

1.0 Introduction

1.1 Overview

Armidale Dumaresq Council (Council) has recognised the need to provide a long term solution to the region's waste disposal problem and proposes to develop the Armidale Regional Solid Waste (Putrescible) Landfill Facility (Landfill Facility) off Waterfall Way in Armidale, NSW. Council is the proponent for the project, on behalf of itself and three other participating councils: Guyra Shire, Uralla Shire and Walcha Councils. Council intends to be the owner and operator of the proposed landfill facility and would also be responsible for its management throughout the operational life and the subsequent rehabilitation phases. This EA supports and forms part of an Application for Project Approval for the proposed new landfill facility.

Armidale is a city of about 25,000 people, located in the Northern Tablelands (New England) region of northern NSW, about 500 kilometres north of Sydney on the New England Highway. The Project Site for the new landfill facility is located on Waterfall Way (also known as Grafton Road) about 12 kilometres east of the central business district (CBD) of the City of Armidale (refer **Figure 1** and **Figure 2**). The proposed landfill facility would be designed to accept up to 15,000 tonnes per annum (tpa) of general solid waste, up to a total capacity of 750,000 tonnes over the proposed life span of 50 years. The proposed landfill facility is intended to service the future waste disposal needs of the Armidale Dumaresq, Guyra Shire, Uralla Shire and Walcha LGAs.

Council's existing domestic waste landfill is located on a separate site, at the Armidale Waste Management Centre (on Long Swamp Road), close to Armidale City and about 10 kilometres from the Project Site (refer **Figure 1**). This facility currently serves both the Armidale Dumaresq and Guyra Shire LGAs. The proposed landfill facility on Waterfall Way is required as Council's existing landfill is rapidly reaching its final capacity. In 2003, Council commissioned a WTS at the Waste Management Centre that enables all wastes to be sorted for maximum recovery of recyclable materials. One of the primary objectives of the implementation of the WTS was to enable the adoption of sustainable waste management practices whilst maximising the operational life of the existing landfill. The operation of the WTS currently achieves a resource recovery (i.e. recycling) rate of 48.1% (refer **Section 2.4.2**). The WTS also enables strict controls to be imposed on the type of refuse ultimately being directed to landfill.

In 2004, Council received approval from the NSW Environment Protection Authority (EPA, the legal entity for licensing issues within the NSW Department of Climate Change and Water [DECCW]) to extend the operating area of its existing landfill at the Waste Management Centre. Even with this extension and Council's impressive resource recovery rate, the existing landfill is still fast approaching its final capacity. No further options are available to extend or otherwise prolong the life of the landfill, mainly due to the lack of further available land area at that site. An urgent need now exists to provide a long-term waste disposal solution for the region, before Council's existing landfill reaches its final capacity.

Council is committed to the reduction of waste being directed to landfill. It should be noted that the proposed landfill facility is not being considered in isolation of other waste management efforts being considered by Council including the future application of Alternative Waste Technologies (AWT), to further increase resource recovery rates and thus to reduce waste to landfill volumes in the future (refer **Section 2.2.2**).

AECOM Australia Pty Ltd (AECOM) has been commissioned by Council to manage the project's planning approvals, initial land acquisition, community and other consultation requirements, design, construction and commissioning. AECOM is also preparing a LEMP for the facility, as well as an application for an Environmental Protection Licence (EPL).

1.2 Environmental Assessment

1.2.1 Environmental Planning and Assessment Act

The *Environmental Planning and Assessment Act 1979 (EP&A Act)* and the *Environmental Planning and Assessment Regulation 2000 (EP&A Regulation)* provide a framework for environmental planning in NSW and include provisions to ensure that proposals which have the potential to impact the environment are subject to detailed assessment. The proposed landfill facility has the "capacity to receive more than 650, 000 tonnes of putrescible waste over the life of the site" (Group 9, 2005: 27) and is defined as a "resource recovery or waste facility" within Schedule 1 of *State Environmental Planning Policy (Major Development) 2005 (SEPP 2005)*. As such, the proposed landfill facility has been declared by the Minister for Planning as a 'Major Project' (02/09/2009) and is subject to the provisions of Part 3A of the *EP&A Act*.

This EA has been prepared by AECOM on behalf of Council, and supports and forms part of Council's Application for Major Project Approval of the proposed landfill facility in accordance with Part 3A of the *EP&A Act*.

