub waste management proposal and Council's draft *Solid Waste and Resource Management Policy*. An independent study of alternative sites by Mr Bob Amaral² was also commissioned.

Following this study, the Proponent further developed and modified its draft *Orange and Cabonne Solid Waste and Resource Management Policy* and developed a sustainable waste management and resource recovery strategy. The new strategy responds appropriately to issues raised in the Independent Review and in the L&E Court Judgement with an integrated plan for greatly improved resource recovery and residual waste management with new operations at two separate sites.

1.5 The Need for the Project

There is increasing concern across NSW about the way we, the community, manage our waste – with limited recycling and heavy reliance on burying it in landfills. Aside from wasting potential resources, the impact on the global environment has emerged as a serious consideration.

The need for action is underlined by the limited life of the current landfill at the Ophir Road Resource Recovery Centre. The remaining operational life of the sole landfill in the Orange City Council LGA is approximately 5 years. Orange City Council has recognised the need to plan well ahead for the introduction of waste processing technologies and landfill capacity for residual waste to achieve sustainable long term environmental outcomes.

Cabonne Council has identified that with the exception of the landfill near Eugowra, the landfills throughout its LGA are either already closed or have limited life on existing approvals. Consequently, there is a pressing need for a new facility to service the Cabonne LGA. Over the life of the proposed landfill which forms part of this project, other areas in the region will also see the completion of their

¹ Wright Corporate Strategy Pty Limited. *Independent Review – Hub Waste Management Proposal*. June 2008.

² Robert H Amaral, Consulting Geotechnical/Landfill Engineer – *Site Selection for Central West Facility*. June 2008.



landfills. Other nearby Councils are conscious of the need to accommodate future residual waste and meet current and emerging environmental requirements, and have had discussions with Orange City Council about the proposed waste processing and disposal plans contained in this PEA.

The focus of this project is on introducing a better way to manage community and business wastes and to make services available to nearby LGAs.



2. Planning and Legislative Requirements

2.1 The Project Approval Process

Part 3A of the Environmental Planning and Assessment (EP&A) Act establishes an assessment and approval regime for development that is declared to be a Part 3A project by either a state environmental planning policy (clause 75B(1)(a)) or ministerial order (clause 75B(1)(b)).

Clause 75B(2) specifies the kinds of development that the Minister may declare to be a project to which Part 3A applies:

'(2) Kinds of projects

The following kind of development may be declared to be a project to which this Part applies:

(a) major infrastructure or other development that, in the opinion of the Minister, is of State or regional environmental planning significance,

(b) major infrastructure or other development that is an activity for which the proponent is also the determining authority (within the meaning of Part 5) and that, in the opinion of the proponent, would (but for this Part) require an environmental impact statement to be obtained under that Part.'

On 25 September 2008, the Director General of Planning as delegate for the Minister for Planning, formed the opinion that the proposed Orange Resource Recovery and Waste Management Project is a major project to which Part 3A of the EP&A Act applies. According to section 75D(1), the Minister for Planning is the approval authority for Part 3A projects (a letter from the DoP is provided in Appendix A).

The Proponent is seeking a project approval for the project.

2.2 NSW State Legislation

NSW legislation relevant to the project (in terms of approvals / licences required) and the preparation of the environmental assessment are listed in Table 2-1. A summary of the relevance of each Act and any additional approvals/licences required is provided.

Table 2-1 Relevant NSW legislation

Act	Comment	Approvals/licences required
<i>Protection of the Environment Operations Act 1997</i>	Activities required to obtain a licence under the Act are detailed in Schedule 1. The project satisfies the definitions under clause 39 (waste disposal (application to land)), clause 41 (waste processing (non-thermal treatment)) and clause 42 (waste storage).	An environment protection licence will be required for both sites.



Act	Comment	Approvals/licences required
<i>National Parks and Wildlife Act 1974</i>	Provides the basis for the establishment, preservation and management of national parks, historic sites and certain other areas, and the protection of certain fauna, native plants and Aboriginal relics. Aboriginal heritage issues are considered in Sections 5.10 and 6.11 of this report.	None. A permit under section 87 or a consent under section 90 is not required for Part 3A projects.
<i>Heritage Act 1977</i>	Provides for the protection and conservation of non-Aboriginal cultural heritage, including scheduled heritage items, sites and relics. Cultural heritage issues are considered in Sections 5.10 and 6.11 of this report.	None. An approval under Part 4, or an excavation permit under section 139 is not required for Part 3A projects.
<i>Threatened Species Conservation Act 1995</i>	The potential impact of the project on matters covered by this Act will be considered by the flora and fauna assessment to be undertaken as part of the environmental assessment (refer Sections 5.10 and 6.11).	None.
<i>Roads Act 1993</i>	Consent is required under this Act for various activities affecting public and classified roads. The project would involve road upgrading works and the construction of an intersection at the site entrance from Euchareena Road and as works to upgrade an intersection on the Mitchell Highway.	An approval is required under Section 138 to undertake works involving a public road.
<i>Water Act 1912</i>	The project would involve the sinking of bores on the adjoining 'Copper Hill' property to enable extraction of groundwater for use on site.	A licence as prescribed under Section 112 is required.

2.3 Commonwealth Environment Protection and Biodiversity Conservation Act 1999

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) prescribes the Commonwealth's role in environmental assessment, biodiversity conservation and the management of protected areas and species, populations and communities and heritage items.

The approval of the Commonwealth is required for:

- » An action which has, will have or is likely to have a significant impact on 'matters of national environmental significance';



- » An action by the Commonwealth or a Commonwealth agency which has, will have or is likely to have a significant impact on the environment;
- » An action on Commonwealth land which has, will have or is likely to have a significant impact on the environment; or
- » An action which has, will have or is likely to have a significant impact on the environment on Commonwealth land, no matter where it is to be carried out.

Matters of national environmental significance

Matters of national environmental significance are considered below:

- » Listed threatened species and communities;
- » Listed migratory species;
- » Ramsar wetlands of international importance;
- » The Commonwealth marine environment;
- » World Heritage properties;
- » National Heritage places; and
- » Nuclear actions.

Approval under the EPBC Act was required for the previous proposal for the Euchareena Road site, as it was declared to be a 'controlled action' (EBPC Reference 2001/783) on 25 September 2002 based on Sections 18 and 18A (listed threatened species and communities, i.e. Grassy White Box Woodlands) and Sections 20 and 20A (listed migratory species) of the Act. A referral in accordance with the EPBC Act will therefore be submitted to the Commonwealth to determine whether the new project will be declared to be a controlled action.

2.4 State Environmental Planning Policies

The following State environmental planning policies are relevant to the project and would be considered within the environmental assessment.

- » State Environmental Planning Policy No. 33 – Hazardous and Offensive Development;
- » State Environmental Planning Policy No. 44 – Koala Habitat Protection; and
- » State Environmental Planning Policy No. 55 – Remediation of Land.

2.5 Regional Environmental Planning Policies

There are no statutory regional plans that relate to the Project, however, the Netwaste Regional Resource Management Plan (RRMP), which has been adopted by Orange City Council, incorporates a range of objectives and actions that are directly linked to the Project described in this document.

The RRMP outlines the following five programs together with a range of associated actions, a number of which are directly related to the Orange City and surrounding Local Government Areas.

1. Regional Profile and Waste Characterisation
2. Council Services



3. Waste Management and Infrastructure
4. Litter Management
5. Education

A major focus of the actions outlined within the RRMP is the promotion of local councils working collaboratively on both a subregional and regional level as highlighted by the success of existing collaborative efforts between Blayney, Cabonne, Forbes, Orange and Parkes Councils to establish a 10 year contract for collection of municipal solid waste and recyclables.

A full copy of the RRMP is provided on the NetWaste website (www.netwaste.org.au).

2.6 Local Environmental Planning Instruments

The Orange City Local Environmental Plan 2006 (the Orange LEP) applies to the Ophir Road RRC, and the Cabonne Local Environmental Plan 1991 (the Cabonne LEP) applies to the Euchareena Road RRC.

Application of the LEPs to the project is considered below.

2.6.1 Orange Local Environmental Plan 2006

Site zoning and permissibility

The Ophir Road RCC site is zoned 5 (a) Public Purposes. The objectives and development consent provisions of the zone as stated by clause 60 of the Orange LEP are as follows.

'60 General controls for Zone 5 (a) (Public Purposes Zone)

(1) Zone objectives

The objectives of Zone 5 (a) are to identify land used or required to be used for a public purpose, including uses undertaken by, on behalf of, or under the authority of a public authority, and to identify land which is used for a purpose which has specific land use requirements not otherwise provided for in adjoining zones.

(2) In Zone 5 (a), the following:

(a) is allowed without consent:

Development for the purpose of:

agriculture

Exempt development,

Use of a building lawfully erected for, or ancillary to, the particular land use specified on the map.

(b) is allowed only with consent:

Subdivision

Development for the purpose of:

advertisements associated with the use of the land

car parks

communication facilities

dams

land shaping

public buildings

recreation areas

roads

the particular land use specified on the map

utility installations'

As the project is consistent with the particular use specified on the map (waste management), it would be permissible with consent.



Other relevant clauses

The zoning map indicates that the Ophir Road RRC site falls within 'land subject to special clause provisions', and that the land is a 'control area for development in the vicinity of major industry and utility installations'. Clause 14 of the LEP (included below) includes a number of issues that must be considered when assessing a development application for land within this area.

14 Development in the vicinity of major industry and utility installations

Before determining an application for consent to development in or within the area shown on the map by red hatching, the consent authority must consider the suitability of the development in relation to:

- (a) the prospective effects of odour, noise, dust, fumes and visibility from any offensive industries, utility installations, waste disposal areas or extractive industries in the vicinity, and*
- (b) the effectiveness of all measures employed and proposed to be employed according to the best available technology (not entailing excessive cost) to reduce or minimise the impact of offensive industries, utility installations, waste disposal areas or extractive industries in the vicinity.*

As a result of this clause, the consent authority is required to consider the following in relation to the project:

- » Air quality and odour impacts;
- » Visual impacts; and
- » The effectiveness of the mitigation measures proposed to minimise the impact of the project.

These issues will be considered within the environmental assessment. Further information is provided in Sections 5.10 and 6.11.

2.6.2 Cabonne Local Environmental Plan 1991

Site zoning and permissibility

The Euchareena Road RRC site is zoned General Rural 1 (a). The objectives of the zone as stated by the LEP are as follows:

'The objective of this zone is to promote the proper management and utilisation of resources by:

(a) protecting, enhancing and conserving:

- (i) agricultural land in a manner which sustains its efficient and effective agricultural production potential,*
- (ii) soil stability by controlling and locating development in accordance with soil capability,*
- (iii) forests of existing and potential commercial value for timber production,*
- (iv) valuable deposits of minerals, coal, petroleum and extractive materials by controlling the location of development for other purposes in order to ensure the efficient extraction of those deposits,*
- (v) trees and other vegetation in environmentally sensitive areas where the conservation of the vegetation is significant to scenic amenity or natural wildlife habitat or is likely to control land degradation,*
- (vi) water resources for use in the public interest,*
- (vii) areas of significance for nature conservation, including areas with rare plants, wetlands and significant habitat, and*
- (viii) places and buildings of archaeological or heritage significance, including the protection of Aboriginal relics and places,*

(b) preventing the unjustified development of prime crop and pasture land for purposes other than agriculture,



- (c) ensuring that any allotment created for intensive agricultural purposes is potentially and physically capable, on its own, of sustaining a range of such purposes or other agricultural purposes as a commercial agricultural operation suitable to the locality,
- (d) facilitating farm adjustments,
- (e) minimising the cost to the community of:
 - (i) fragmented and isolated development of rural land, and
 - (ii) providing, extending and maintaining public amenities and services,
- (f) providing land for future urban development, for rural residential development and for development for other non-agricultural purposes, in accordance with the need for that development,
- (g) providing for a range of rural living styles in appropriate locations within the area to which this plan applies, and
- (h) encouraging the establishment of rural and related industries within the area to which this plan applies.'

The development consent provisions for zone 1(a) are provided below.

2 Without development consent

Agriculture (other than dwellings and intensive livestock keeping); forestry (other than ancillary dwellings and plantation forests).

3 Only with development consent

Any purpose other than a purpose included in item 2 or 4.

4 Prohibited

Motor showrooms; residential flat buildings; shops (other than general stores, wineries or craft shops).'

As the project is not a purpose included in item 2 or 4, it is permissible with consent.

Other relevant clauses

Clause 10 of the LEP (reproduced below) includes a number of issues that must be considered when assessing a development application for land within zone 1(a). The clause also includes a requirement that consent shall not be granted unless Council is satisfied that the provisions of clause 10 are met.

'10 General considerations for development within rural zones

(1) The Council shall not consent to an application to carry out development on land within Zone No 1 (a), 1 (c) or 7 (c) unless it has made an assessment, where relevant, of the effect of the carrying out of that development on:

- (a) the present and potential use of the land for the purposes of agriculture,*
- (b) vegetation, timber production, land capability (including soil resources and soil stability), water resources (including the quality and stability of water courses and ground water storage and riparian rights),*
- (c) the future recovery of known or prospective areas of valuable deposits of minerals, coal, petroleum, sand gravel or other extractive materials,*
- (d) the protection of areas of significance for nature conservation or of high scenic or recreational value, and places and buildings of archaeological or heritage significance, including aboriginal relics and places,*
- (e) the cost of providing, extending and maintaining public amenities and services to the development, and*
- (f) future expansion of settlements in the vicinity,*

and the Council is satisfied that the development will not have an adverse effect on the long term use, for sustained agricultural production, of any prime crop and pasture land.



(2) In assessing the effect referred to in subclause (1), the Council shall have regard not only to the land the subject of the application but also to land in the vicinity.'

Further information is provided in Section 6.11 of this report. The issues identification section of the EA will address both land capability and agricultural stability, which are relevant to the issues listed in the clause above in the context of the proposed development, and takes adjoining land into account.



3. Project Need and Waste Management Strategy

3.1 Resource Recovery Activities

Current resource recovery activities include the following.

Dry Recyclables: Fortnightly kerbside collection service and recyclables drop-off points at waste management facilities. The Ophir Road RRC is the regional centre for recycling and processes recyclables from Cabonne, Forbes, Parkes, Blayney and Bathurst. MRF residuals are disposed of to the on-site landfill.

Garden waste: More than 4,500 tonnes per year of self-hauled garden waste from Orange LGA is diverted from landfill to create mulch, which is sold direct to community members or used by Council.

Scrap steel, furniture, white goods, etc: Recyclable industrial/commercial materials are recovered for sale at the Ophir Road RRC and the Recovery Shop.

DrumMUSTER: Drop-off points are located at Ophir Road RRC and in various surrounding towns. Both Orange City and Cabonne Councils sponsor this activity.

Household chemical collection: Collection programs are conducted from specified drop-off points. This activity is sponsored by NetWaste.

Used oil collection: Drop-off points are located at the Ophir Road RRC and various surrounding towns.

3.2 Regional Partnerships

Orange City Council is the anchor Council of NetWaste, the Central and Western Regions collaborative waste management group which comprises 28 local councils, covering a total area of 412,308 square kilometres. NetWaste is funded by the NSW Department of Environment and Climate Change and regarded as one of the leading regional waste groups.

As part of its commitment to regional cooperation, Orange City Council has long provided waste disposal and resource recovery services for surrounding regional Councils.

- » Five LGAs currently take advantage of the MRF at the Ophir Road RRC for sorting of kerbside collected recyclables (Cabonne, Forbes, Parkes, Blayney, and Bathurst). Process residuals of around 3,200 tonnes per year are currently sent to the landfill at the Ophir Road RRC and would in future be transferred to the landfill at the Euchareena Road RRC for disposal.
- » Waste for direct disposal to landfill is routinely received at the Ophir Road RRC from other regional areas. Cabonne Council is an important client, with a waste disposal service provided for rural subdivisions in the Cabonne Ward northeast of Orange. Waste is also received from other regional Councils and commercial waste contractors, including Bathurst and Blayney, from which waste is received on special contract. This amounts to around 1,500 tonnes per year.

It is proposed that existing regional service arrangements will continue and be further developed at the proposed Euchareena Road RRC (see Part 6).



3.3 Landfill Capacity

Despite the advanced resource recovery initiatives proposed in the Strategy, access to additional landfill capacity is required within the next 5 years, to provide disposal for non-recoverable wastes. Following project approval, a period of at least 2 to 3 years will be needed for Council to seek tenders for alternative waste technology (AWT) facilities and build / commission a new facility. As soon as new facilities are available, the landfill at the Ophir Road RRC will be reduced to a small capacity operation, which would be retained for local asbestos and animal disposal.

Experience has shown Orange City Council, and other jurisdictions, that a timeframe of up to 10 years is often needed to complete the complex site acquisition, planning, approvals, and development process for a new landfill facility. Council is now well advanced in its project process and there would be considerable risk associated with delaying access to new landfill capacity.

3.4 The 2005 Development Proposal

The 2005 proposal was based on the premise of progressively implementing resource recovery initiatives in line with the development of waste processing technologies. The intention was set out in the proposal that AWT processing would be the centrepiece of the scheme, to be supplemented by improved kerbside recycling and business waste recycling. Because few AWT facilities had been developed to a fully commercialised status, Council was cautious about specifying a technology type at the time of preparing the proposal in 2005.

Experience gained in NSW regional areas such as Port Macquarie, Port Stephens and Coffs Harbour has enabled the Proponent to develop a better understanding of the most suitable types of technologies for regional areas. It has also prepared a clear, sustainable waste management and resource recovery strategy for Orange that takes into account the findings of the Hub Land and Environment Court case and addresses the issues raised. The independent review³ of the previous waste management strategy by Wright Corporate Strategy has provided further guidance in this regard.

3.5 Issues Raised in the Land and Environment Court Judgement

The Land and Environment Court judgement included four key reasons why the 2005 proposed development on the proposed site was not approved.

- » Adverse effect on the long-term use of prime crop and pastureland zoned General Rural under the *Cabonne Local Environment Plan 1991*.
- » Adverse effect on the sustained use of adjoining land for beekeeping. In particular, the Court viewed risk of American Foul Brood infection and a separate food safety risk as not consistent with the principles of ecologically sustainable development (ESD).
- » Failure to include in the development proposal the critical Stage 2, which comprises construction of a proposed AWT facility. The AWT was described in broad concept terms and was to be the subject of a further approval when a suitable class of AWT had been determined. The Court reasoned that the omission of a specific and detailed Stage 2 proposal prevented approval of Stage 3, because Stage 3 includes *operation* of the AWT which would clearly not have been approved by the Court in the absence of Stage 2.

³ *Op Cit.*



- » The necessary off-site waste minimisation actions may not be able to be enforced by conditions placed on a development consent that is necessarily limited to the proposed site development.

Each of these issues is addressed below, together with Council's plans to resolve the issue as part of the new waste management and resource recovery strategy.

3.5.1 Issue 1. Long Term Use of Prime Crop and Pasture Land

The majority of the Euchareena Road site is classified as Class 3 under the NSW agricultural land classification system. This is consistent with the Class 1, 2, or 3 classification of much of the land within a 40 km radius of Orange.

Council's Response

The independent review of the Hub waste management proposal (referred to above) included review of potential waste management sites in a comprehensive assessment of the availability of sites other than the Euchareena Road site on which to conduct resource recovery and waste disposal operations. Three broad possibilities were assessed. Each approach is described briefly below and covered more fully at *Chapter 7. Alternatives Considered*:

(a) Locate an alternative landfill and resource recovery site

An independent study of potential sites was undertaken by Robert Amaral. The study confirmed the suitability and merit of the Euchareena Road Site for waste processing and disposal. In an effort to further test alternative site possibilities, in December 2008 Council issued a public call for expressions of interest from the community for land that might be suitable for a waste management and resource recovery site. Council deliberately avoided specifying restrictive criteria, with the objective of gaining the widest possible array of potential sites. Council received only four responses to its public call as at the end of the expression of interest period. And, despite the broad selection criteria published in the registration form, none of the sites proposed qualified as suitable.

(b) Consolidate all operations at Orange

The scope to conduct AWT operations and continue waste disposal at the Ophir Road RRC was raised as a possibility during the Court case. However, the landfill is approaching its ultimate capacity and with other resource recovery operations already taking up much of the above ground space at the site, insufficient space is available for an AWT facility.

(c) Alternative regional landfill possibilities

A further alternative is to make use of an existing landfill already in operation at a regional centre such as Dubbo or Woodlawn, near Goulburn. This scheme is disadvantaged by the transport distances involved and the probable need for the landfill host to gain appropriate statutory approvals. The scheme would also leave Orange City Council open to landfill practices, future resource recovery and gate pricing over which it would have only limited control or recourse. This option would not assist Orange City Council in achieving the State waste avoidance and resource recovery targets.

3.5.2 Issue 2. Mitigation of Potential Issues Associated with Beekeeping

The Court identified two separate risk categories relating to possible impacts of the proposal: a biosecurity risk arising from a disease, known as American Foul Brood (AFB) which can infest and destroy bee hive populations; and a food safety risk arising from the risk that honey bees from nearby



apiaries may forage in the landfill for propolis, a natural material used in hive construction. It is supposed that bees from apiaries near landfill sites may choose resin-like waste substances, including chemicals, in lieu of natural plant resins.

The Court concluded that the food security risk is significant.

Council's Response

Various options are available to mitigate the potential food security risk to bee keeping. The most certain way to achieve this is by pre-treating at-risk waste in Orange prior to transporting the waste to landfill. This would eliminate access to potential resin-like substances, in particular, honey remnants in honey jars placed in waste bins. Recyclables such as metals, and items unsuitable for baling, would be removed and the remaining wastes would be baled and enclosed in heavy duty plastic bags.

This would prevent any bees in the vicinity of Euchareena Road from accessing discarded honey jars. Material unsuitable for baling would comprise bulky items (such as from construction and demolition and commercial and industrial waste) with limited impact on food quality and would be disposed of at the Euchareena Road RRC under controlled conditions and covered immediately.

3.5.3 Issue 3. Concrete Basis for Assessment of Resource Recovery Facilities

The original DA, as approved by the Minister, did not include a proposal for a specific waste technology (AWT) facility as this was to be the subject of a further application when a suitable class of AWT had been determined.

Council's Response

In its 2005 EIS and 2007 EIS Supplement, Orange City Council committed to waste processing using an AWT facility. However, the final determination of which AWT class to adopt was postponed pending detailed consideration of the relative merits and practice difficulties with various AWT classes which at the time were still unproven. Council is now in a position to nominate the class of AWT scheme to be adopted. The selected scheme is enclosed composting, which would treat feedstock derived from a new food waste/garden waste kerbside collection service as well as source-separated food waste from the business sector.

This enclosed composting process would be undertaken at the Euchareena Road site.

3.5.4 Issue 4. Enforcement of Key Off-Site Waste Minimisation Strategy Initiatives

The Court reasoned that it was not feasible to provide conditions for off-site resource recovery/ waste minimisation initiatives, as the original DA referred only to the Euchareena Road site.

Council Response

Council requests assessment of the project on the basis that it covers the complete waste management and resource recovery strategy. The project incorporates activities to be developed at both the Ophir Road RRC and the proposed Euchareena Road RRC. All new project components are sufficiently defined to be considered for approval. Thus approval conditions could be framed to cover the entire waste management and resource recovery strategy. The project identifies 450,000 tonnes of waste that would be sourced regionally throughout the life of the Euchareena Road RRC. This quantity of waste can be supported by waste audits from other areas, local government or LGAs.



3.6 Sustainable Waste Management Strategy

The key initiatives that form the base of the strategy were described at Part 1.1. The principles and objectives are described here.

3.6.1 Stewardship Principles

Orange City Council's strategy aims to increase diversion from landfill as beneficial resource recovery – from the current 20% to 55% by 2011. It contains the following waste stewardship principles:

- » Waste is a potential resource that should be managed as an asset rather than a liability.
- » Waste should only be landfilled if it cannot be diverted, reused or reprocessed.
- » Landfill space should be conserved and efficiently managed as a community resource.
- » Pricing should be used to maximise source separation and discourage receipt of mixed waste loads, where reasonably avoidable.
- » Policies should be implemented in such a way that they do not cause increases in illegal dumping or economic dislocation.

The strategy will put Orange City Council and other surrounding LGAs in the area well ahead of most other rural LGAs in NSW and contribute to accomplishing the resource recovery objectives of the NSW *Waste Avoidance and Resource Recovery Strategy 2007*.

3.6.2 Planned Further Resource Recovery Initiatives

As part of the waste strategy, a number of resource recovery initiatives would be introduced.

- » Improved kerbside recycling participation and reduced contamination to achieve a 10% increase in recovery of kerbside recyclables diverted from landfill.
- » Introduction of a new kerbside collection service for source separated food waste together with garden waste to be processed by enclosed composting, to create high quality marketable compost products.
- » Differential landfill gate pricing will continue to encourage source separation of business dry waste and putrescible (especially food) wastes. This is expected to result in improved resource recovery and diversion of C&I food waste and dry waste with an aim to divert 47% of C&I waste generated (inclusive of VEM).
- » Waste management plans for building consents and gate pricing to achieve 48% diversion of C&D waste (inclusive of VEM).
- » Landfill gate price incentives to bring about 60% diversion and recovery of VEM.
- » Waste minimisation through increased home composting and public place recycling opportunities.

3.6.3 Overview of New Project

Orange City Council proposes an integrated resource recovery and waste management scheme that promises to be a model for sustainable regional waste management. Further, Council proposes to offer the integrated service to all surrounding Councils and commercial waste generators, the project comprises the following waste management and resource recovery activities:



- » AWT processing of food/garden waste at the Euchareena Road RRC;
- » Receipt of (putrescible) mixed residual waste at the Ophir Road RRC for baling, followed by transfer to the Euchareena Road RRC for disposal at the landfill on that site;
- » Continuation of regional material recovery service for kerbside collected recyclables at the Ophir Road RRC, with additional recycling from pre-treatment of mixed residual waste. Residual materials will be baled and transferred to the Euchareena Road RRC for disposal to landfill;
- » Acceptance of baled mixed waste from surrounding LGAs which is baled at other locations; and
- » Receipt and disposal at the Euchareena Road RRC of (non-putrescible) waste from which no further value can be extracted. This service will mainly cater for regional commercial waste contractors, but would also be available to all surrounding Councils.

3.6.4 Role of the Euchareena Road Resource Recovery Centre (RRC)

Orange City Council has a vision that the Euchareena Road RRC will be the regional centrepiece for waste services for all Councils in the Central West subregion and will be an important destination for regional commercial waste.

It is proposed to offer access to the proposed food/garden waste processing service to other Councils. This will support attainment of the State waste diversion targets by these smaller Councils that do not have the critical mass for cost-effective waste processing. Informal discussions with a number of regional Councils have indicated that the regional food / garden waste processing service will be attractive and of considerable value to regional Councils. Process residual materials would be disposed of at the landfill within the Euchareena Road RRC.

Orange City Council also proposes that the landfill at the Euchareena Road RRC will be available to receive baled mixed residual waste from other LGAs. Council has held informal discussions with a number of regional Councils on their interest in sending mixed residual waste (baled) to this landfill for disposal. With food waste / garden waste processed at the Euchareena Road RRC, these smaller Councils could either close their non-licensed landfills or restrict the putrescible waste delivered to their existing facilities by either sending mixed residual waste to the Ophir Road RRC for baling or baling the waste in their own LGAs and transferring it to the Euchareena Road RRC for disposal.

Informally, Orange City Council has received positive indications of interest in taking up the full-integrated waste service arrangement. This is entirely consistent with the NSW *Waste Avoidance and Resource Recovery Strategy* 2007, the Netwaste Regional Resource Management Plan and Netwaste Central Subregional Management Plan.

Further, Orange City Council proposes to offer regional commercial waste contractors the opportunity to deliver commercial, non-putrescible waste to the landfill at the Euchareena Road RRC.

3.7 Details of Proposed Project

3.7.1 New Residential Waste Collection System

A new residential kerbside collection service would be introduced by Orange City Council for source-separated food waste and garden waste. This may be a weekly collection (seasonal variation) (subject to further investigation). Neither resource is currently collected as a separate waste stream in Orange City,



Cabonne or surrounding LGAs. Current kerbside recycling collections of paper and containers would continue, with these materials being delivered to a new material recovery facility (MRF) at the Ophir Road RRC.

The current residential garbage (mixed waste) collection system would continue in Orange City Council areas, but it is expected that the amount of food and other putrescible materials present in the waste stream would be much reduced. Hence, the residual waste collection may be able to be scaled back from weekly to fortnightly (subject to further investigation). Adjusting the frequency of these two services would minimise the cost impacts of introducing an organics collection service in Orange City Council.

Waste collection arrangements in surrounding LGAs will depend upon decisions made by the Councils. Ideally they will be aligned with those in Orange, which would enable food and garden organics from the joint collection contract Councils⁴ to be separately collected from residual wastes.

3.7.2 Processing of food /garden organics at the Euchareena Road Resource Recovery Centre

The use of alternative waste technology (AWT), to recover organics, and divert waste from landfill, is a core initiative of the waste strategy. An AWT facility located at the Euchareena Road RCC would process source-separated food waste/garden waste using an enclosed composting technology. This would produce a high quality compost product.

Since this compost will be produced to meet Grade A compost standards, it would be able to be marketed to residents and local agriculturalists as an alternative to chemical fertilisers. Experience in separated organics composting plants at Port Macquarie and Coffs Harbour indicates that there is a sustainable market for this type of compost. Biosolids from the Orange City wastewater treatment plant would also be able to be added to the plant in-feed, to enhance compost qualities.

Further resource feedstock could also be gained by providing financial incentives to the Orange City business sector for source separation of food wastes.

Access to the proposed organics processing service would be offered to other regional councils. Orange City Council currently provides sorting of kerbside collected municipal recyclables for five nearby Councils. There is provision in the current collection contracts for source-separated food waste and garden waste collection services to be introduced to the other regional councils. These councils would have the opportunity of improving their resource recovery and reducing waste sent to landfill through similar arrangements. This would support attainment of the State waste diversion targets by these smaller Councils.

3.7.3 Baling of Mixed Residual Waste at Ophir Road Resource Recovery Centre

With relocation of the existing MRF to a new building on the site, a resource recovery and mixed waste baling operation would be established in the existing MRF building at the Ophir Road RRC.

All mixed residual waste collected with putrescible content would be directed to this facility, where metals and other materials of value, and objects unsuitable for baling would be recovered from the waste stream, before the material is baled. The compacted bales would be covered and stored inside and outside the building until they could be loaded by forklift onto a flat-bed truck, for transport to the Euchareena Road RRC.

⁴ Parkes, Forbes, Blayney, Cabonne have collection contracts and may seek to continue with these beyond the existing contracts.



Garbage compactor trucks collecting residential mixed wastes and commercial waste compactor trucks collecting waste suitable for baling would reverse into the building and unload their contents onto the floor near the baling plant infeed hopper. Equipment would then be used to extract metals, hard waste, car batteries, construction and demolition wastes and other wastes unsuitable for baling. Metals would be placed in recycling skips, and other materials in residual waste skips.

Car batteries would be placed in a suitably banded area until recyclers can collect them. Metals and other recyclables would be taken to the existing waste transfer station on the site and consolidated with the same materials collected there. The residual waste skip would be periodically emptied using a forklift, into a large bulk roll-on / roll-off bin, for transport to the Euchareena Road RRC.

The baling equipment would be maintained at night, so that it can be used uninterrupted during the day. The equipment would be sized so that it does not need to operate continuously during the day, but can be shut down for minor repairs if necessary. Two baling units would be installed to ensure that the waste baling service continues uninterrupted during major shutdowns such as annual maintenance (one unit would operate while the other unit is shut down for maintenance, and vice versa). The design of the layout of the baling building would provide sufficient space for a mobile baler to operate.

3.7.4 Recovery of Dry Recyclable Materials – Ophir Road Resource Recovery Centre

Orange City Council currently operates an extensive Materials Recovery Facility (MRF) at the Ophir Road RRC servicing kerbside collected municipal recyclables from Orange as well as five surrounding LGAs. This would continue in a new MRF building constructed at the Ophir Road RRC, with resource recovery levels boosted through new sorting equipment (subject to a new recycling contract being negotiated), and provision of a kerbside service to small businesses and a campaign to improve domestic kerbside participation.

To increase the recovery of commercial waste, Council would provide initiatives to the business sector to progressively increase sorting and recovery of dry waste, including paper/cardboard, timber, plastics and metals.

MRF process residuals would be taken to the baling building for disposal with other mixed residual wastes, baled (if suitable), and transported to the Euchareena Road RRC for disposal.

3.7.5 Disposal of Mixed Residual Waste – Euchareena Road RRC

Baled waste received at the Euchareena Road RRC would be placed in the landfill at that centre. Access to disposal services would be made available to other regional Councils subject to prescribed baling arrangements.

Transfer facilities would be provided at the Ophir Road RRC for small loads of residual waste not direct-hauled to the Euchareena Road RRC. The existing waste transfer station at the Ophir Road RRC, which is used by local residents and businesses, would continue to operate as it does currently.



4. Waste Sources and Volumes

4.1 Current Waste Management Statistics

Orange City Council operates a domestic waste collection service and a kerbside recyclables collection service. The Ophir Road Resource Recovery Centre (RRC) receives recyclables for sorting, and self-hauled garden waste, which is processed and sold. The on-site landfill provides for disposal of municipal, commercial and industrial (C&I), and construction and demolition (C&D) waste. A recovered resource shop at the centre sells used and salvaged products and materials.

Recent waste and resource recovery statistics for Orange City Council are set out in Table 4-1.

Table 4-1 Orange City Waste and Resource Recovery Position (2007/08)

	Municipal (tonnes)	C&I (tonnes)	B&D (tonnes)	Total (tonnes)
Waste Generated	31,970	20,730	14,974	67,674
Waste Diverted for Recovery	12,150 (38%)	861 (4%)	180 (1%)	13,191 (19%)
Dry Materials Recycling	3,340	0		3,340
Recovered Materials (RRC recycling)	610	390	180	1,180
Green Waste Processed	4,550	471		5,021
Biosolids Recovery	3,650	0		3,650
Waste Disposal to Landfill	19,820	19,869	14,794	54,483

Source: Orange City Council. *Draft Orange and Cabonne Solid Waste and Resource Management Policy – 2007/2047.*

4.2 Future Waste and Resource Recovery Position

The expected waste and resource recovery position for Orange (based on 2007/08 data) is set out in Table 4-2.



Table 4-2 Orange City Estimated Future Waste and Resource Recovery Position*

	Municipal (tonnes)	C&I (tonnes)	B&D (tonnes)	Total (tonnes)
Waste Generated	31,970	20,730	14,974	67,674
Waste Diverted from landfill	22,896 (72%)	9,067 (44%)	5,900 (39%)	37,863 (56%)
Dry Materials Recycling	4,140	2,070	1,840	8,050
Recovered Materials (RRC recycling)	200	125	60	385
Green Waste	4,550	471	0	5,021
Biosolids Recovery	3,650	0	0	3,650
50% VEM Recovery	25	4,000	4,000	8,025
Resource Reprocessing	10,331	2,401	0	12,732
Waste Disposal to Landfill	9,074	11,663	9,074	29,811
Source: Orange City Council.				* Based on 2007/2008 data

Waste flows based on 2007/8 data are shown in Figure 4-1.

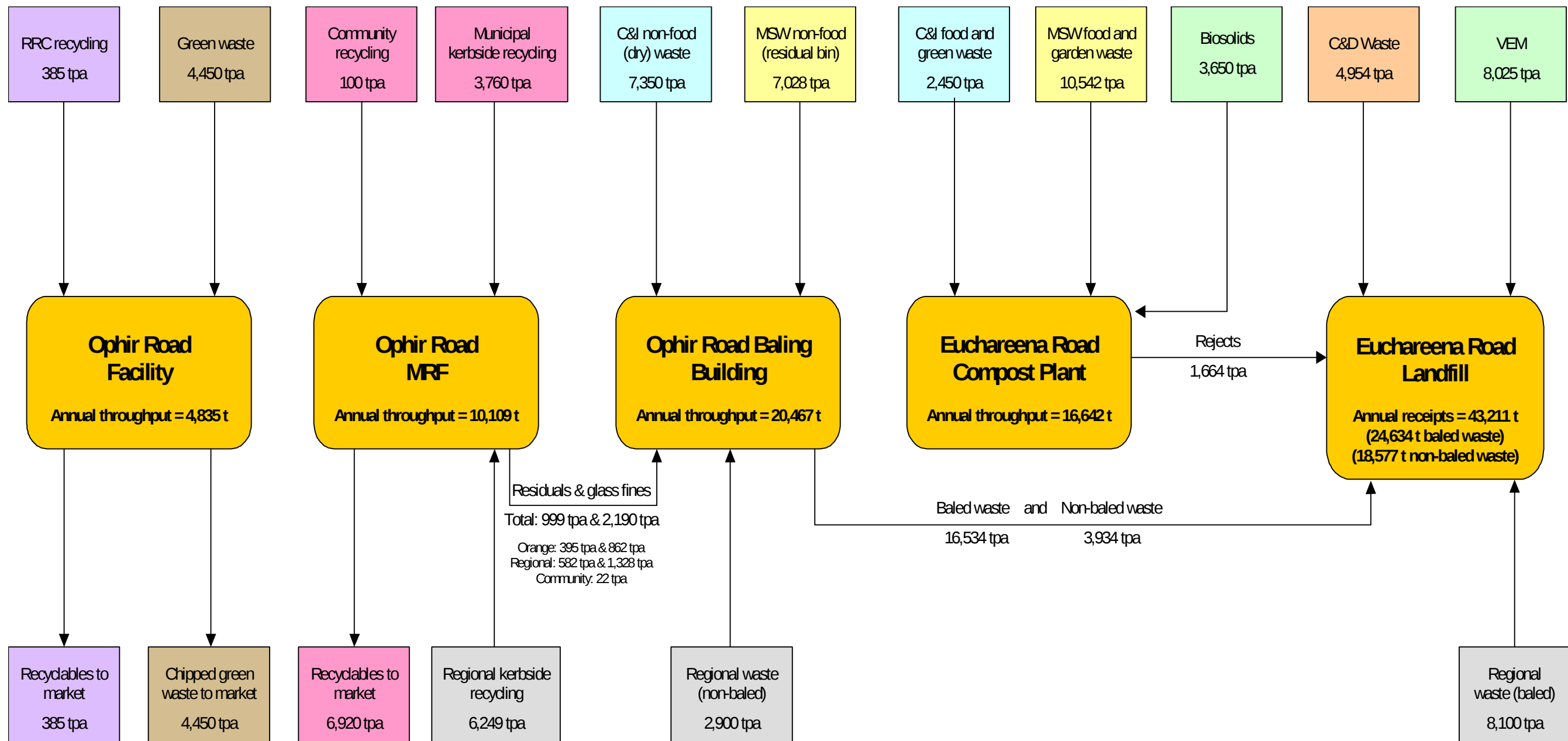


Figure 4-1 Future Waste Flows Resulting from the Project

5. Ophir Road Resource Recovery Centre

5.1 Site Description and Existing Facilities

5.1.1 Site Description

The existing Ophir Road RRC is located approximately 5 km to the north east of Orange CBD as illustrated in Figure 5-3. It comprises a number of allotments as outlined below and as illustrated in Figure 5-1. This area is referred to throughout this document as the 'Ophir Road Site'.