The purpose of this EA is to provide sufficiently detailed information about the project and analysis of its environmental impacts, in order to appropriately inform the formal decision making process with respect to Major Project Approval. The EA identifies relevant approvals and permits that may need to be secured and discusses appropriate methodologies required to mitigate or minimise environmental impacts that have been identified.

1.2.2 Preliminary Environmental Assessment

A Preliminary Environmental Assessment (PEA) was prepared by AECOM in October 2008 to provide preliminary information to the Department of Planning (DoP) and other relevant agencies and stakeholders about the key elements of the proposed development, so that project-specific DGRs could be formulated. The PEA identified the key issues for further assessment and included a risk assessment of each potential environmental impact, as part of an overall process to identify whether an issue was potentially of high, medium or low environmental significance. The PEA also supported AECOM's request for updated DGRs to be issued by the DoP (October, 2008), as previously issued DGRs had since lapsed.

1.2.3 Director-General's Requirements

DGRs for the proposed development were originally issued in 2005, however due to delays in design development, an EA was not completed within the mandated two year period and updated DGRs were issued on 20 November 2008 (refer **Appendix A** for the full copy of the DGRs). These included the requirements of all other relevant NSW State government agencies, as well as the requirements of the Commonwealth Department of Environment, Water, Heritage and the Arts (DEWHA).

Pursuant to the requirements of Part 3A of the *EP&A Act*, this EA report has been prepared to:

- Conform with the requirements of the *EP&A Act*, including satisfying specific assessment requirements issued by the Director-General of DoP.
- Provide sufficient information so that the Minister for Planning can make a determination on the project.
- Identify other approvals that may be needed for the project to proceed.
- Inform the community and stakeholders about the project and describe the consultation activities undertaken.

The requirements of all other previously issued DGRs have also been considered during the preparation of this EA document. Copies of previously issued DGRs are presented in **Appendix A** of this report.

In preparing this EA report on behalf of Council, AECOM has examined and taken into account, as far as practicable, all matters affecting, or likely to affect the environment by reason of the development and operation of the proposed Armidale landfill facility.

An overview of the methodology for the approvals process, based on the provisions of Part 3A of the *EP&A Act* is presented in **Figure 3**.

1.3 The proposal

1.3.1 Objectives

The overall objectives of the proposed landfill facility proposal are to:

- *Provide a long-term, fully licensed waste disposal facility capable of servicing the population of Armidale Dumaresq LGA and other participating, surrounding LGAs.*
- *Protect the surrounding environment (including connectivity to the Oxley Wild Rivers National Park), through implementation and management of environmental controls and contingency measures.*
- *Continue efforts to ensure wastes are managed throughout the Armidale Dumaresq LGA in accordance with the waste management hierarchy and the principles of the Waste Avoidance and Resource Recovery Act 2001 (WARR Act), where disposal of waste to landfill is considered to be the final waste management option.*
- *Ensure that new technologies are progressively implemented in relation to resource recovery and environmental management of the proposed landfill facility throughout its life (including both operational and rehabilitation phases).*
- *Encourage and facilitate community participation in matters relating to regional waste disposal.*
- *Operate a waste disposal facility that is sympathetic to the amenity of the area in which it is located.*
- *Ensure that the proposed landfill facility is operated so that any emissions are in accordance with environmental health regulations and guidelines stipulated within relevant local, State and Federal Government policies and legislation.*
- *Provide a rehabilitated landfill that is complimentary to the surrounding rural land use and that will not produce an adverse environmental legacy for future generations.*

These project objectives will be used to guide Council's decisions about the provision of environmental controls and management measures, throughout the life of the proposed landfill facility and are reflected within the SoC (refer **Section 9.0**).

1.3.2 Major features of the proposal

The major features of the proposal include:

- Gross air space available (i.e. the total volume available for landfilling) has been calculated to be approximately 1,056,000 m³.
- Access to the site would be via Waterfall Way, from a point approximately 12 kilometres east of Armidale.
- An access road to the site is proposed to be constructed from Waterfall Way through the Gara Travelling Stock Route (TSR).
- Five landfill cells, each proposed to contain approximately 211,000 m³ of waste.
- An approximate cell life of 10 years is proposed for each cell, based on an estimated filling rate of up to 15,000 tpa.
- A separate leachate barrier and leachate collection and conveyance system is proposed within each cell.
- Tertiary surface water controls including clean stormwater (perimeter) diversion drains, leachate pond, a stormwater detention pond and a dry dam of sufficient capacity to contain all surface water on site, in the event that the capacity of all other surface water controls were to be exceeded.
- Final landform designed to complement the existing topography of the area.
- Substantial revegetation of the final surface would be conducted after final capping of the landfill in order to return the site to no less than the equivalent of the current level of vegetation.
- Areas of vegetation "offset" or compensatory habitat are also proposed to be developed at a 3:1 ratio (i.e. three times more revegetated area than the area quarantined for landfilling purposes). These offset areas are proposed to protect and regenerate approximately 60 hectares of land within the overall development site. Offsets would be established across the site, generally within those areas of the site that are not proposed for the actual landfilling operations.

1.3.3 Design and Operation

The proposed landfill facility would be designed in accordance with the DECCW (formerly DECC) *Environmental Guidelines: Solid Waste Landfills, 1996* (the *Guidelines*). Council would also seek an appropriate licence from DECCW under the *POEO Act* to operate the proposed landfill facility as a landfill for “General solid waste (putrescible)” materials (formerly labelled “Solid Waste Class 1” materials).

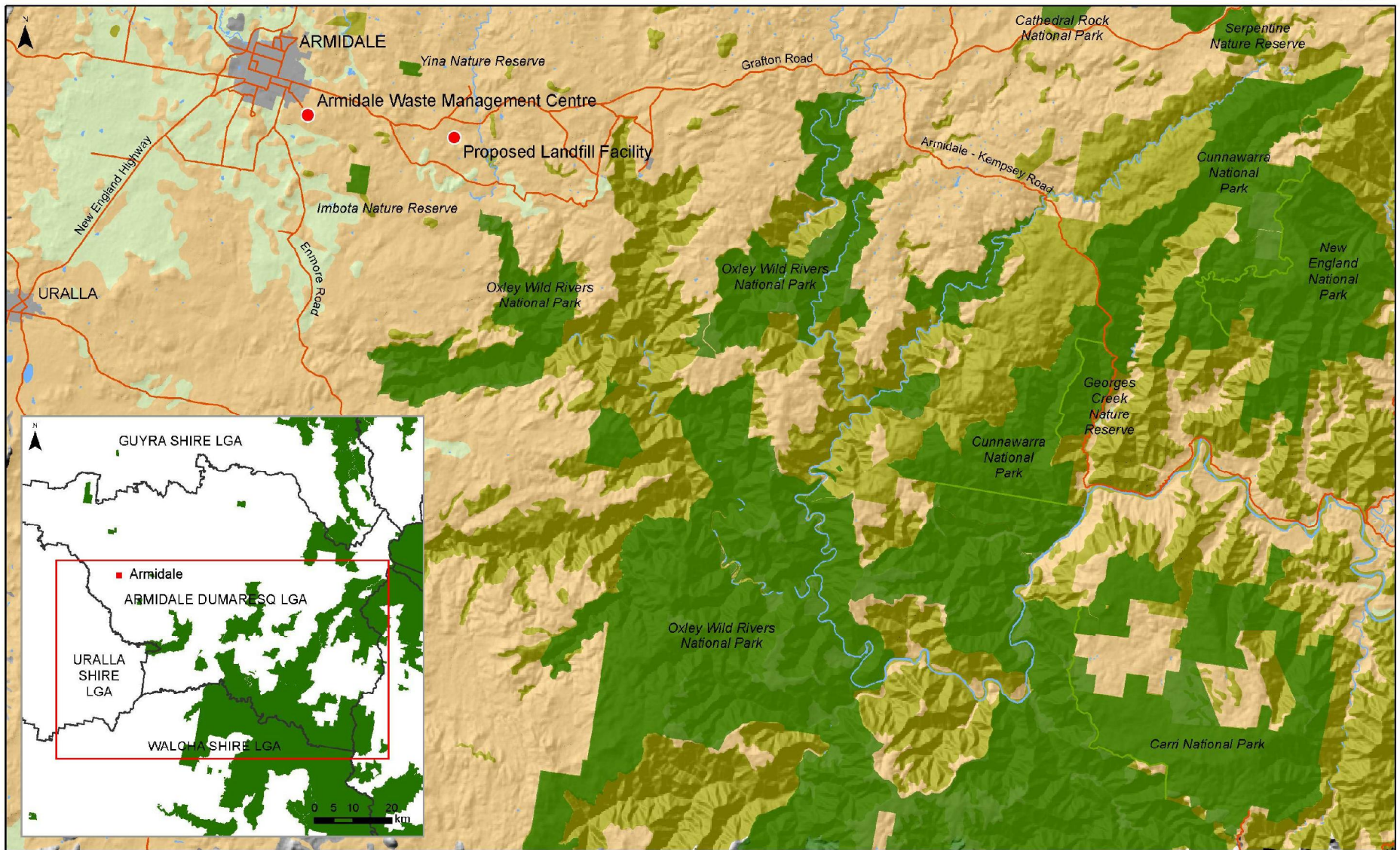
Materials collected via Council’s kerb side waste collections would continue to be sorted at the existing WTS at the Council Waste Management Centre on Long Swamp Road. The WTS sorts all materials that may feasibly be recycled and/or that should be disposed via another, more appropriate facility (including clinical waste, chemicals, batteries and discarded computer equipment, printers, and the like).