- » Lots 22 and 23 DP 229513;
- » Lots 2, 3, 4, 5, 7 and 8 DP 221529;
- » Lots 102 and 103 DP 1113653; and
- » Part of Lot 61 DP 790515 to the left of the western side boundary.

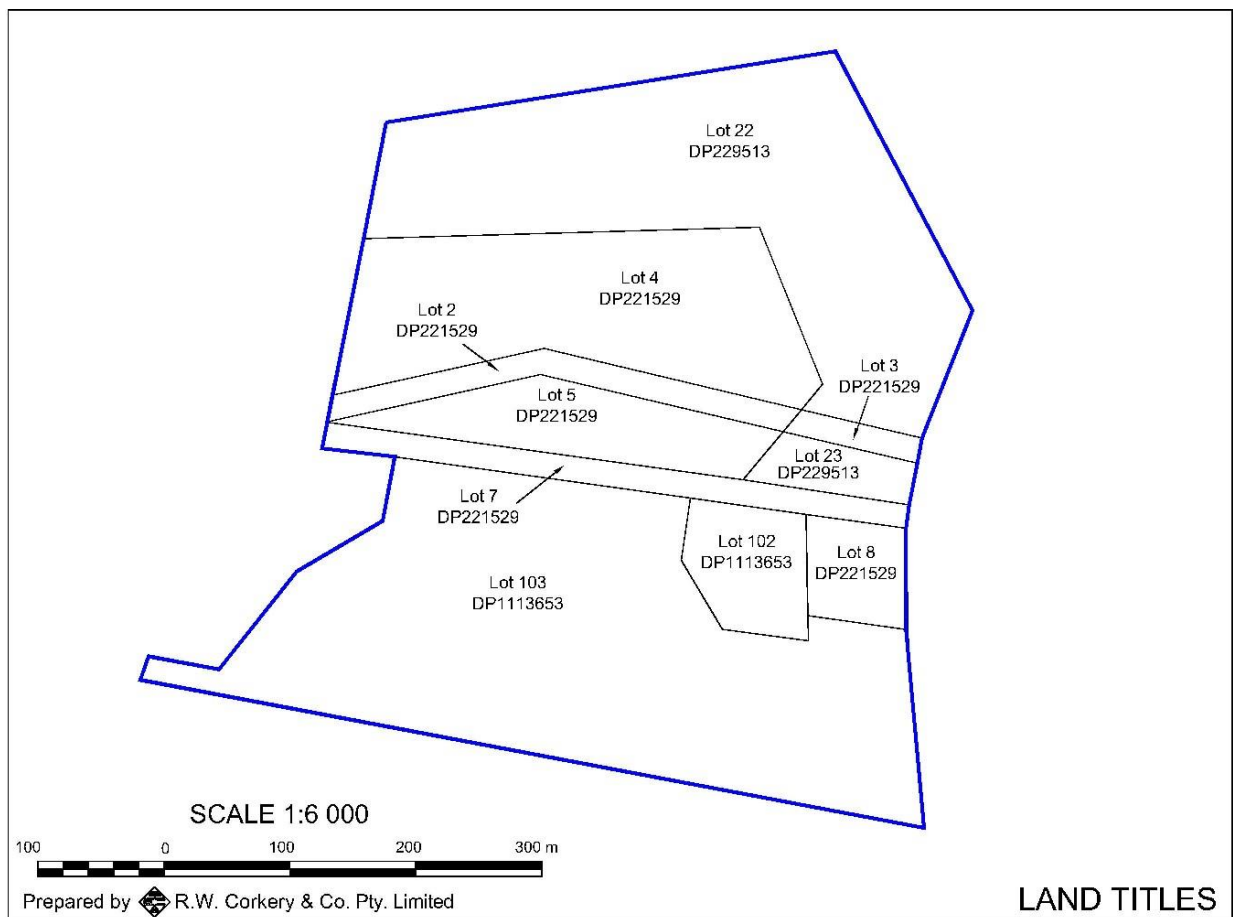


Figure 5-1 Site Ownership



5.1.2 Existing Facilities

The Ophir Road Site has an overall area of 25.36 ha⁵ and is bounded to the east by Ophir Road, the south by rural-residential land, the west by Blackmans Swamp Creek, beyond which is the Orange sewage treatment plant, and the north by Charles Sturt University land. The site is owned by Orange City Council and the Ophir Road RRC has been in operation since the 1960s⁶ with a number of alterations occurring to the facility over time.

The following outlines the existing improvements on site, with Figure 5-2 providing an illustration of such.

- » Weighbridge (installed in 1998);
- » Truck maintenance facility, including a truck wash down bay;
- » Truck garages (used by the contractors for storage of the garbage collection trucks when not in use);
- » Materials Recovery Facility (MRF) (installed in 2005);
- » Green waste chipping area, with material to either be sold to the public or reused on site;
- » Scrap metal storage area for collection;
- » Public Waste Transfer Station (established in 1998);
- » Recovery Shop which is managed by a community group and sells second hand goods such as clothes, glassware, jars, furniture and computers which are diverted from the waste stream;
- » Visitor / learning program and tourist facility which includes community sculptures. These sculptures depict the story of the history of Orange and are proposed to be added to over time in order to achieve the final use of the site, being a large-scale sculpture park.
- » Landfill area, including both the active tipping site and the completed, capped and rehabilitated areas; and
- » Leachate collection system, which culminates in the leachate pond, which is discharged to the adjacent Orange STP⁷.

5.2 Conceptual Project Site Layout and Design

The general landfilling operation at the Ophir Road RRC is nearing capacity and will cease around 2014. It has been recognised for some time that the site would continue to be used as a transfer station with limited continued landfilling of asbestos and animal carcasses following cessation of general landfilling activities. The following sections outline the existing facilities proposed for continued use and operation, and the proposed new or modified facilities for the site.

The proposed site layout is illustrated in Figure 5-2.

⁵ Sykes, S. 2007. *NSW Land and Environment Court Statement of Evidence Appeal No. 10112 of 2007*, R.W. Corkery & Co. Pty Limited, Orange.

⁶ *Ibid.*, p. 1

⁷ *Ibid.*, pp. 1-5.

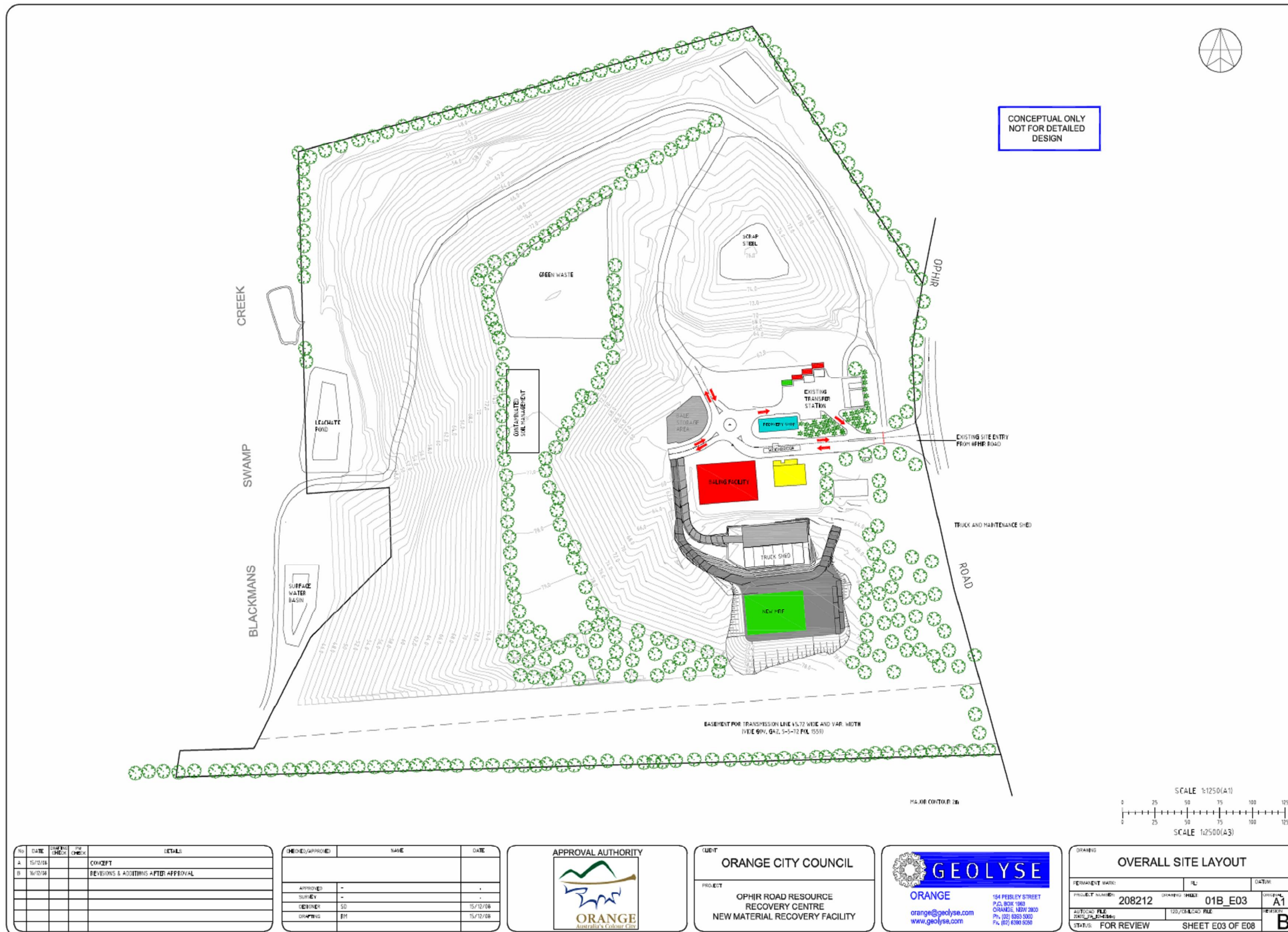


Figure 5-2 Proposed Ophir Road RRC Layout



5.3 Existing Facilities to Continue Operation

5.3.1 Site Access and Weighbridge

The existing weighbridge and site entry road would be used for the new facilities, which would be located inside the existing Ophir Road site.

5.3.2 Existing Public Waste Transfer Station

The existing public waste transfer station on the site would continue to operate although it would be upgraded to improve access to recycling once the other new facilities become operational. The existing skip bins would be covered. Recyclables would continue to be removed periodically from the station for recycling, in accordance with current practices.

Scrap metal and garden organics collected in bulk skips would be transferred to stockpile areas on top of the closed landfill (in the materials stockpile and processing area) as required, utilising an on site service vehicle. The service vehicle would access the skip bins for collection via a service road located at the base of the drop-off platform. The service area would be closed off to the general public.

Mixed waste loads deposited at the transfer station are likely to contain a high content of bulky and uncompactable materials which are unsuitable for baling. Where possible, bulky items suitable for recovery (such as timber and scrap metal) would be extracted from the mixed waste bin by site staff. Bulky residual waste would be transported to Euchareena Road for disposal.

5.3.3 Landfill

Two small dedicated cells of the landfill would remain open to enable disposal of asbestos materials and animal carcasses respectively. The animal carcasses would be from the Orange area including local veterinary clinics⁸.

5.3.4 Resource Recovery Shop

The existing Resource Recovery Shop would continue to operate as it currently does, being run by a community group. Items such as computers and second hand goods including clothes, glassware, jars and furniture are diverted from the waste stream and sold at the shop⁹. An estimated 152.74 t or 7,834 m³ of materials are sold annually from the shop.

5.3.5 Contractor Facilities

The existing contractor facilities, which encompass the truck garage, maintenance shed, and office would be retained on site and used in the same manner as they are currently. The garage is used to store the garbage collection trucks when they are not in use. The maintenance shed is used for maintenance and washing of the vehicles.

⁸ Sykes, S. 2007. *NSW Land and Environment Court Statement of Evidence Appeal No. 10112 of 2007*, Orange.

⁸ *Ibid.*, p. 5.

⁹ *Ibid.*, p. 5.



5.3.6 Other Facilities / Activities

» VEM

VEM would continue to be accepted at the Ophir Road RRC, albeit at a higher price to encourage source reuse, alternative uses, or source separation. Selected VEM would be taken to the Euchareena Road RRC for internal access road construction.

» Other Materials

The following other materials would continue to be collected / processed at the Ophir Road RRC:

- Steel collection;
- Battery collection;
- Greenwaste processing;
- Waste oil collection;
- Tyre collection;
- Other resource recovery initiatives such as:
 - drumMUSTER;
 - e-waste recycling;
 - Household hazardous materials; and
 - Sharps collection.

5.4 Proposed New or Modified Facilities

The modification of the Ophir Road RRC would facilitate increased recovery of reusable and recyclable materials and hence increase waste diversion from landfill. The centre would include provisions for recovery of domestic and commercial recyclables (for example glass containers, certain plastics, paper and cardboard, gas cylinders, waste oil and batteries) as well as garden organics, construction and demolition building materials, household items such as furniture and white goods and tyres.

5.4.1 Materials Recovery Facility

The preferred technology for residual waste management is the use of compaction and baling technology to process residual waste into highly compacted bales of waste suitable for transport off site. The proposal is to locate the baling plant in the existing MRF building, and build a new MRF on the southern area of the Ophir Road site (a 3-dimensional image of the proposed new MRF behind the existing building is shown in Photo 5-1).

Development of the new MRF would involve the following:

- » Levelling an area approximately the size of the existing MRF, with a footprint of approximately 60 m by 40 m to accommodate the new MRF and surrounding roadways;
- » Building retaining walls, foundations, roads, building footings, and constructing diversion drains from the hill above, and constructing the building itself.
- » Installing new MRF equipment and commissioning the new MRF;
- » Decommissioning the existing MRF;
- » Modifying the existing building to accommodate the baling plant, including leachate collection; and

- » Installing the new baling plant and commissioning the new resource recovery and baling operation.



Photo 5-1 Proposed New MRF at Ophir Road RRC

5.4.2 Baling Building

The project includes construction of a separate drop-off area within a purpose-built transfer station for mixed waste that includes putrescibles (mixed putrescible waste), to be used by large vehicles only. Mixed waste loads that are largely inert (such as mixed C&D waste) or a mix of only soil and garden organics would be directed to the stockpile areas on the top of the existing landfill and would not be managed via the baling process.

The baling process is not suitable for large non-compactable bulky wastes and chemical or hazardous wastes, hence these items would be removed from the mixed waste by an operator prior to processing. These items would be landfilled in specially created voids within the balefill structure. There would also be opportunity for operators to identify and recover recyclable materials from the mixed waste loads, for example large amounts of cardboard and paper would be recovered from mixed waste loads collected from commercial shops and offices.

Residual waste would be pushed into a loading hopper mechanically where waste would then be fed via a conveyor through a waste compactor to the baling equipment (refer Photo 5-2). The baling equipment would produce highly compressed waste bales. A small quantity volume of moisture would be squeezed

from waste materials during compaction. This “leachate” would be collected and disposed at the nearby Orange wastewater treatment plant.

Baling of the waste would assist in controlling leachate, litter, and odour during transport in enclosed trucks and subsequent landfilling and prevent unlikely access to the waste by bees from areas in the vicinity of the balefill.

The baling process results in increasing waste density from typically less than 0.4 tonne/m³ up to 0.8 – 0.9 tonne/m³. A major advantage of the transfer of baled and bagged waste is the control of odour, litter and leachate. Baled waste may be temporarily stored outside the baling building overnight (subject to licensing approval) if required with an effective impervious cover, for example if immediate transfer off site is not possible. Baled waste would be transported off site on either conventional flat-bed trucks or in truck and dog trailers.

Photo 5-3 gives an example of baled waste. Photo 5-4 shows an example of baled waste that has been loaded onto a truck.



Photo 5-2 Direct unload onto tipping floor for transfer by conveyor to a baling system



Photo 5-3 Baled waste after bagging (example)



Photo 5-4 Baled waste loaded onto a truck (example)



5.5 Transport and Traffic

An estimated 20 trucks per day would deliver waste and recyclables to the Ophir Road RRC, with 4 trucks per day, transporting baled and non-baled waste to the Euchareena Road RRC, and to transport recyclables to markets. This equates to 24 trucks per day or 48 vehicle movements per day (24 in / 24 out). This is illustrated in Table 5-1. Recent traffic counts¹⁰ show that existing average traffic flows at Ophir Road, north of Dalton Street are in the order of 1,400 to 1,700 vehicles per day in both directions.

Table 5-1 Truck movements at Ophir Road RRC

Waste Stream	Truck movements/ year	Truck movements/ day	Assumed truck capacity
Municipal kerbside recycling	5,006	14	4 t
C&I non-food (dry) waste	3,676	12	4 t
MSW non-food (residual bin)	3,514	10	4 t
Regional waste (non-baled)	1,450	4	4 t
Subtotal – trucks delivering to Ophir Road site	13,646	40	
Recyclables to market	462	2	30 t
Baled waste to Euchareena Road RRC	1162	4	30 t
Non-baled waste to Euchareena Road RRC	408	2	15 t
Subtotal – trucks transporting material from Ophir Road site	2,032	8	
TOTAL	15,678	48	

In addition, there would be some small vehicle movements and truck movements associated with delivery and transport off site of non-kerbside collected recyclables such as scrap metal and green waste, fuel for mobile equipment, baling materials and other miscellaneous items. A detailed transport and traffic study would be prepared for the EA.

5.6 Utilities and Services

5.6.1 Power

The subject site is currently serviced by mains electricity.

5.6.2 Water

A 150 mm water main is located adjacent to Ophir Road. A connection from the main is provided to the subject site.

¹⁰ Northern Transport Planning and Engineering Pty Ltd (2009) *Draft Traffic and Transportation Assessment North Orange By-Pass: Astill Drive to Mitchell Highway, Orange*.



5.6.3 Sewerage

Each building on site has its own septic tank, which has an overflow that drains to the sewer main traversing the site from east to west. The sewer main extends to the pump station below Leachate Pond 2, from there the sewage is pumped to the adjacent sewage treatment plant.

The sewer main also collects the discharge from the truck wash, including trade waste.

5.6.4 Communications

Communications facilities are available to the site providing telephone, facsimile and email services.

5.7 Hours of Operation

The Ophir Road RRC would continue to receive waste between 7 am and 6 pm, seven days a week. The centre would be open to the public between 8 am and 5 pm, seven days a week.

5.8 Rehabilitation and Ongoing Use

5.8.1 Landfill

It is currently planned that all but two of the existing landfill cells would be capped by the commencement of the operation of the Euchareena Road RRC. It is proposed to utilise phytocapping as the means for “sealing” the landfill cells at Ophir Road, involving covering the cells with approximately 1 m of soil and planting it with trees, grasses or other vegetation. The use of phytocapping for the Ophir Road landfill does not form part of this Project.

In phytocapping, the vegetation operates to consume rainfall to ensure it does not infiltrate into the landfill. Such a capping system avoids the needs for a clay barrier which limits the size of vegetation able to be planted above it to ensure roots do not penetrate and thus damage the integrity of the clay layer. The result of a phytocapping system is the ability to achieve more substantial revegetation of a site, thus improving local amenity.¹¹

5.8.2 Ongoing Use

The Ophir Road RRC would continue to be the principal waste collection and processing facility for the Orange City LGA. Those areas not required for ongoing waste-related activities would be used for nature conservation.

A large scale sculpture park would be the final use on sections of the outer slopes of the rehabilitated landfill. Directly to the north west of the public waste transfer station are a series of community sculptures that are already positioned which depict a story about the history of the City of Orange¹².

5.9 The Existing Environment and Local Setting

The existing landform within the site largely reflects the final shape of past landfilling operations on site and the earthworks undertaken to create level areas for site activities and operations. Elevations range

¹¹ Phytocapping.com. revised nd, <http://phytocapping.com/>, accessed 28 January, 2009.

¹² Sykes, S. 2007. *NSW Land and Environment Court Statement of Evidence Appeal No. 10112 of 2007*, Orange.



from approximately 902m AHD on the southern boundary to approximately 840m AHD on the western boundary near Blackmans Swamp Creek.

The bulk of the vegetation on the site is sown pasture grasses with areas of planted eucalypts and pine trees planted along some perimeter sections of the site.

5.9.1 Local Setting

The Ophir Road RRC is located within a substantial precinct owned by Orange City Council on the northeastern outskirts of Orange (see Figure 5-3) for sewage treatment, waste management and supply of road construction materials.

The site is located immediately north of a locally prominent hill (up to 905m AHD) and lies between Ophir Road to the east and Blackmans Swamp Creek to the west. Most runoff from the site flows towards Blackmans Swamp Creek with a small area of the eastern part of the site draining to the east towards Summer Hill Creek, downstream from Suma Park Reservoir.

Access to the Ophir Road RRC is from Ophir Road, a regional road servicing properties between Orange and Ophir and a number of rural-residential lifestyle blocks and subdivisions to the northeast of Orange. Figure 5-4 displays the land ownership and residences around the Ophir Road RRC. It is noted that land to the east and north of Council's land is currently held in substantial landholdings currently used for grazing.

Approvals have been issued or are being considered by Council to subdivide parts of this land for rural-residential/lifestyle blocks and accommodation facilities for Charles Sturt University. Notwithstanding these subdivisions, Council has or intends to retain buffers around its facilities in this precinct to avoid adverse impacts of those facilities on the planned new developments.

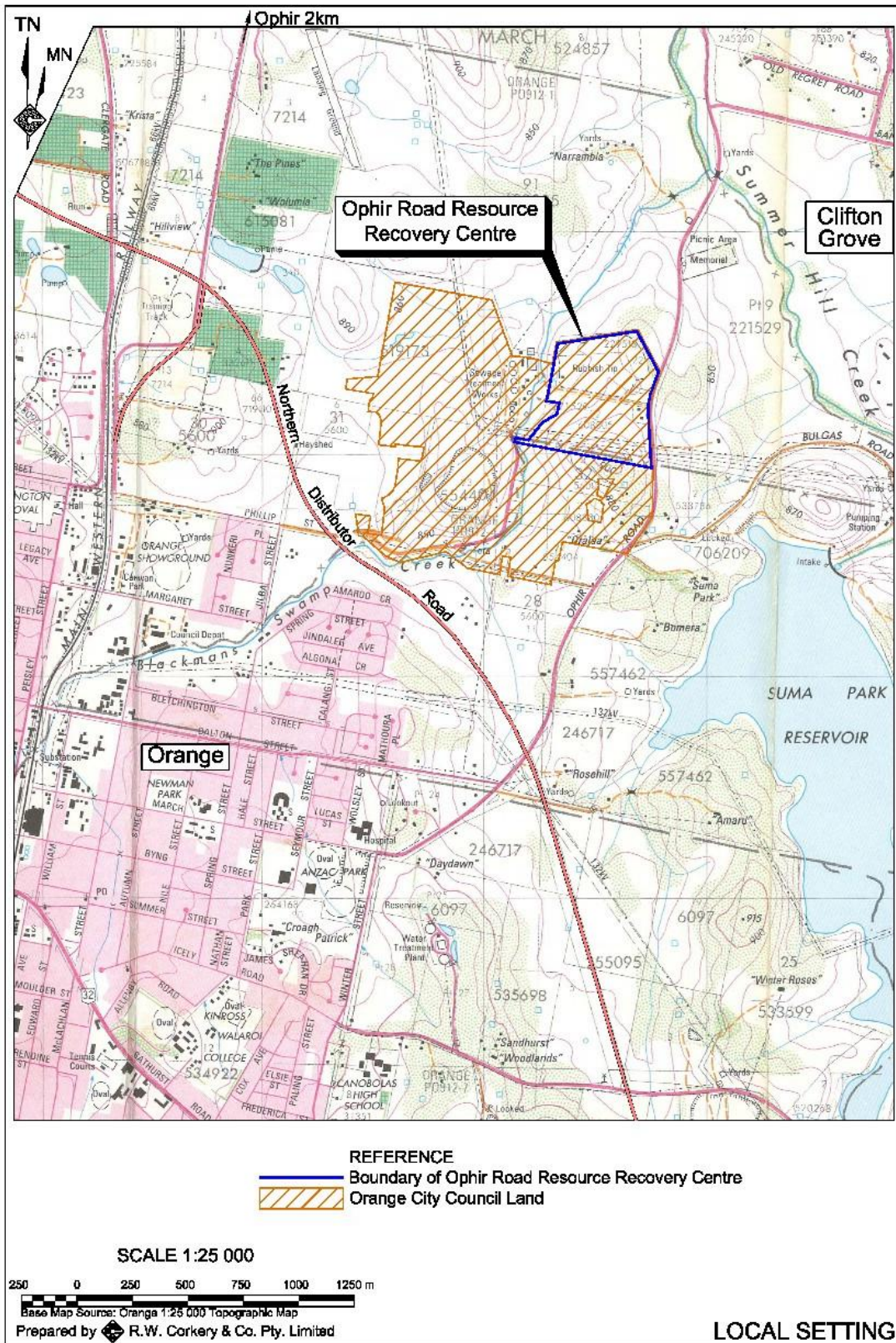


Figure 5-3 Local Setting

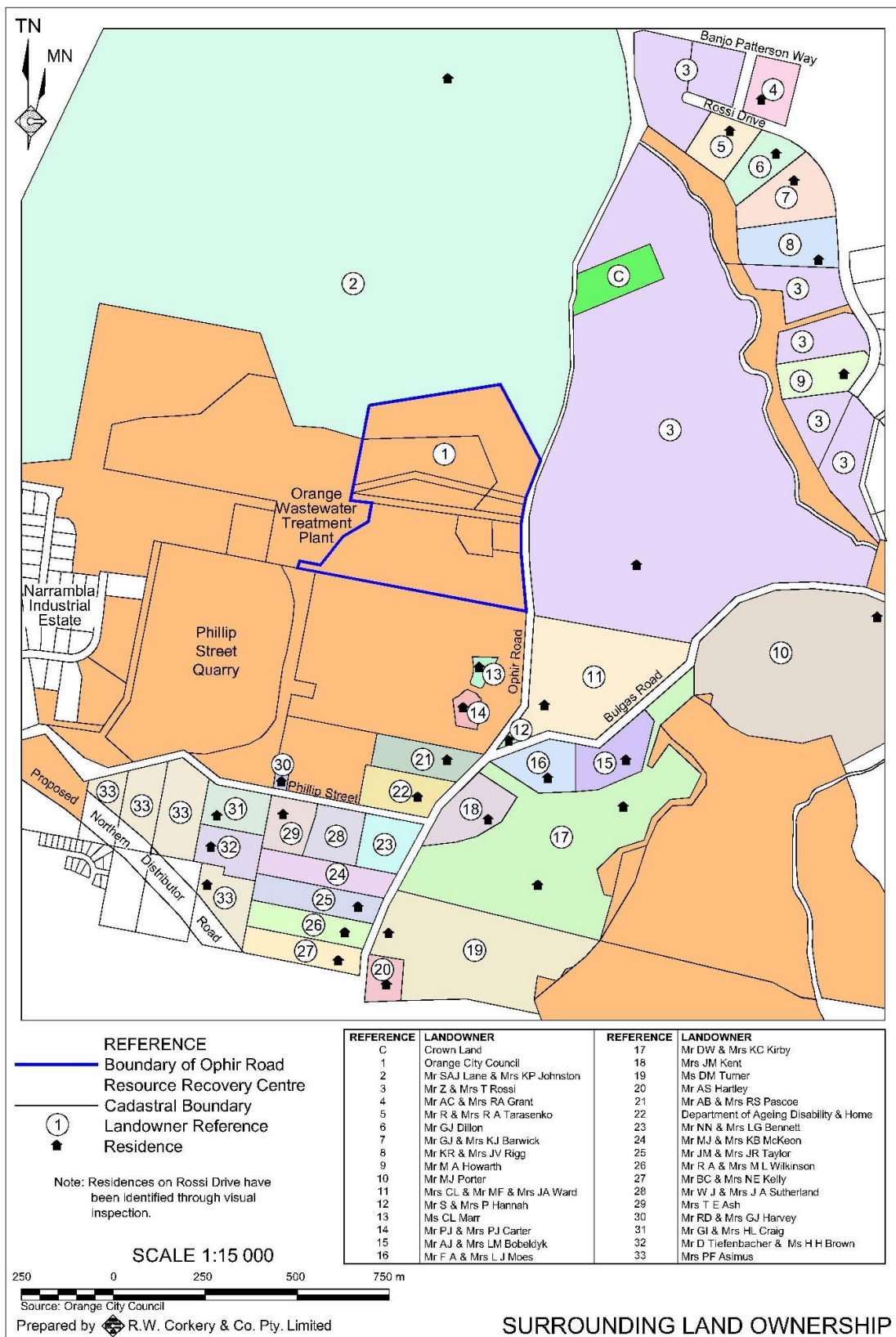


Figure 5-4 Land Ownership and Surrounding Residences



5.10 Issue Identification and Proposed Mitigation Measures

Table 5-2 lists various environmental issues, management objectives, proposed management and / or mitigation measures together with the likely residual environmental impact for the ongoing and new activities at the Ophir Road RRC.

Table 5-2 Prioritised Issues and Proposed Management / Mitigation Measures and Likely Residual Environmental Impacts for the Ophir Road RRC

Issue	Management Objective	Proposed Management and / or Mitigation Measure	Likely Residual Environmental Impact
Groundwater Resources	Protect groundwater resources from leachate and hydrocarbons.	The on-site landfill is underlain by HDPE and clay liners. Containment / bunding of hydrocarbons on the current working site.	Localised groundwater would be protected (confirmed by monitoring to date). Leachate leakage is not predicted. Nearby bores or wells would not be affected.
Traffic and Transport	Minimise interaction between ongoing traffic and existing motorists/road users on Ophir Road.	Maintenance of site access intersection. Ongoing maintenance of Ophir Road.	Changes in the traffic mix would occur although overall traffic levels would not change noticeably.
Air Quality (Odour)	Minimise odour from all site activities to achieve acceptable goals.	Bailing of mixed solid wastes confined to a building. Odours contained in bales. Ongoing landfill operations covered immediately.	Predicted odour levels are yet to be calculated.
Air Quality (Dust)	Minimise levels of airborne and deposited dust to satisfy relevant goals.	Area of disturbance to be minimised, progressive revegetation, road sealing and road watering as required.	Predicted levels of deposited and airborne dust are yet to be calculated.
Fauna	Progressively introduce suitable native fauna habitat.	Planting of native vegetation on sections of the final landform as part of the final rehabilitation	Positive impacts achieved by improved habitat.
Flora	Progressively introduce more native vegetation to the site	Planting of native vegetation on sections of the final landform as part of the final rehabilitation	Positive beneficial impacts would result from planting native vegetation.
Surface Water Resources	Protect the quality of surface water resources to ensure that water from the Site is not sediment laden or contaminated by nutrients.	Separation of clean runoff, containment of sediment-laden and contaminated runoff in suitably sized dams.	Negligible impacts are predicted.
Soil	Protect soil resources from erosion and ensure viability for agricultural use, particularly post closure.	Careful stripping and direct transfer where possible or careful stockpiling, stabilisation and revegetation. Use of suitable imported soils	Negligible impacts are predicted.
Aboriginal Heritage	Avoid impacts on any sites identified.	No known Aboriginal Heritage sites on site.	No adverse impacts are predicted.



Issue	Management Objective	Proposed Management and / or Mitigation Measure	Likely Residual Environmental Impact
Noise	Ensure noise levels generated are within acceptable goals and are not excessive / annoying.	Use of equipment with exhaust controls, all equipment for baling to be enclosed in a building.	Predicted noise levels are yet to be calculated.
Fuel Use and Storage	Ensure hydrocarbons do not enter surface water / groundwater.	Containment of hydrocarbons used on site and training for all personnel using hydrocarbons.	Negligible impacts are likely.
Visual Amenity	Limit visibility of all site activities from adjoining roads and surrounding residences.	Tree screens and the final landform would progressively shield site activities.	Negligible impacts are likely.
Human Health	Avoid any transfer of disease originating from waste brought to the Site.	Best practice environmental management will largely remove pathogens.	Negligible impacts are likely.
Land Values	Manage site activities to avoid / minimise impacts on the values of adjoining land.	Best practice procedures would ensure adverse impacts are avoided therefore avoiding impacts on land values.	Adverse impacts are unlikely given the site has been operating for almost 50 years and recognised by all to be a high standard facility.



6. Euchareena Road Resource Recovery Centre

6.1 Site Description

The Euchareena Road RRC is proposed to be constructed on land, located approximately 37 km from Orange and 5 km northeast of Molong, see Figure 6-1. The land on which the centre would be constructed is referred to throughout this document as the “Euchareena Road Site” and is shown on Figure 6-1.

The Euchareena Road Site covers an area of 192.6 hectares (476 acres) and is located on Lot 10, DP 1034198, Parish of Copper Hill, County of Wellington. The Euchareena Road Site is bounded to the north by Shades Creek Road and to the east by Euchareena Road and is owned by Orange City Council. Figure 6-2 displays the dimensions of the Euchareena Road Site.

The Euchareena Road Site was purchased by Orange City Council on 31 January 2002 and was initially classified as “Community Land” under the *Local Government Act 1993*. The land has since been reclassified as Operational land.

6.2 Conceptual Euchareena Road Site Layout and Design

Figure 6-3 displays the conceptual Euchareena Road Site layout incorporating the following components. The reasons for locating each component in the area(s) nominated on Figure 6-3 are incorporated for each component.

A site entrance and site access road

(The site entrance would be positioned at the point with optimum sight distance to both the north and south. The site access road would follow an alignment with optimum gradients. Both the site entrance and access road would be designed to meet requirements of the NSW RTA (1999) Road Design Guide.

Office and weighbridge

(The office and weighbridge would be located adjacent to the site access road out of sight from Euchareena Road.)

An enclosed composting plant

(The enclosed composting plant would be located in an area largely shielded by topography to the north and east and existing woodland vegetation to the west and south.)

A landfill area

(The landfill area would be located where geotechnical testing has demonstrated there is a considerable thickness of low permeability clay.)

An internal road network

(The internal road network would be positioned to minimise disturbance and provide direct access, wherever possible, between all site components.)

A visual amenity bund and vegetation screens

(The northern visual bund would shield views of the Euchareena Road Site activities from Shades Creek Road. The proposed vegetation screens would, in time, provide further shielding of Euchareena Road Site activities.)

**A stock movement corridor**

(The proposed stock movement corridor would provide a north-south access across the Euchareena Road side of the Euchareena Road Site to enable local landholders to safely move stock and farm equipment outside the Euchareena Road reserve.)

Two retained woodland areas

(The two woodland areas are recognised to have considerable ecological value given the ongoing removal of similar vegetation throughout the local/regional farming regions.)

Areas planned for ongoing agricultural use

(Areas not required for project-related activities or their ecological values would continue to be available for agricultural purposes.)