1.3.4 Land area requirements

An area of approximately 20 hectares would be required for the proposed landfill facility, including land required for the engineered sections of the landfill (landfill footprint), site buildings, leachate and surface water (stormwater) management measures and the access road from Waterfall Way. An area of approximately 61 hectares would be required for the biodiversity offset area (refer **Section 8.8.17**).

The total land area to be acquired by Council is approximately 86 hectares and is referred to as the Project Site (refer **Figure 2**). The proposed landfill facility and associated biodiversity offset area would be contained within the 86 hectare Project Site.

The proposed access road into the landfill would be approximately 1.8 kilometres long. The access road is proposed to intersect with Waterfall Way, traverse through the TSR and run parallel to the boundary fence between properties known as ‘Edington’ and ‘Strathaven’ (refer **Figure 4**). The section of access road located within the TSR is Crown Land and a licence would be sought to maintain an access easement over the TSR (refer **Section 6.2.2**).

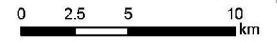


- NPWS estate
- Other forest or reserve
- Agricultural land suitable for grazing
- Agricultural land suitable for cultivation
- Urban area

ARMIDALE DUMARESQ COUNCIL - ARMIDALE REGIONAL LANDFILL FACILITY

PROJECT SITE - REGIONAL CONTEXT

Source: Map Data (2008), Dept. of Natural Resources (2004)

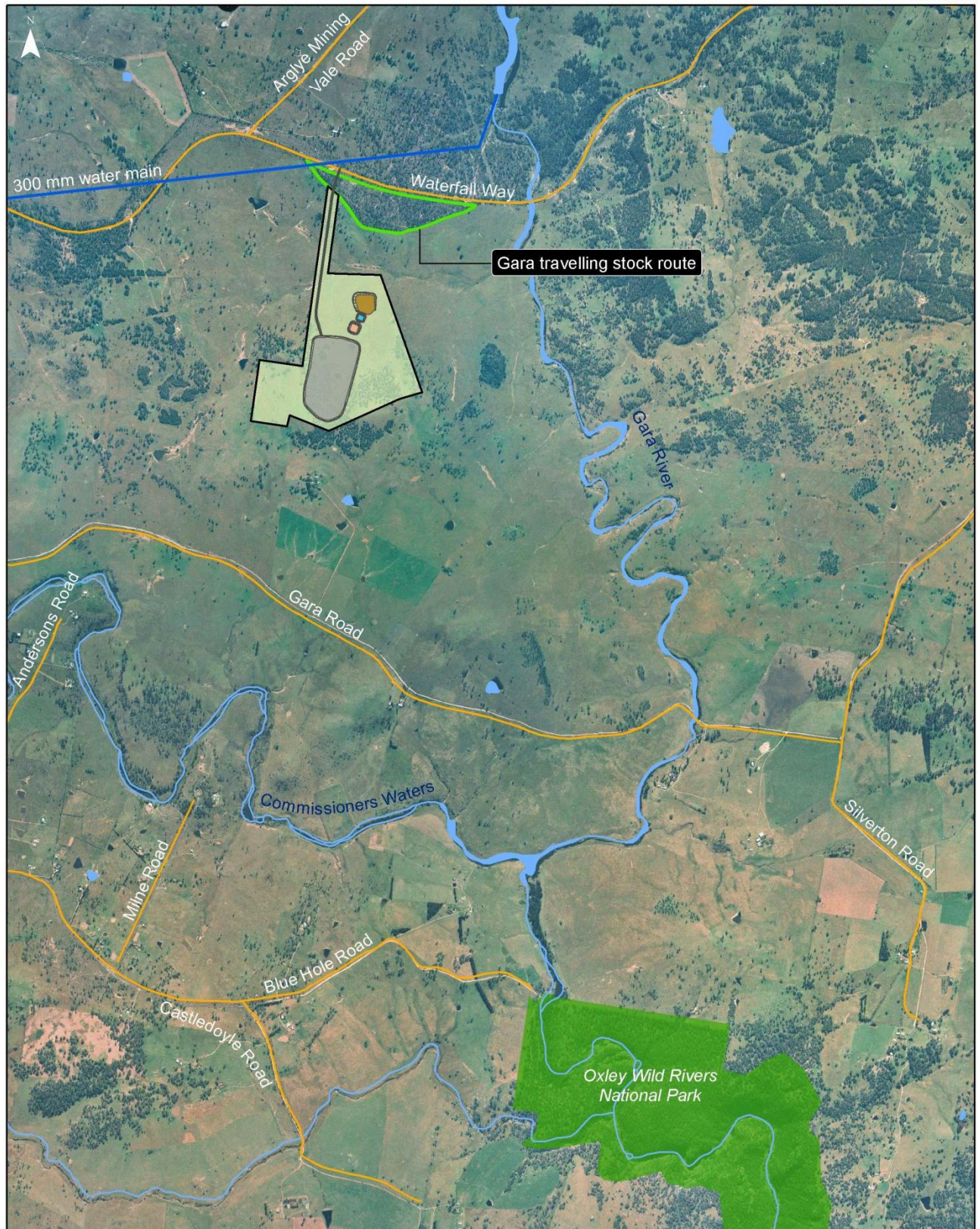


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Fig. 1

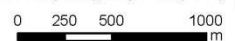
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- Biodiversity offset area
- Landfill footprint
- Leachate pond
- Sedimentation basin
- Dry basin
- NPWS estate
- Road
- Travelling stock route
- Permanent watercourse