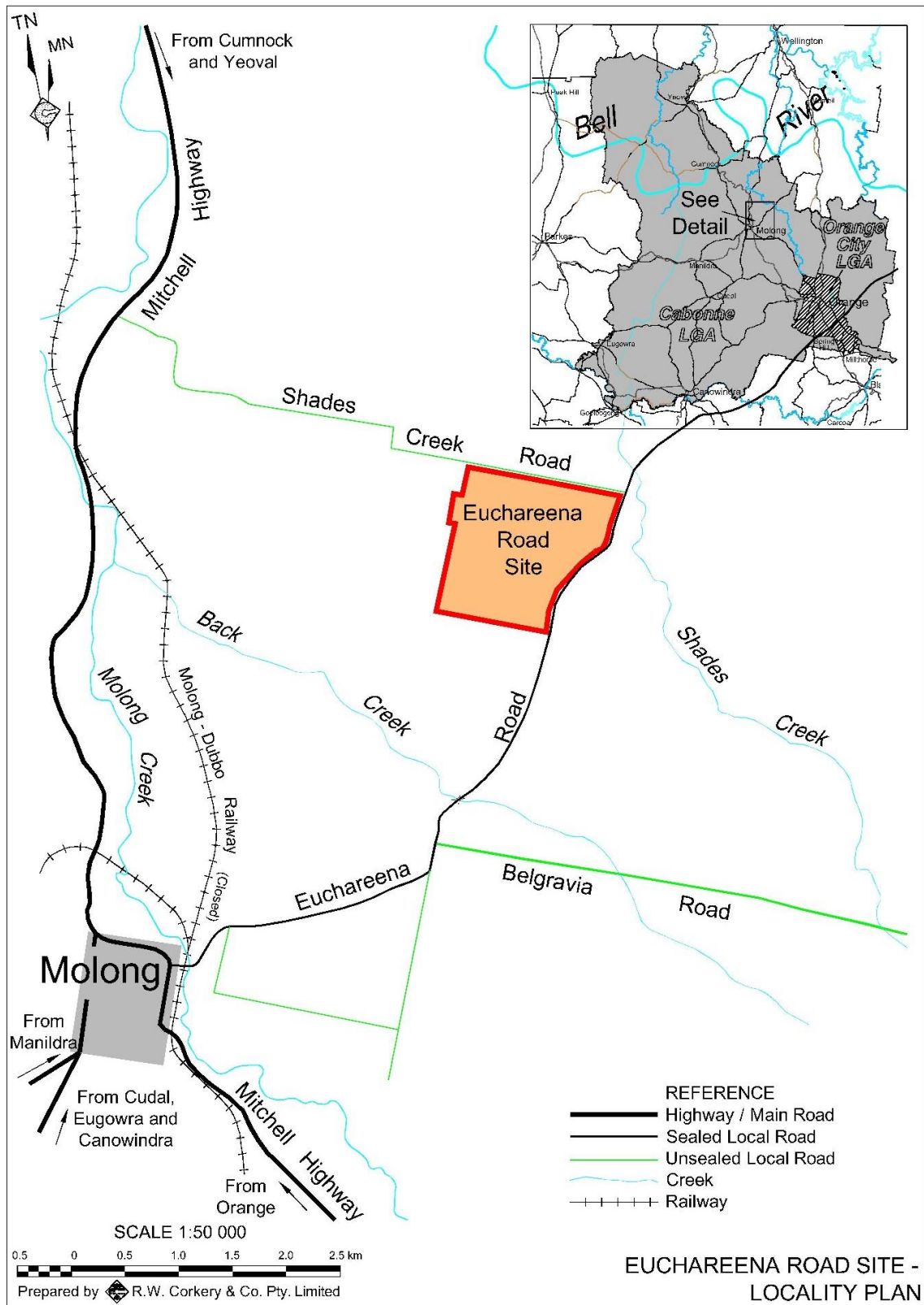


Figure 6-1 Euchareena Road RRC – Locality Plan

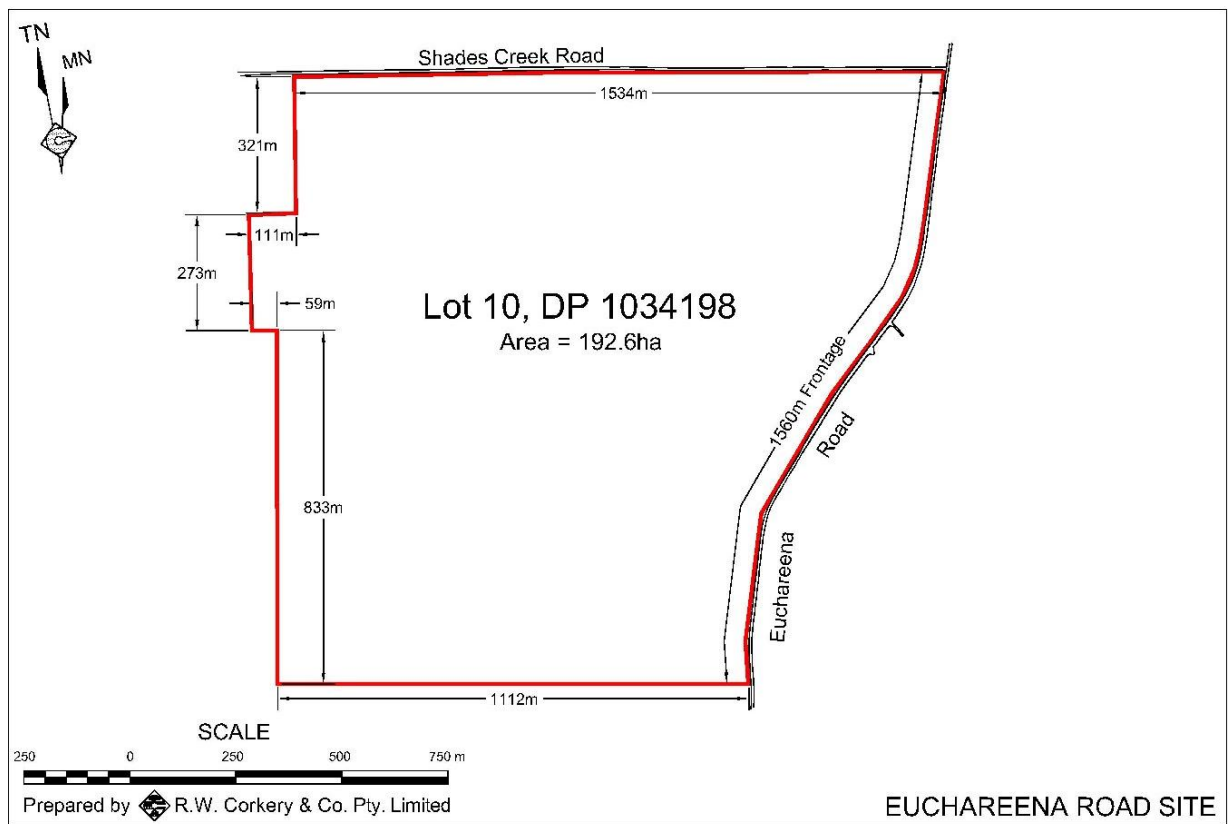


Figure 6-2 Euchareena Road Site

Photo 6-1 displays an oblique aerial view of the Euchareena Road Site.

For the agencies convenience, Appendix B lists the above components and other activities related to the new proposal on the Euchareena Road Site and provides information on whether the proposed component or activity would be modified from the previous proposal documented in Orange City Council (2007).





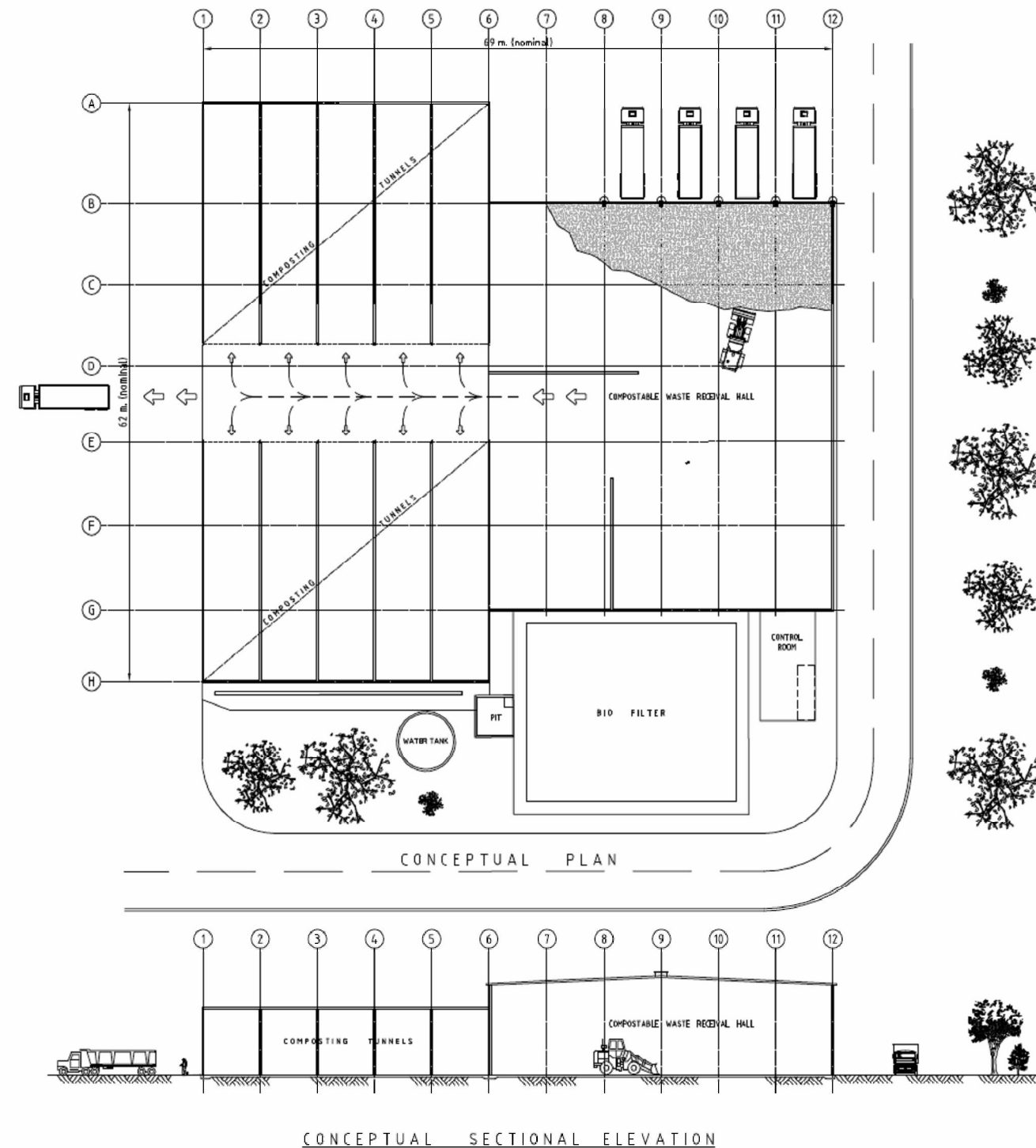
Photo 6-1 Oblique aerial view to the southwest across the Euchareena Road Site

6.3 Site Office and Weighbridge

The general office would comprise a small building providing an office for the site supervisor, a lunch room and amenities. A car park would be provided adjacent to the office for both the site workforce and visitors. A weighbridge would be located adjacent to the site office. The weighbridge would be used by all traffic entering the facility with the weighbridge office supervised during opening hours to ensure all weights are recorded and screening undertaken, if required.

6.4 Enclosed Composting Plant

The proposed plant would process garden organics together with food waste and other bio-solids, to produce a high quality compost product that complies with Australian Standard AS 4454-1999 and Bio-solid Guidelines Grade A for unrestricted use (contamination, pathogen level, vector attraction). This would be achieved through tunnel composting. Figure 6-4 shows a conceptual layout of the enclosed composting plant.



PRELIMINARY

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Figure 6-4 Conceptual Enclosed Composting Plant

6.4.1 Process Description

The plant would include the following three processing units.

- » Mechanical pre-treatment of garden organics and other organic solid wastes including physical contamination removal, shredding, mixing and homogenisation for subsequent composting of the raw material mix;
- » Composting, using forced aeration and moistening to produce a pasteurised and composted product; and
- » Raw compost refinement and grading in accordance with market requirements for end product marketing and sale.

Garden organics would be delivered to the receiving bays of the garden organics building. Each load is first tipped onto a heavy-duty concrete tipping floor to be screened for gross contaminants (see Photo 6-2). Garden organics sourced from kerbside collection, (Mobile Garbage Bin (MGB), loose, bundled), drop-off facilities or commercial sources, generally contains some level of physical/visual contamination, which needs to be removed.

The front-end loader operator would inspect each delivered load of garden organics before it is fed into the process. After the material has been unloaded onto the floor, bulky and undesired items (eg steel bars, glass bottles) would be manually removed from the waste and placed into bins. The front-end loader would then push the screened waste into a dedicated storage bay or feed it into a de-compactor hopper.

The de-compactor would break up lumps and evens the material stream to enable small-sized contaminants to be manually removed at either of the two picking stations (see Photo 6-3). Rejected items would be discarded into a bin located under the picking stations.



Photo 6-2 Material receival



Photo 6-3 Initial sorting

A separate storage bay would be generally provided for bulky garden wastes, which are delivered through drop off facilities, Councils or contractors. Since these materials are generally free from contamination, they would be processed straight away.

6.4.2 Waste Receipt and Shredding

Garden organics from both streams would be fed into the feeding hopper of a low-speed shredder, which has low noise emissions. This unit (electrically driven) incorporates a hammer mill and has an easily replaceable screen to produce various product grades. The discharge conveyor would have a magnetic pulley to remove all remaining ferrous items from the shredded material (nails etc).

6.4.3 Composting plant

A tunnel composting plant, which is the simplest type of enclosed composting system comprises a number of tunnels of approximately 25-30 m in length by 6 m wide by 5 m high. Photo 6-4 shows the inside of a compost tunnel. Each tunnel would be self-operating and comprise an air ducting system, blowers, process water collection and recycling systems, and various process control features (temperature, pressure, etc.). Trenches in the slab run parallel over the full length of the slab and are covered with purpose-designed panels. Access to each tunnel is via the front door, which can be lifted using an electrical winch.



Photo 6-4 Compost tunnel



Photo 6-5 Aeration of compost

During the composting process, the door is locked hermetically to contain any odour and leachate. The input mix is then placed into each tunnel individually and removed after the desired composting time using a front-end loader. Each tunnel is equipped with a fan, which blows a mixture of fresh air and recycled air through the trenches into the tunnel (refer Photo 6-5 which shows compost being aerated). At the same time, surplus exhaust air is discharged to the deodorisation stage (biofilter). The mixture of fresh and recycled air can be automatically controlled via the central process control for each tunnel.

Leachate from the tunnels would drain through the duct and piping system via siphons into a sealed process water tank, which would also connect to the biofilter / humidifier unit at the drainage facility. The process water would then be collected and recycled back into the composting process to establish and / or maintain the desired material moisture content.

A pump mounted on the process water tank would be used for topping up the humidifier and for supplying process water to the tunnel spraying system. Each tunnel would be equipped with an array of nozzles, mounted onto the tunnel ceiling in a way to cover the entire tunnel surface area.

After the tunnel composting process, the raw product would be sanitised and mature with low odour emissions. A range of equipment would be employed to remove remaining physical and visual contamination from the composted and cured product. Various grades of compost would be produced according to the final application.

Photo 6-6 shows compost being unloaded from the tunnels after the tunnel composting process.



Photo 6-6 Unloading of compost from tunnels

6.4.4 Maturation Pads and Controls

Compost produced in the composting tunnels generally needs to be matured for a number of weeks. This would be undertaken outdoors on a sealed maturation pad. This prevents any leachate from the compost infiltrating into the surrounding soils. Runoff from this area is controlled through grading and bunds and the water is generally recirculated onto the compost.

6.4.5 Odour Control

The main odour-generating activities (accelerated decomposition of a mixture of garden organics and bio-solids) would be fully contained within the multiple concrete tunnels. This ensures a high degree of emission control for odour, and minimum exposure of workers to this environment. The high level of automation and process control in the tunnels enables OHS regulations to be easily met.

The odorous air from tunnels would be discharged to the environment through a large biofilter, which reduces its odour level significantly, and ensures that the plant does not have an adverse impact on surrounding residents. Photo 6-7 shows a typical tunnel composting air supply system and Photo 6-8 shows a typical biofilter.



Photo 6-7 Tunnel composting air supply system



Photo 6-8 Biofilter

6.5 On-site Landfill

6.5.1 Overall Concept

Landfill Operation

Both baled waste (from the Ophir Road RRC or regional LGAs) as well as non-baled non-putrescible bulky wastes would be landfilled at the Euchareena Road RRC. Figure 4-1 shows the rate of landfilling would be approximately 43,000 tonnes per year. The capacity of the landfill would be approximately 1.5 million cubic metres of waste. The final landform is discussed in section 6.9.3.

Landfill Layout and Staging

The landfill would be constructed using a cellular system to enable the gradual development of the site, minimising its impact on the environment, and allowing progressive rehabilitation over the life of the landfill. There would be two large landfill cells (Cell 1 and 2), typically rectangular in shape (250 m x 200 m). These cells would be sub-divided and constructed in stages (sub-cells 200 m x 50 m in size). Figure 6-5 displays the indicative landfill layout and stages.

The initial landfill cell (stage 1A) would be constructed in the northwestern corner of the landfill and incorporate one of the leachate sumps and pumping facilities. A landfill perimeter bund 235 m long would be constructed during stage 1 to provide screening for Cell 1. This would be increased to 400 m in length to provide screening for the remaining landfill once filling of Cell 1 is complete. Figure 6-6 shows the indicative stage 1A layout.

Figure 6-7 shows the indicative landfill layout cut contours (subject to detailed design) across the landfill. The excavation depths would vary from a small area of excavation to 7 m with the bulk of the landfill area excavated to a depth of 2 m to 4 m. The depth of excavation would decrease to the east.

Leachate Management

The landfill would include a liner system (described below), a network of leachate collection pipework and a minimum 300 mm thick leachate drainage aggregate layer. Leachate would be collected and



stored within the landfill until a sufficient quantity is generated, after which it would be pumped out and transported to the Orange Waste Water Treatment Plant for disposal.

The liner system would comprise a minimum 1 m thick compacted clay liner across the whole landfill. In addition, the lower third of each major cell would be double-lined (compacted clay liner overlain with a high density polyethylene liner) to allow storage of leachate generated during extended wet weather, within the leachate drainage layer and landfilled waste, without causing increased seepage of leachate from the landfill – see Figure 6-8.

The area that would be double-lined provides sufficient storage for leachate generated during the peak monthly rainfall event in the 10-year ARI rainfall year. The maximum depth of leachate would be 500 mm. Water level monitoring would be undertaken within the landfill to ensure the area double-lined for leachate storage is sufficient.

Storage of leachate in the landfill avoids the need for surface storage and would therefore prevent bees from coming into contact with leachate. The DECC (EPA, 2006) provides guidance on the design of the basal leachate collection system. In general the system should include the following design elements:

- » minimum longitudinal basal fall of 1%
- » minimum transverse basal cross fall of 3%
- » minimum 300 mm thick leachate drainage aggregate
- » leachate collection pipe work laid at minimum 50m spacing

The design for the leachate collection system at the landfill at Euchareena Road RRC would incorporate the above minimum design criteria, however due to the baling operations the 3% transverse cross fall on the base will be flattened to a minimum 1%. This would assist in the stability and placement of the bales. To compensate for the shallower transverse cross fall, a leachate flow net would be installed in addition to the drainage aggregate and pipe work to allow the design of the leachate collection system to either meet or exceed the performance criteria outlined in the DECC (EPA, 1996) guidelines. Figure 6-8 shows the indicative leachate collection plan.

Stormwater Management

The landfill surface would be bunded and contoured to prevent run-on or run-off of surface waters onto / from areas where waste has been landfilled. Areas not being actively landfilled would be covered with intermediate cover and runoff directed to suitable stormwater drainage systems.

Following the closure of an area, intermediate covering and temporary re-vegetation would ensure that stormwater volumes would be minimised and water quality improved.

All drainage works would be designed and constructed in accordance with the requirements of the NSW EPA, including the requirements specified in the NSW Department of Housing – Managing Urban Stormwater – Soils and Construction Guidebook (1998) and its recent “Waste Landfills” update (2008), otherwise known as the “Blue Book”.

Landfill Gas Management

An appropriate landfill gas management system would be developed during the detailed design phase, which may include passive extraction with either flaring or a biofilter. An active gas extraction system would be selected if gas generation rates warrant it.



Landfill Capping

Waste disposal cells would be progressively capped with intermediate daily cover, with the final capping consisting of a low linear density polyethylene geomembrane (LLDPE). The intermediate daily cover would act as a seal bearing layer between the bales and the final capping geomembrane. The LLDPE would then be overlain with a soil layer 1 m thick, to allow grass and or vegetation to be established above the capping layer. This would ultimately allow the completed landfill to be used for pasture and cropping. The cap would also be contoured to minimise infiltration of rainwater. Figure 6-9 shows the indicative final landfill cap contours.

6.5.2 Receipt and Emplacement of Baled Waste

Bales delivered to the site would be unloaded from transfer trucks using a loader with a specially modified clamp. Once unloaded, the bales would be placed in the landfill cell in a brick like pattern with an excavator or forklift. Each cell would be filled progressively in lifts. Interim and daily cover would be sloped to ensure adequate drainage away from the working face.

6.5.3 Receipt and disposal of Non-putrescible Bulky Wastes

Non-baled non-putrescible bulky wastes would be unloaded from trucks into separate areas designated for non-baled waste. Non-baled waste would be inspected upon delivery and waste suitable for landfilling at the Euchareena Road RRC would be placed into the designated areas. If the material is deemed to be unattractive to bees e.g. inert wastes, it would be used to cover baled areas and fill voids. Any non-baled material deemed unsuitable for landfilling at Euchareena Road RRC would not be accepted for disposal.