ARMIDALE DUMARESQ COUNCIL - ARMIDALE REGIONAL LANDFILL FACILITY
PROJECT SITE - LOCAL CONTEXT

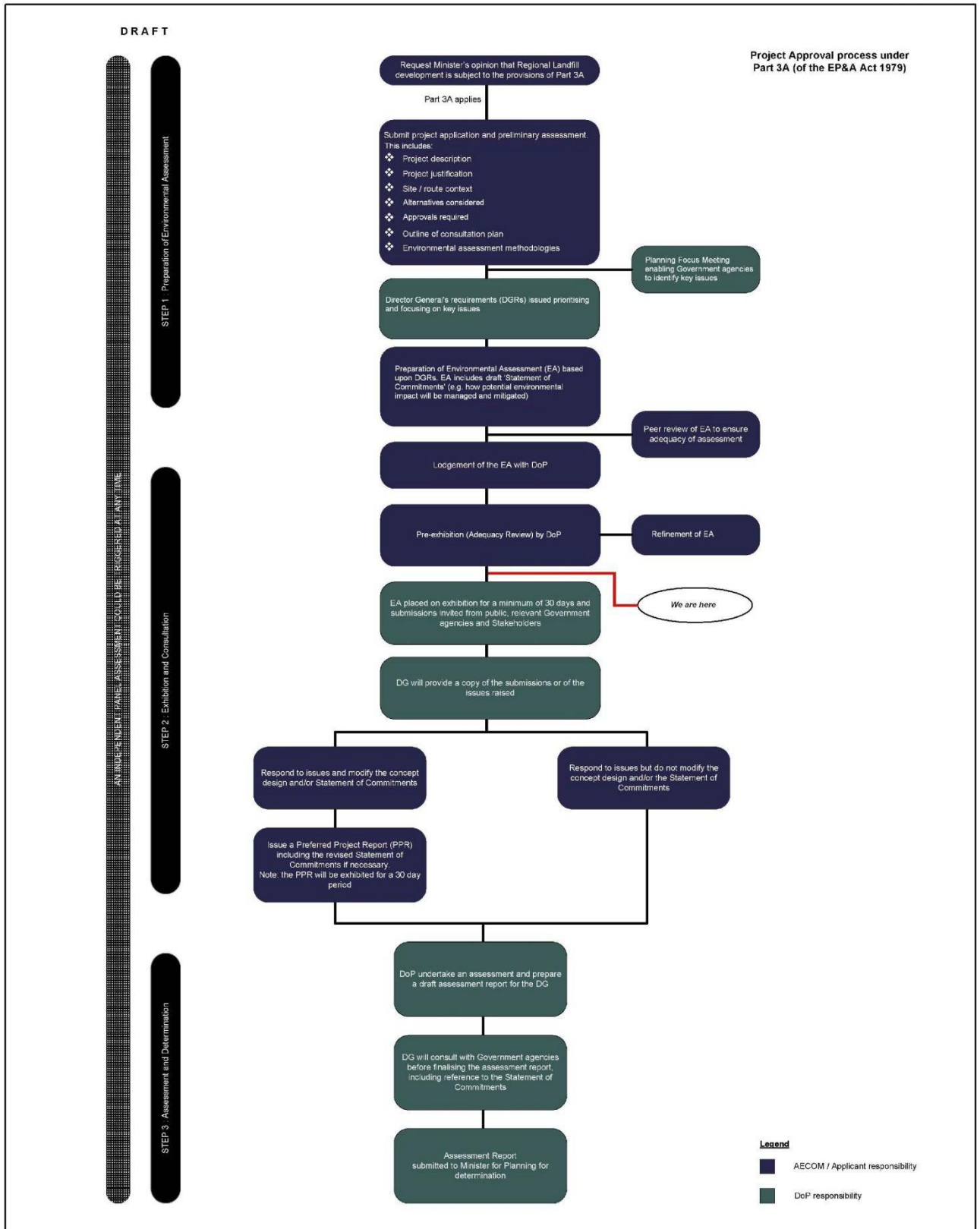
Source: EA Systems (2007), AECOM (2007), Map Data (2008)



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Fig. **2**

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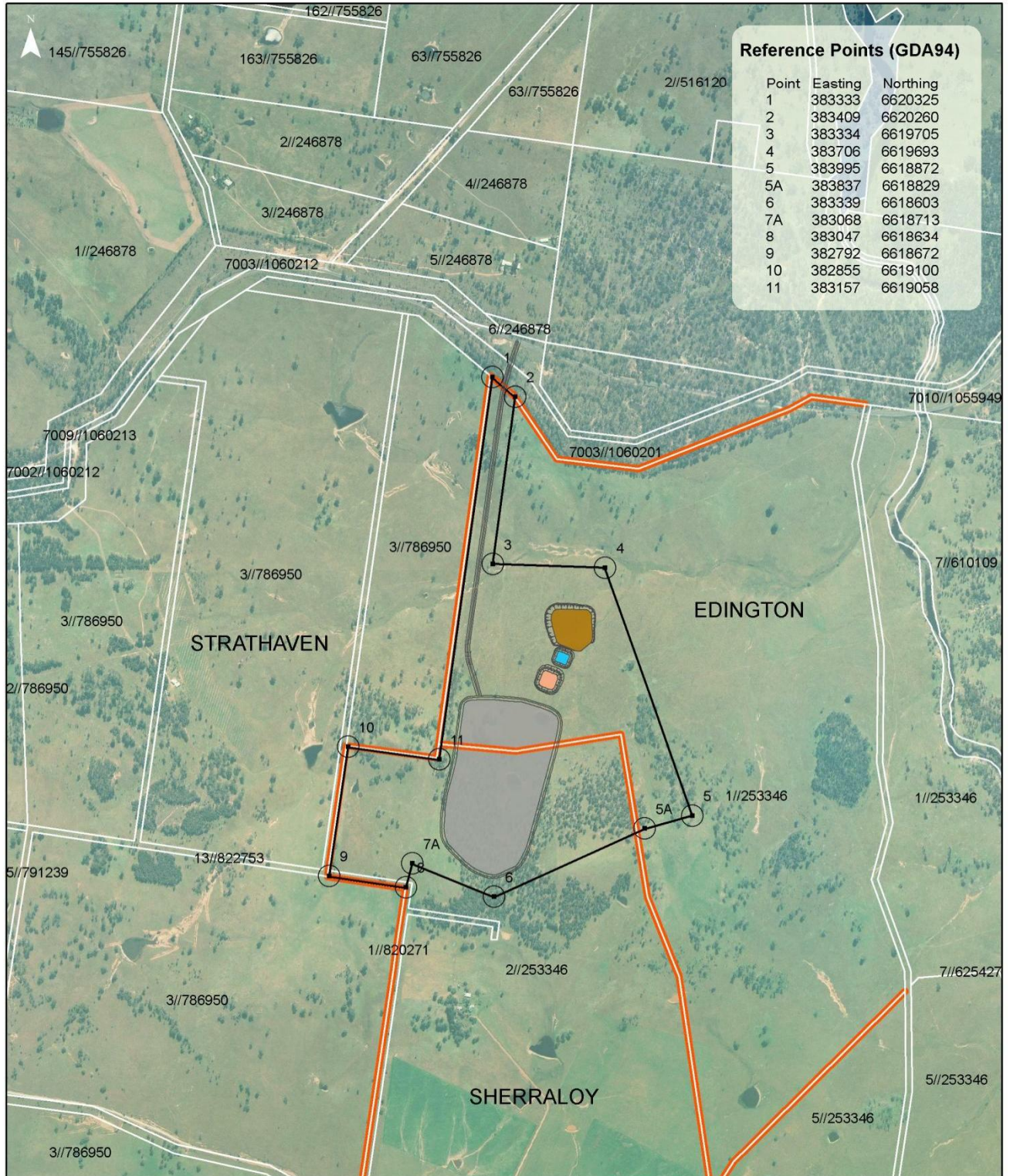