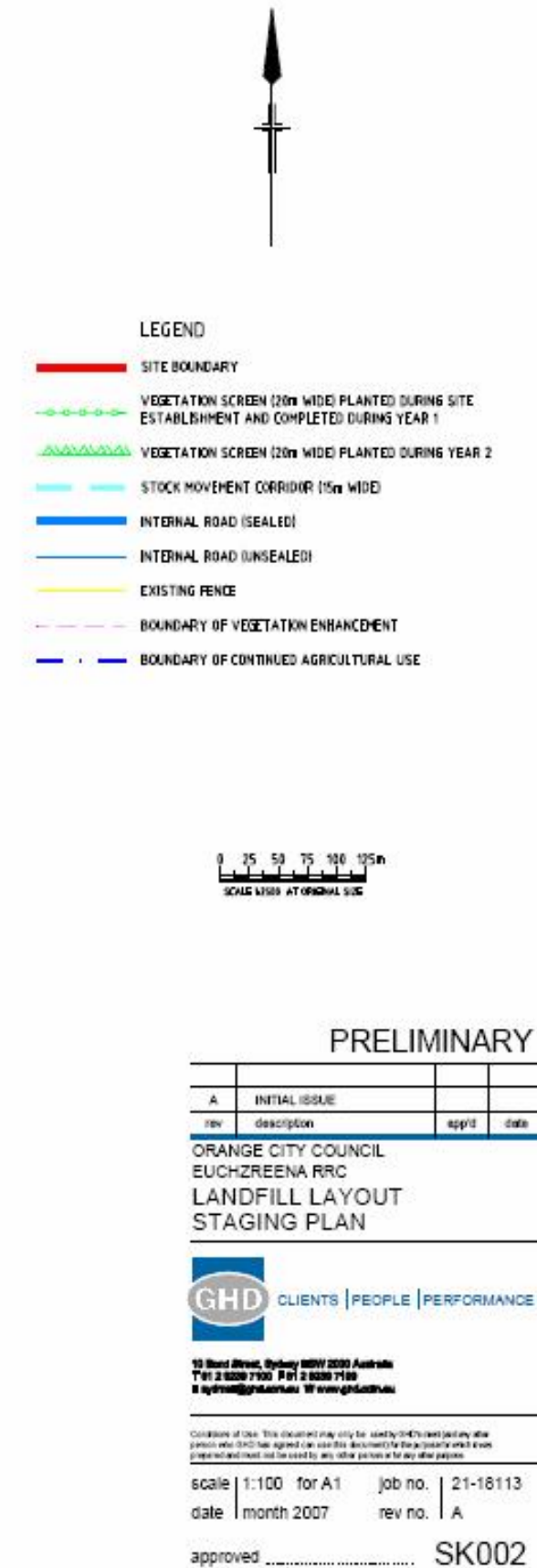


Figure 6-5 Indicative Landfill Layout and Stages



LEGEND

- SITE BOUNDARY
- - - VEGETATION SCREEN (20m WIDE) PLANTED DURING SITE ESTABLISHMENT AND COMPLETED DURING YEAR 1
- . . . VEGETATION SCREEN (20m WIDE) PLANTED DURING YEAR 2
- - - STOCK MOVEMENT CORRIDOR (15m WIDE)
- INTERNAL ROAD (SEALED)
- - - INTERNAL ROAD (UNSEALED)
- - - EXISTING FENCE
- - - BOUNDARY OF VEGETATION ENHANCEMENT
- - - BOUNDARY OF CONTINUED AGRICULTURAL USE

0 25 50 75 100 125m
SCALE 1:1000 AT ORIGINAL SIZE

PRELIMINARY

rev	description	app'd	date
A	INITIAL ISSUE		

ORANGE CITY COUNCIL
EUCALYPTUS RRC
LANDFILL LAYOUT
STAGE 1A LAYOUT



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Figure 6-6 Indicative Landfill Stage 1A Layout

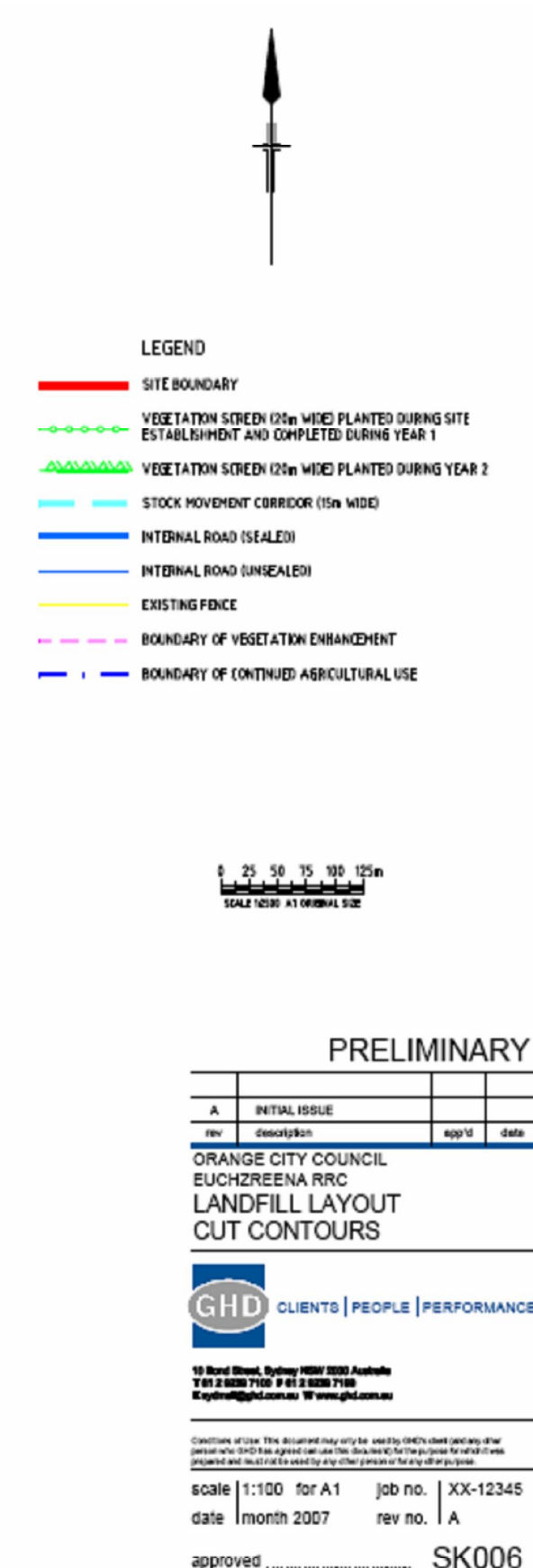


Figure 6-7 Indicative Landfill Layout Cut Contours

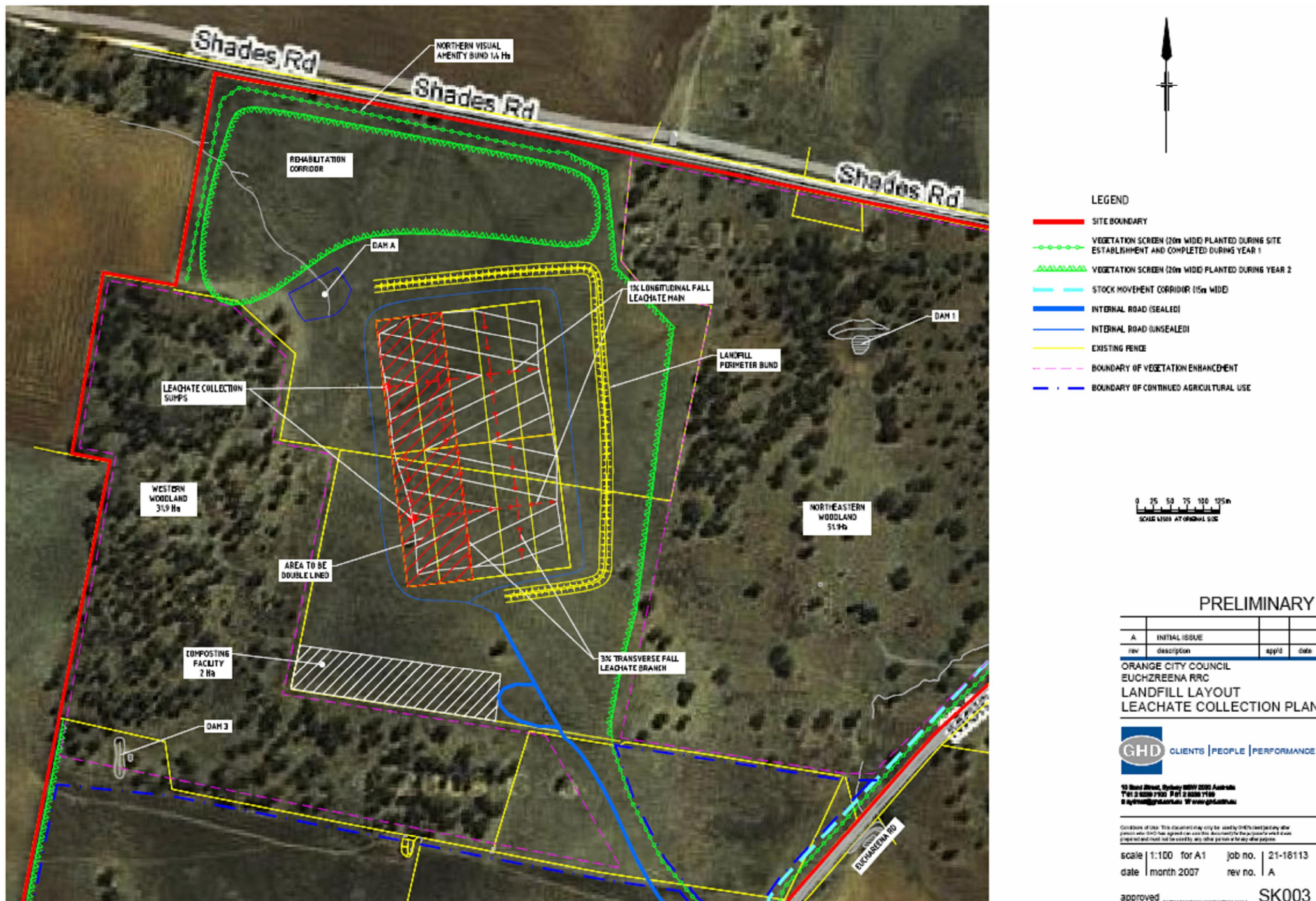


Figure 6-8 Indicative Leachate Collection Plan

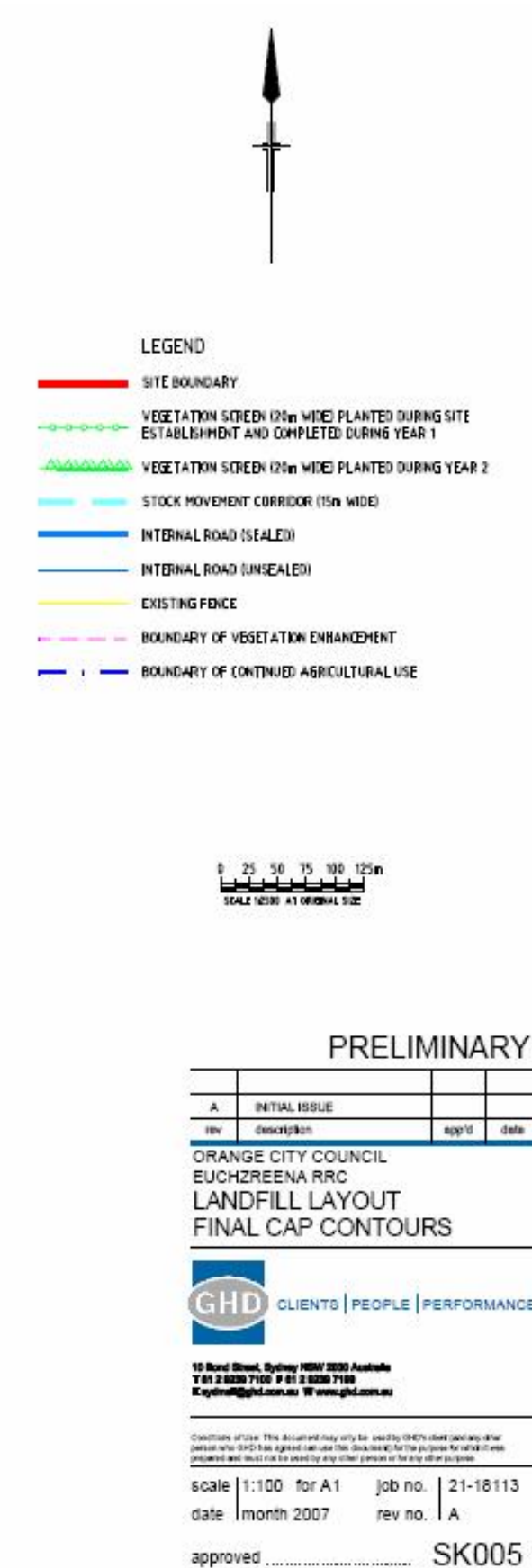


Figure 6-9 Indicative Landfill Final Cap Contours



6.6 Transport and Traffic

It is currently proposed that all trucks travelling from the Ophir Road RRC would approach the Euchareena Road RRC via the Mitchell Highway (Watson Street) and Euchareena Road. The intersection between the Mitchell Highway and Euchareena Road would be upgraded once daily truck movements travelling to the Euchareena Road Site consistently exceed a predetermined level of heavy vehicle movements per day through the intersection.

While the proposed access to the Euchareena Road Site is from the Mitchell Highway, Council will review an alternate access to the Euchareena Road Site by turning onto Back Saleyards Road, (from the Mitchell Highway) and travelling northwards to Euchareena Road. Access to the Euchareena Road Site would be designed to comply with the NSW RTA (1999) Road Design Guide and include a left turn deceleration lane from Euchareena Road and a south-bound auxiliary lane on Euchareena Road adjacent to the Euchareena Road Site.

The new proposal, with increased resource recovery in Orange, would result in a total (average) of 38 truck movements daily (19 in / 19 out) based upon the predicted vehicle movements shown in Table 6-1

Table 6-1 Truck movements at Euchareena Road RRC

Waste Stream	Trucks movements /year	Trucks movements /day	Assumed truck capacity
C&I food and greenwaste	1,226	4	4 t
MSW food and garden waste	5,272	16	4 t
Biosolids	1,826	6	4 t
C&D Waste	332	2	30 t
VEM	536	2	30 t
Regional waste (baled)	540	2	30 t
Baled waste from Ophir Road RRC	1,162	4	30 t
Non-baled waste from Ophir Road RRC	408	2	15 t
TOTAL	11,302	38	

The Proponent proposes to upgrade Euchareena Road progressively during the first stage of operations.

Truck movements would be organised so that afternoon school bus times would be avoided. Morning movements should be satisfactory as waste deliveries would be on the western side of Euchareena Road while bus collections are on the eastern side.

In addition, there would be some small vehicle movements and truck movements from fuel deliveries for mobile equipment and transportation of compost products off site to customers. Transport and traffic would be assessed in detail in the EA.



6.7 Utilities and Services

Power would be drawn from local main supplies. Once the power requirements of the composting plant are known, power connections would be confirmed with Country Energy. Water would be sourced from surface water dams, roof runoff and the groundwater bore on the adjoining “Copper Hill” property. An on-site septic system would be used for sewerage services.

Fuel for earthmoving equipment would be stored in on-site double-skin tanks. Standard telephone cabling and two-way radio / mobile telephones would provide the required communications services.

6.8 Hours of Operation

Baled waste would be received 7 days a week at the Euchareena Road RRC between 9 am and 3 pm. Non-baled waste would be received between 8 am and 5 pm.

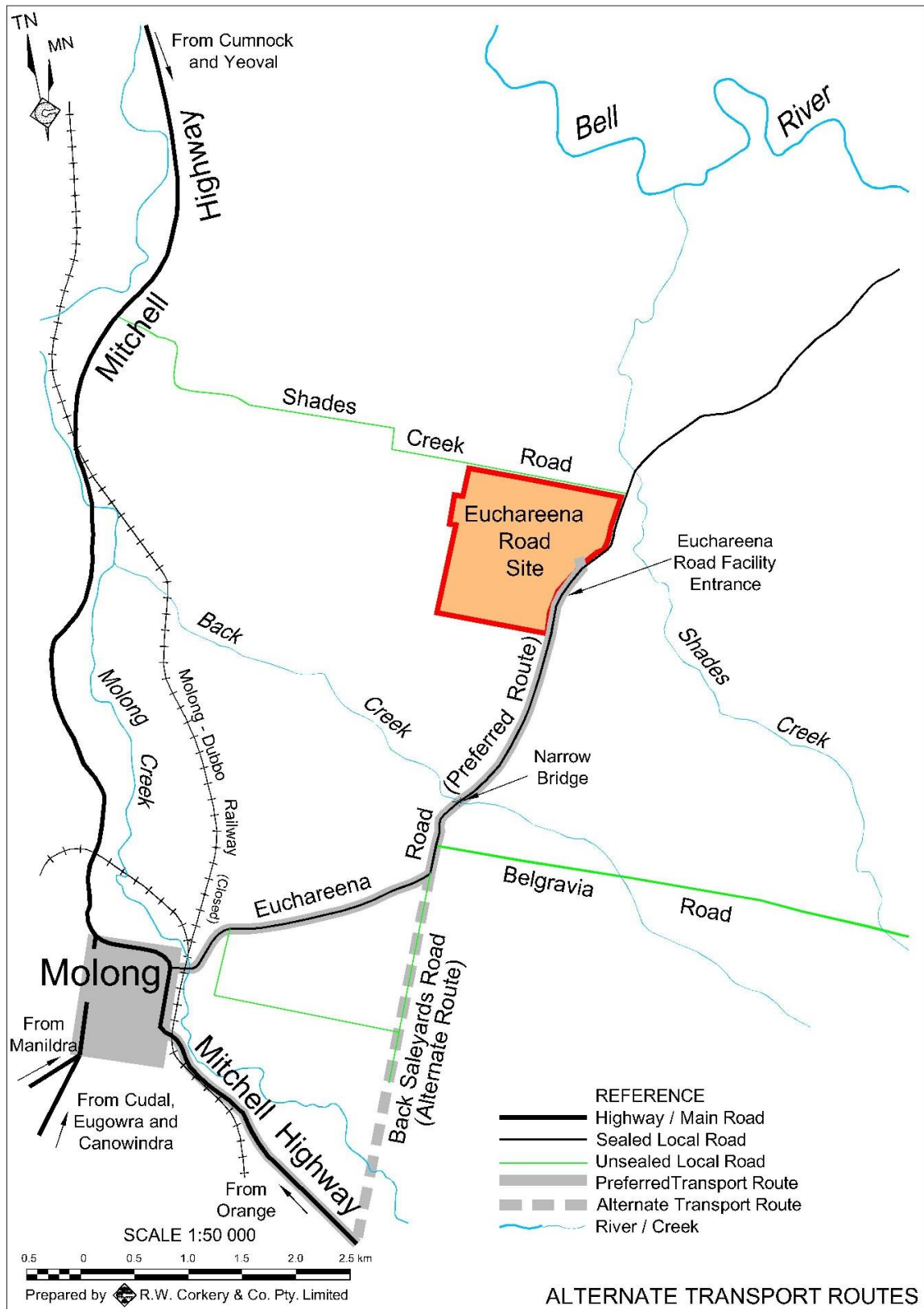


Figure 6-10 Alternate Transport Routes



6.9 Rehabilitation and Site Closure

6.9.1 Introduction

Rehabilitation activities would be undertaken progressively throughout the operational life of the facility with the following objectives:

- » To stabilise all disturbed areas to limit erosion and dust generation; and
- » To create a landform and soil substrate with a comparable agricultural land capability status to the existing landform that would maximise the opportunities for grazing or cropping;
- » To create a visually attractive site that has an overall natural appearance.

An additional objective is to create a long-term connection / corridor between the two existing woodland areas on site to enhance nature conservation at the site.

6.9.2 Final Land Use

It is proposed that the final land use for those areas disturbed during the life of the facility would be either grazing or cropping.

Areas of existing native woodland vegetation beyond the areas to be disturbed would be enhanced for nature conservation throughout the life of the facility. In addition, the existing 60 ha of native woodland vegetation would be expanded significantly through a planned vegetation enhancement program. This would involve fencing off the existing woodland vegetation and supplementary planting of trees and shrubs and planting of area to the north of the landfill with native woodland agencies to create a rehabilitation corridor to link existing native woodland vegetation areas.

Areas disturbed throughout the life of the project beyond the landfill area would also be retained for use as grazing and cropping where appropriate.

Beyond the end of the life of the facility, the ongoing use of the land may be reviewed in light of the remaining buildings, landforms and services. Some alternative use(s) that benefit from these structures and services may be considered appropriate, provided they are permissible and approved at that time.

It is proposed that the Euchareena Road Site would remain in the ownership of Orange City Council for a number of years after the closure of the facility to enable ongoing environmental monitoring and management of the site.

6.9.3 Final Landform

The final landform across the Euchareena Road Site would be comparable to the existing landform. However an area of approximately 10 ha, created within the landfill area and the landfill area perimeter bund, would be raised to heights approximately at or below the existing woodland tree level (i.e. to a height approximately 13 m above the existing natural ground). The final landform profile would comprise grades of 1 in 3 that then taper to 1 in 25 to form a shallow dome shape, see Figure 6-9. This landform would still be suitable for use as grazing and / or cropping.

Retention or removal of part or all of the northern visual amenity bund would be considered at the end of the life of the project. Vegetation cover on the bund may be worthy of being retained due to its value for shelter and conservation of biodiversity.



6.9.4 Progressive Revegetation

From the commencement of the site establishment stage through the progressive completion of the landfill, the Proponent would undertake a program of progressive revegetation in those areas progressively disturbed by the operations and of the area designated for vegetation enhancement to the north of the landfill. The revegetation program would include seeding of areas destined for future agricultural use with a pasture seed mix (see Table 6-2). Areas where native woodland vegetation would be expanded would be planted with those species.

Table 6-2 Pasture Seed Mix proposed for Site Revegetation

Species		Rate
Scientific Name	Common Name	(kg/ha)
<i>Phalaris aquatica</i>	Phalaris var Holdfast	3.4
<i>Trifolium subterraneum L.</i>	Woogenellup Sub Clover	4.5
<i>Trifolium repens</i>	White Clover	1.5
<i>Avena sativa</i>	Quamby Oats	15 to 20

Ideally, excavation of topsoil and subsoil from new areas would be placed directly or soon after onto areas requiring revegetation, to maximise the transfer of biomass and existing seed stock in the topsoil.

In the vegetation enhancement woodland areas, emphasis would be placed upon growth of local native tree species that would assist to create the long term connection between the two woodland trees on site. Local native tree species used would be:

- » White Box, *Eucalyptus albens*;
- » Blakely's Red Gum, *Eucalyptus blakelyi*; and
- » Yellow Box, *Eucalyptus melliodora*

6.9.5 Site Closure

Site closure would be undertaken in accordance with DECC requirements including preparation of a Site Closure Plan consistent with Benchmark Technique 29, which requires DECC approval. The landfill component would be progressively capped with a specifically designed capping layer (as described in section 6.5.1) to achieve long term stability and agricultural use.

At the conclusion of the operational life of the Euchareena Road RRC, Orange City Council would undertake site decommissioning involving:

- » removal of all buildings, services and structures not required for any ongoing purpose/activity; and
- » ripping and removing all sealed or hardstand areas not required for any ongoing purpose/activity with these materials either placed within the final cell of the landfill area or recycled.

All infrastructure areas and the site of the enclosed composting plant disturbed throughout the life of the facility would be rehabilitated with topsoil replaced and the subject areas re-seeded with pasture species as described above.



6.9.6 Post Closure Operational Management and Monitoring

Orange City Council would continue to manage the Euchareena Road Site following the closure of the facility in accordance with the documented set of procedures compiled in conjunction with the Site Closure Plan.

monitoring would occur in accordance with the site environment protection licence (EPL). It is expected that aftercare monitoring would be likely to include one or more of the following parameters:

- » surface water;
- » groundwater;
- » landfill settlement;
- » final capping layer integrity.
- » leachate;
- » landfill gas;
- » vegetation; and

6.10 The Existing Environment and Local Setting

6.10.1 The Euchareena Road Site

The Euchareena Road Site is located on a ridge forming the catchment divide between Shades Creek and Back Creek, both tributaries within the Bell River Catchment. The bulk of the site is relatively flat with some localised moderate slopes. Three farm dams are constructed on the Euchareena Road Site although no streams are present.

The Euchareena Road Site is underlain by in-situ weathered volcanics with up to 30m of low permeability clays present in the central area of the Euchareena Road Site. Basalt outcrops are also present. The proposed areas of disturbance are underlain by a single soil unit with moderate erodibility.

The Euchareena Road Site comprises approximately 133 ha (328 acres) of cleared land and 60 ha (148 acres) of woodland vegetation – an endangered ecological community. Fauna observed on the Euchareena Road Site included common amphibians, bats, reptiles and mammals. Of the 26 birds recorded on the Euchareena Road Site, only one species, the Superb Parrot, is a listed Threatened Species. Two Aboriginal sites (a scarred tree and stone artefacts) are present on the Euchareena Road Site. Both the scarred tree and stone artefacts are located in an area not proposed to be disturbed throughout the life of the project.

6.10.2 Local Setting

The Euchareena Road Site is bounded by Euchareena Road to the east and Shades Creek Road to the north. Figure 6-11 displays the local setting of the Euchareena Road Site. Euchareena Road is sealed, of variable standard and carries about 190 vehicles per day (6.5% heavy vehicles). Shades Creek Road is unsealed and carries about 30 vehicles per day.

The land adjacent to the Euchareena Road Site is predominantly rural land used for grazing, cropping and bee-keeping. Other agricultural uses in the local area include chicken farming and viticulture. A total of 19 groundwater bores or wells are present within 3 km of the Euchareena Road Site.

Land owned by five different landowners either directly adjoins the Euchareena Road Site or is on the opposite side of the Euchareena Road or Shades Creek Road. Seven residences are located within 2 km of operational areas on the Euchareena Road Site, the closest being “The Shades” at 750 m from the



proposed landfill area. Figure 6-12 displays the land ownership and residences surrounding the Euchareena Road Site.

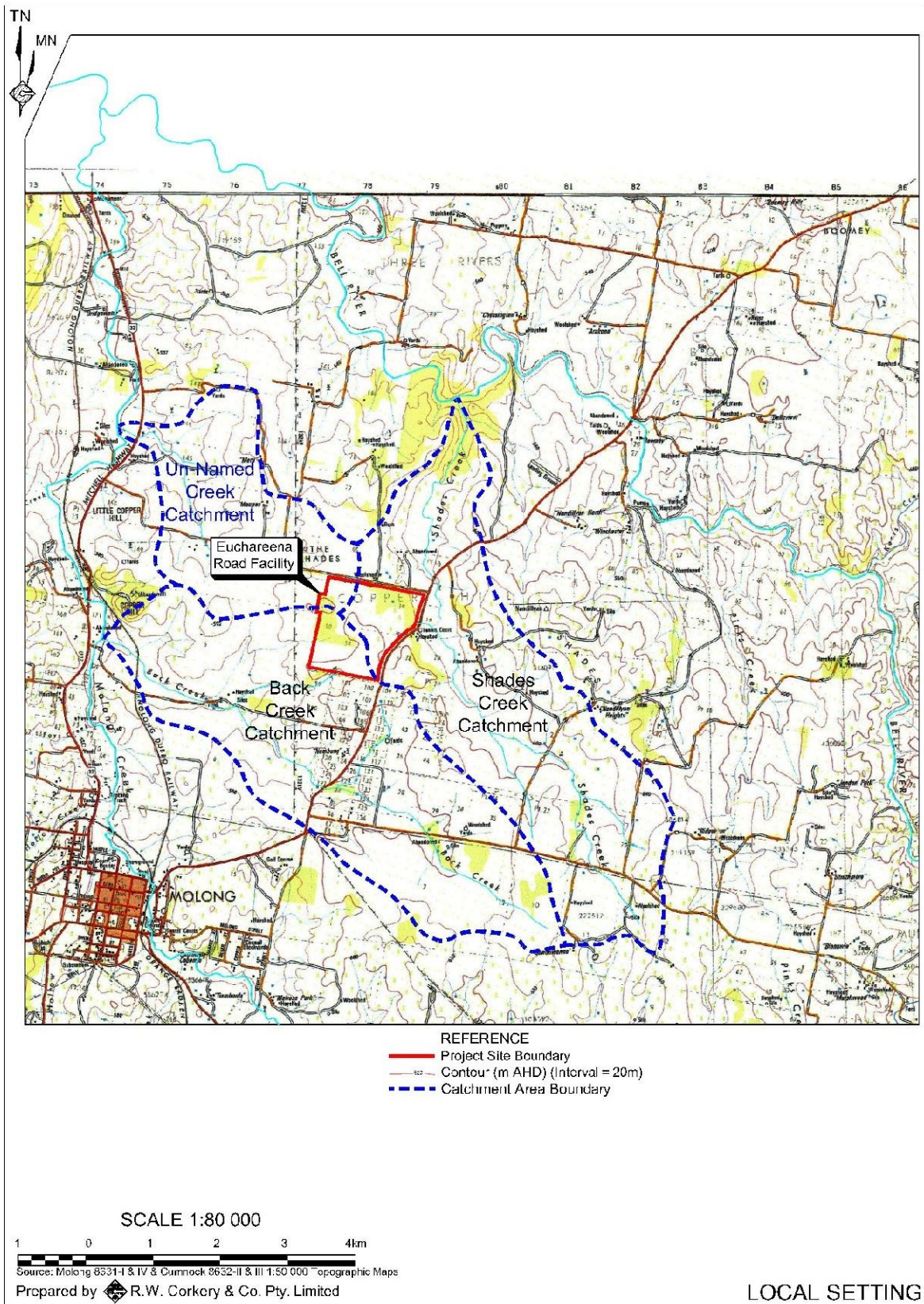


Figure 6-11 Local Setting

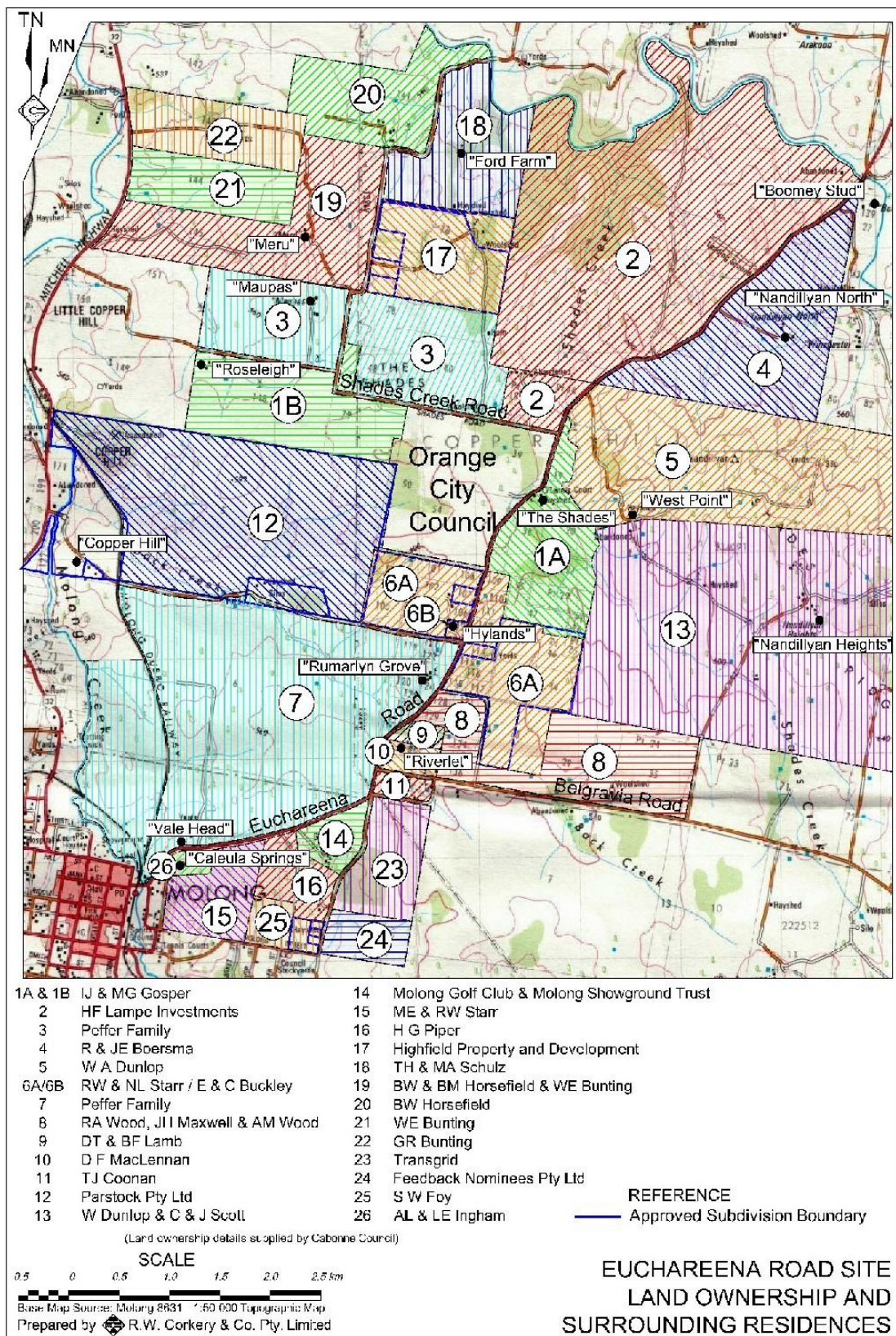


Figure 6-12 Land Ownership and Surrounding Residences



Background dust levels around the Euchareena Road Site are comparatively low and typical of a rural area.

Sections of the Euchareena Road Site are visible from Euchareena Road and Shades Creek Road. Views (some distant) of sections of the Euchareena Road Site to be disturbed would be possible from three surrounding residences.

It is noted that each study relating to the Euchareena Road Site that was relied upon in the 2005 Environmental Impact Statement would be reviewed and updated, where appropriate, for the new project Environmental Assessment.

6.11 Issue Identification and Proposed Mitigation Measures

The previous application relating to the proposal for a resource reprocessing facility on the Euchareena Road Site has assisted to clearly identify the issues that are likely to be relevant in the assessment and determination of the new proposal on site. Table 6-3 lists various environmental issues, management objectives, proposed management/ and/or mitigation measures together with the likely residual environmental impact.

Table 6-3 Prioritised Issues and Proposed Management/Mitigation Measures and Likely Residual Environmental Impacts

Issue	Management Objective	Proposed Management and/or Mitigation Measure	Likely Residual Environmental Impact
Groundwater Resources	Protect groundwater resources from leachate and hydrocarbons.	The siting of the landfill on compacted thick clay. Containment/bunding of hydrocarbons.	Localised mounding of groundwater would have negligible impacts off site. Leachate leakage is not predicted. Nearby bores or wells would not be affected.
Apiary Industry	Ensure transfer of bee diseases via waste is prevented through management on the Site.	Baling of pre-treated wastes, avoidance of putrescible wastes on site. Identification/training of operators regarding apiary equipment, regular covering of wastes. Leachate to be stored in landfill until pumping out. No leachate ponds.	Negligible impacts only. Increased tree planting of preferred species would be beneficial.
Traffic and Transport	Minimise interaction between additional traffic and existing motorists/road users on local roads and the Mitchell Highway.	Construction of site access intersection, progressive improvements in road standard and introduction of stock movement corridor on the eastern boundary of the Site. Upgrading of the Watson Street/Euchareena Road intersection when warranted.	Changes in traffic levels and traffic mix would be noticeable, however, in absolute terms, traffic levels would remain low.



Issue	Management Objective	Proposed Management and/or Mitigation Measure	Likely Residual Environmental Impact
Air Quality (Odour)	Minimise odour from all site activities to achieve acceptable goals.	Baling of putrescible waste would minimise odours. Regular coverage of landfill, composting plant enclosed in buildings with biofilter in use.	Predicted odour levels are yet to be calculated.
Air Quality (Dust)	Minimise levels of airborne and deposited dust to satisfy relevant goals.	Area of disturbance to be minimised, progressive revegetation, road sealing and road watering as required.	Predicted levels of deposited and airborne dust are yet to be calculated.
Fauna	Retain and enhance fauna habitat.	Woodland areas would be fenced off and enhanced. Connecting native vegetation corridors would be planted.	Positive impacts achieved by improved habitat.
Flora	Protect and enhance the endangered ecological woodland community on the Site.	Woodland areas would be fenced off and native vegetation enhanced. Approximately 6.5 ha of additional native vegetation would be planted in 3.25 km of tree screens.	Positive beneficial impacts would result in protected and enhanced vegetation and improved fauna habitat. Existing native woodland vegetation would ultimately be linked.
Surface Water Resources	Protect the quality of surface water resources to ensure that water from the Site is not sediment laden or contaminated by nutrients.	Separation of clean runoff, containment of sediment-laden and contaminated runoff in suitably sized dams.	Negligible impacts only. Runoff from undisturbed catchments would continue to flow from the Euchareena Road Site.
Soil	Protect soil resources from erosion and ensure viability for agricultural use maintained, particularly post closure.	Careful stripping and direct transfer where possible or careful stockpiling, stabilisation and revegetation.	Negligible impacts only. Hence, long term vegetation and landform suitable for agriculture.
Land Capability	Maximise the return of land with the same land capability after site closure.	Careful replacement of subsoil and topsoil and minimal slopes.	Minimal adverse changes. The perimeter of the landfill area would be sloped causing a minor reduction in land capability.
Agricultural Land Suitability	Maximise the return of land with the same level of agricultural land suitability after site closure.	Careful replacement of subsoil and topsoil and minimal slopes.	The disturbed area would be completed for revegetation with native tree species to link the two native woodland vegetation on site. A positive impact given the dwindling native vegetation in agricultural area throughout Cabonne LGA.
Aboriginal Heritage	Avoid impacts on sites where possible.	Document known sites on site and avoid.	No adverse impacts are predicted - sites adequately documented.



Issue	Management Objective	Proposed Management and/or Mitigation Measure	Likely Residual Environmental Impact
Noise	Ensure noise levels generated are within acceptable goals and are not excessive/annoying.	Use of equipment with exhaust controls, all equipment for enclosed composting plant to be enclosed or shielded.	Predicted noise levels are yet to be calculated.
Fuel Use and Storage	Ensure hydrocarbons do not enter surface water / groundwater.	Containment of hydrocarbons used on site and training for all personnel using hydrocarbons.	Negligible impacts only.
Visual Amenity	Limit visibility of all site activities from adjoining roads and surrounding residences.	Visual amenity bunds and tree screens would progressively shield site activities.	Negligible impacts only.
Human Health	Avoid any transfer of disease originating from waste brought to the Site.	Best practice environmental management will largely remove pathogens.	Negligible impacts only.
Land Values	Manage site activities to avoid/minimise impacts on the values of adjoining land.	Best practice procedures would ensure adverse impacts are avoided therefore avoiding impacts on land values. Adverse impacts would be confined to the Site itself.	Acceptable impacts are likely for agricultural land. Short-term impacts on property values of surrounding "lifestyle" properties are expected to diminish after the site is operational.
Bushfire	Manage fuel loads on the Site to limit the spread of fire.	Controlled grazing on lands already used for grazing and limited occasional grazing in woodland vegetation. All equipment would be fitted with fire-fighting equipment.	Acceptable impacts are predicted.



7. Alternatives Considered

Three broad alternative possibilities were assessed and are outlined in detail below.

7.1 Alternative Landfill and Resource Recovery Sites

Given the focus by various stakeholders on the suitability of the selected site, a ground-up approach was taken by Robert Amaral¹³ to finding and testing the merits of alternative sites. The study was completed in two parts, with the objective of determining whether any potential sites existed that might possibly rival the merits of the Euchareena Road Site.

Part 1 commenced with initial generation of some 55 possible sites including three sites (including the Euchareena Road Site) closely considered in preparing the 2005 EIS. All sites were reviewed against criteria that generally coincided with the original criteria, but included also proximity to native vegetation, orchards and vineyards. Special attention was given to topographical suitability in arriving at the long-list in order to focus on sites with minimal potential for external run-on water – a factor in leachate production and subsequent contamination of groundwater and surface water. Other important criteria included logistics and ownership complexity.

In Part 2, some 46 sites were eliminated by application of established criteria. Further sites were eliminated during the visual inspection phase, which Robert Amaral conducted. The outcome of Part 2 was a short-list of four potential sites. A further site was considered to be marginally behind this short-list due to access difficulties and multiple ownership issues.

The Euchareena Road Site was nominated in the potential sites short-list on its merits, confirming the suitability and value of the Euchareena Road Site for waste processing and disposal.

The three potential sites have appropriate topographical features, reasonable access and other features that contribute to their potential suitability. All sites are within reasonable proximity of both Orange and Molong. However, no site is perfect and each has merits and drawbacks. For instance, the three sites other than the Euchareena Road site are somewhat exposed to wind and visual impact, and would require extensive planting to provide a reasonable buffer. Potential environmental impacts have not been tested. Geology/soil conditions are likely to be favourable, though this was not tested as it was outside the work program.

There are some critical uncertainties associated with the three potential sites. Each site is presently in private ownership and is apparently used for productive agricultural purposes. The level of interest of the present owners in selling has not been tested. It should be noted that all potential sites are in areas in which agricultural production is undertaken – regarded as prime crop and pasture land and zoned General Rural.

Further, only the Euchareena Road site is known at this stage to have proven, capable geological conditions for landfill operations.

This independent study of potential sites provides valuable further information:

- » It confirms the suitability and merit of the Euchareena Road Site for waste processing and disposal.

¹³ Robert H Amaral, Consulting Geotechnical/Landfill Engineer. *Site Selection for Central Waste Facility*. June 2008.



- » It indicates that several sites other than the Euchareena Road site (albeit a small number) are potentially viable alternatives, but each has features that would need to be tested and uncertainties that would need resolution.
- » The short listed potential sites are at properties classified as prime crop and pasture land.
- » On the basis of the information available, the relative merits of no one of the new short-listed sites stands out as superior to the others, including the Euchareena Road site.

In an effort to further test alternative site possibilities, in December 2008 Council issued a public call for expressions of interest from the community for land that might be suitable for a waste management and resource recovery site. Council deliberately avoided specifying restrictive criteria, with the objective of gaining the widest possible array of potential sites. Council received only four responses to its public call as at the end of the expression of interest period and despite the broad selection criteria published in the registration form, none of the sites proposed qualified as suitable.

7.2 Consolidate all Waste Operations at Orange

The scope to conduct AWT operations and continue waste disposal at the Ophir Road RRC was raised as a possibility during the Land and Environment Court case. However, the landfill is approaching its ultimate capacity and with other resource recovery operations already taking up much of the above ground space at the site, insufficient space is available for an AWT facility. Further, the only vacant land located near the waste management site is being used by Council for stormwater harvesting – a vital need, given the current drought position in Orange and the Central West generally.

Some stakeholders have raised the idea of siting an AWT facility at a nearby Phillip Street Quarry see Figure 5-4. This proposition ignores the fact that the quarry is in current use and is far from depleted with some 3 million tonnes of rock remaining.

In any case, Council recognises the land use conflict issue that would be presented by placing an AWT in this increasingly urban context. The actual operating experience in Australia with AWTs is that odour and noise impacts can extend beyond confined operating site boundaries – a challenge that is not present at the Euchareena Road site.

A further issue for Council would be the operating complexity and increased cost brought about by having waste management activities at three sites.

This broad option also misses the point that the landfill within the Ophir Road RRC is nearing completion and access to new landfill capacity will be required in as few as five years see *Justifiable Demand*, pp11).

7.3 Alternative Regional Landfill Possibilities

A further alternative is to make use of an existing landfill already in operation at a regional centre such as Dubbo or Woodlawn, near Goulburn. This scheme is disadvantaged by the transport distances involved and the probable need for the landfill host to gain appropriate statutory approvals. The scheme would also leave Orange City Council open to landfill practices and gate pricing over which it would have only limited control or recourse. This option would not assist Orange City Council in achieving the State waste avoidance and resource recovery targets.



8. Stakeholder and Community Consultation

8.1 Consultation in Preparing Initial Waste Plan and 2005 EIS

8.1.1 Site Selection Criteria

Orange City Council considered it important to seek community input into the criteria that were to be used to select a site for the facility designed and operated to manage the wastes generated in both Orange City and Cabonne LGAs.

Between July and August 2000, Orange City Council held a total of 11 community discussion meetings within Orange City LGA (2) and Cabonne LGA (9) to seek community input to the issues relevant to the selection of a Regional Resource (Waste) Reprocessing Facility. Outcomes from these useful community meetings enabled a discussion paper entitled "Site Selection Criteria for the Regional Resource Reprocessing Facility".

This document was finalised following discussions and feedback with relevant government agencies. The site selection criteria incorporated twenty-two individual criteria for regional, local and site-specific issues. The completed discussion paper was advertised in the local media for community comment and requests for offers of land that would satisfy the nominated site selection criteria.

8.1.2 Government Consultation for 2005 EIS

During the initial stages of the preparation for the 2005 EIS, Council and R.W. Corkery & Co. Pty. Limited (RWC) consulted and met with representatives of the following government agencies for a Planning Focus Meeting on 7 August 2002.

- | | |
|--|---|
| » PlanningNSW (now Department of Planning). | » NSW Agriculture (now Department of Primary Industries - Agriculture). |
| » National Parks and Wildlife Service (now Department of Environment and Climate Change (NPWS)). | » Department of Health. |
| » Environment Protection Authority (now Department of Environment and Climate Change (EPA)). | » Department of Land and Water Conservation (now Department of Water & Energy). |
| » Roads and Traffic Authority. | » Department of Mineral Resources (now Department of Primary Industries - Mineral Resources). |

Throughout the preparation of the EIS, contact was maintained with relevant government agencies on specific issues that had arisen during environmental studies and assessments for the site. Particular emphasis was placed upon discussions with the DPI – Agriculture with respect to bees and DPI – MR with respect to potential mineralisation beyond the Copper Hill area and beneath the Hub Site.

8.1.3 Community Consultation

The community consultation program for the 2005 EIS focussed upon three main groups, namely:



- » those adjacent to or likely to be directly impacted upon by the construction and/or operation of the Hub Facility;
- » those adjacent to the principal transport route (Euchareena Road) between the Hub Site and Molong; and
- » those within the wider community of Orange City and Cabonne LGAs that have an interest in the way that wastes are managed within the two LGAs.

Consultation involved direct contact and meetings with individual residents / landholders, wide circulation of a Forum for Feedback Newsletter (1 300 households) and a follow-up newsletter and information. A total of 130 people attended six community forums held in Molong to discuss each of the main environmental issues with a number of the Specialist Consultants involved in the technical / scientific studies for the EIS. In order to canvas the wider community, Council commissioned a survey to determine the Orange community attitude toward a range of waste management issues (Environmetrics, 2004). An evaluation of the 2,235 surveys returned established the following.

- » 32% of respondents believed Council had a shortage of landfill space while 56% were unsure.
- » Of those who believed there was a shortage of landfill space, 50% thought the Ophir Road landfill had only 5 to 10 years life remaining.
- » 91% of respondents agreed it is important to reduce waste sent to landfill.
- » 'Introducing a waste treatment process that recovers wastes and produces a resource and returns residual waste to landfill' was the third most important waste reduction method after "educating consumers" and "identification of new recyclable product markets".
- » In response to the question 'If Council introduced a waste treatment process to improve environmental benefits, would you be prepared to pay for the service?', 43% (yes) answered if it equated to the current waste disposal cost and 30% answered (yes) if the increase was no greater than 20¢ per week.

The overall community consultation process identified a wide range of issues for coverage in the 2005 EIS.

8.2 Stakeholder and Community Engagement for this Project

8.2.1 Statutory Consultation

Orange City Council will liaise with all relevant local and State Government agencies to outline the key components of the new proposed project i.e. for both the Euchareena Road and Ophir Road Sites and to seek an understanding of the issues that need to be addressed in the 2009 Environmental Assessment. The Director-General's requirements for the project will be sought from the Department of Planning.

8.2.2 Community Consultation – Ophir Road Site

Orange City Council will conduct a consultation program for the Ophir Road Site involving contact with all landholders adjoining, or in close proximity to, Council-owned land in the vicinity of the Ophir Road Site, those landholders adjacent to Ophir Road between Dalton Street and the entrance to the Ophir Road Site, and consultation with the wider community.



All contact with adjoining landholders will be undertaken on a one-to-one basis. Emphasis will be placed upon explaining the future plans for the Ophir Road Site and seeking feedback on the environmental performance of the existing facility and the issues that should be addressed in the Environmental Assessment for the new facility and ongoing operation of the site.

Consultation with the local community survey panel throughout Orange City LGA will enable the issues relevant to the wider Orange Community to be identified for the Environmental Assessment to address.

8.2.3 Community Consultation – Euchareena Road Site

The Community Consultation program for the Euchareena Road Site will focus on three forms of consultation.

- » Contact with landholders adjoining the Euchareena Road Site and adjacent to the transport route (Euchareena Road) between Molong and the site. Emphasis will be placed upon explaining the features of the new proposed project and the differences between the former and proposed projects. Feedback will be sought on the issues that should be addressed in the *Environmental Assessment* for the new proposed facility.
- » Given the reported local interest in Molong relating to the former Hub proposal and the transport-related issues, it is proposed to convene an information display over two weekends (ie Friday / Saturday) to enable interested Molong and district residents to inspect displays relating to the new proposed project and to likewise gain an appreciation of the differences between the former and proposed projects.
- » Consultation with the local community survey panel throughout Cabonne LGA will enable issues relevant to the wider Molong / Cabonne community to be identified for the *Environmental Assessment* to address.



9. Conclusion and Project Justification

Orange City Council proposes an integrated resource recovery and waste management scheme that promises to be a model for sustainable regional waste management. Further, Council proposes to offer the integrated service to all surrounding Councils and commercial waste generators. The project comprises the following waste management and resource recovery activities.

- » AWT processing of food/garden waste at the Euchareena Road RRC;
 - » Receipt of (putrescible) mixed residual waste at the Ophir Road RRC for baling, followed by transfer to the Euchareena Road RRC for disposal at the landfill on that site;
 - » Continuation of regional material recovery service for kerbside collected recyclables at the Ophir Road RRC, with additional recycling from pre-treatment of mixed residual waste. Residual materials will be baled and transferred to the Euchareena Road RRC for disposal to landfill;
 - » Acceptance of baled mixed waste from surrounding LGAs which is baled at other locations; and
- Receipt and disposal at the Euchareena Road RRC of (non-putrescible) waste from which no further value can be extracted. This service will mainly cater for regional commercial waste contractors, but would also be available to all surrounding Councils.

9.1 Justification for undertaking the project

The justification for the project is based on a number of factors:

- » The project is consistent with the strategic direction for waste management in NSW and Council's strategic drivers;
- » The project would assist in satisfying local and regional demand for waste management facilities and landfill capacity;
- » The sites are suitable for the proposed uses; and
- » The project uses proven technology.

9.1.1 Strategic direction for waste management in NSW

The project would deliver outcomes consistent with the state legislation and strategies for sustainable waste management. These include the *Waste Avoidance and Resource Recovery Act 2001* and the *Waste Avoidance and Resource Recovery Strategy 2007*.

The improved residential kerbside collection systems, development of an alternative waste technology facility to process food and garden organics and enhanced resource recovery at the Ophir Road RRC would all contribute to recovering resources and creating value from the waste stream.

9.1.2 The Orange City Council strategic drivers (Sustainable Waste Management Strategy)

Council's Sustainable Waste Management Strategy sets the objectives and strategic vision for waste management in the LGA. Council is committed to the principles of waste stewardship, waste avoidance and resource recovery and aims to increase diversion from landfill from 20% (current) to 55% by 2011.

The project would meet Council's objectives and strategic drivers.



9.1.3 Local and regional demand for landfill capacity and waste management facilities

Despite the advanced resource recovery initiatives in Council's Sustainable Waste Management Strategy, access to additional landfill capacity is required within the next 5 years, to provide disposal for non-recoverable wastes.

Council has considered the feasibility of sending residual waste to established, nearby regional landfills. However, all are small and nearing completion. The alternative of sending residual waste to the larger, Woodlawn or Dubbo was considered. Both possibilities are flawed by long transport distances and uncertainties associated with approval and acceptance of additional waste receipts. Localised solutions for disposal of non-recoverable wastes are preferred, from a sustainability perspective, than long-hauling of waste to distant facilities.

With the looming shortage of landfill capacity in the LGA and the region, the development of the project is necessary to accommodate the waste, not only from the Orange LGA, but also from municipal and commercial sources in other LGAs. For example,, Cabonne Council has identified a pressing need for a new facility to service the Cabonne LGA. Other nearby Councils are conscious of the need to accommodate future residual waste and meet current and emerging environmental requirements, and have had discussions with Orange City Council about the proposed waste processing and disposal plans contained in this PEA.

Following project approval, a period of at least 2 to 3 years will be needed for Council to seek tenders for AWT facilities and build / commission a new waste processing facility. As soon as new facilities are available, the landfill at the Ophir Road RRC will be reduced to a small capacity operation, which would be retained for disposal of asbestos, animals and some construction and demolition material and other waste that would be unsuitable to transport to the Euchareena Road RRC.

9.1.4 Suitable sites

As noted above, an independent study of potential sites was undertaken by Robert Amaral. The study confirmed the suitability and merit of the Euchareena Road Site for waste processing and disposal. The Ophir Road Site is currently being used for waste processing and disposal and is suitable for the proposed use.

9.1.5 Proven technology

The technologies proposed for the project are proven. The technology selected to process food and garden organics (tunnel composting) is already operating in Port Macquarie. The balefill approach to landfilling proposed at the Euchareena Road RRC is currently being used at a site in Lower Light, South Australia.

9.2 Conclusions

This PEA has considered the potential impacts of the Project to improve resource recovery and residual waste management with new operations at the Ophir Road RRC and Euchareena Road RRC.

The PEA has been prepared to provide the DoP with information on the project so that Director Generals Requirements for the Environmental Assessment under Part 3A of the *Environmental Planning and Assessment Act 1979* can be prepared. The PEA has documented the approvals process for the project,



described the existing environment and outlined the key issues that would need to be addressed in the Environmental Assessment.

The project would include:

- » A new residential waste collection system for source-separated food waste and garden waste, with current kerbside recycling collections of paper and containers to continue and a residential (mixed waste) collection system to continue (with potentially adjusted frequency of collection);
- » Development of an alternative waste technology facility to process food and garden organics at the Euchareena Road RRC;
- » Relocation of the existing MRF at the Ophir Road RRC to a new building on the site, and establishment of a resource recovery and mixed waste baling operation in the existing MRF building;
- » Establishment of a landfill at the Euchareena Road RRC for receipt of baled waste and non-putrescible bulky wastes.

A number of potential environmental issues were considered during the preparation of the PEA, proposed management and or mitigation measures and likely residual environmental impacts.

The PEA concludes that with appropriate management and mitigation measures integrated into the design and implemented during operation, the project is considered unlikely to have any significant environmental impacts. Detailed studies including air quality, noise, flora and fauna, heritage, land capability, and traffic would be prepared as part of the Environmental Assessment to confirm this.

The project would provide significant environmental and economic benefits at a local and regional level. It would meet the pressing need for landfill capacity within Orange LGA as well as other LGAs in the area. Through an integrated approach to waste management and resource recovery, the project would also meet the increasing demand for sustainable long-term local waste services.

It is considered that the project conforms with all legislative requirements of State and Council authorities.



Appendix A

Letter from Department of Planning



NSW GOVERNMENT
Department of Planning

Major Development Assessment

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Orange City Council

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Mr Garry Styles
General Manager
Orange City Council
PO Box 35
ORANGE NSW 2800

Dear Mr Styles

Orange Regional Waste Project

I refer to Council's letter of 20 June 2008, requesting that the Minister form the opinion that the proposed Orange Regional Waste Project is a major project to which Part 3A of the *Environmental Planning and Assessment Act, 1979* (EP&A Act) applies.

On 25 September 2008, the Director-General, as delegate for the Minister for Planning, formed the opinion that the proposed Orange Regional Waste Project is a major project to which Part 3A of the EP&A Act applies. Consequently, the Minister will be the approval authority for this project.

Please call me on 9228 6487 to discuss the assessment process for this project.

Yours sincerely

dkitto 31/10/08

David Kitto
Director
Major Development Assessment

Refer: S Sykes



Appendix B

Comparison of 2005 Development Proposal and the New Project



A comparison of the development proposal prepared in 2005, and amended in September 2007 and the Euchareena Road RRC project, introduced in this document, is provided in the table below.

Modified Attributes of the Former Proposal and New Project for the Euchareena Road Site

Component / Activity	Status of Modification
Euchareena Road Site Area	No change.
Euchareena Road Site Entrance and Site Access Road	No change.
Office and Weighbridge	No change.
Enclosed Composting Plant	The proposed plant replaces the more generic Receival Hall and Resource Reprocessing Facility.
Landfill Area	No change.
Method of Landfilling	All pre-treated mixed solid wastes from the Ophir Road RRC would be baled and placed into defined cells within the landfill. Separate cells within the landfill will be developed and used for other bulky non-putrescible wastes such as building / demolition and commercial / industrial wastes.
Internal Road Network	Minor changes proposed to reflect the design of the Enclosed Composting Plant.
Visual Amenity Bund and Vegetation Screens	No change to Northern Visual Amenity Bund or proposed vegetation screen.
Stock Movement Corridor	No change.
Retained Woodland Area	No change.
Utilities and Services	No change.
Leachate Management System and Evaporation Ponds	Minimal leachate is to be created, hence a new management system would be incorporated into the overall design. The former leachate evaporation ponds would be excluded from the new project. All leachate collected on site would be removed from site and transferred to the Orange Wastewater Treatment Plant.
Rehabilitation and Site Closure	Minor changes – more emphasis upon planting native vegetation on the final landfill surface to link the two areas of native woodlands on site.
Transportation	In total, fewer trucks would travel to and from the Euchareena Road RRC.

*As defined in the Supplementary EIS for the Hub Facility, dated September 2007



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Document Status

Rev No.	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
0	A Montgomery	D Gamble	<i>David Gamble</i>	D Gamble	<i>David Gamble</i>	13/02/09