ARMIDALE DUMARESQ COUNCIL - ARMIDALE REGIONAL LANDFILL FACILITY APPROVAL PROCESS

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Fig. 3

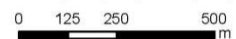
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- Reference points
- Biodiversity offset area
- Landfill footprint
- Leachate pond
- Sedimentation basin
- Dry basin
- Relevant property boundary

**ARMIDALE DUMARESQ COUNCIL - ARMIDALE REGIONAL LANDFILL FACILITY
PROPERTY BOUNDARIES**

Source: EA Systems (2007), AECOM (2007), Map Data (2008)



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Fig **4**

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1.4 Site Description

1.4.1 Regional Context

The Project Site is located less than four kilometres north of the Gara Gorge, which lies on the eastern escarpment of the Northern Tablelands and is part of the Great Dividing Range. The proposed landfill facility would be located in one of several drainage depressions that form the catchment to an unnamed creek that ultimately flows into the Gara River, about 1 kilometre to the east of the Project Site.

As can be seen from the aerial photography presented in **Figure 2**, a large proportion of the land surrounding the proposed development site has been cleared for agriculture. Much of the remaining lands comprise eucalypt regrowth, or trees up to 150 years old. Past grazing practices have severely limited understorey regrowth in these areas.

Significant land uses within the wider area surrounding the Project Site include the following (refer **Figure 1**):

- Oxley Wild Rivers National Park, 4 kilometres to the south-east of the site which contains features such as Cathedral Rock and the Wollomombi Waterfall, the highest in NSW.
- Cunnawarra and Carrai National Parks are located further to the east of the site, beyond the Oxley Wild Rivers National Park.
- The towns of Armidale and Uralla located approximately 12km to the west and 25km to the south-west of the site, respectively. Armidale has a population of around 25,000 within the LGA and contains the New England Regional Art Museum and the University of New England. Uralla was established in 1851 and has a population of approximately 6,000.
- The New England Highway located just west of Armidale, linking the towns of Hexham (just north of Newcastle) and Wallangarra (on the NSW / Queensland border).

1.4.2 Site Location and surrounding areas

The Project Site is located approximately 12 kilometres east of the City of Armidale along Waterfall Way (**Figure 2**) and is within the New England Tablelands Bioregion. The site is located to the south of the Gara TSR, west of the nearby Gara River and to the north of Commissioners Waters. **Plate 1** shows the portion of the site on which the proposed landfill facility would be located and provides an indication of the area's landform and overall rural setting.



Plate 1: Part of the Site Proposed for the Landfill

1.4.3 Key attributes of the surrounding areas

Topography

The terrain that surrounds the Project Site is generally undulating. The land is at a higher elevation to the north and south and gradually slopes towards a low lying area in the middle portion of the property. This lower area is characterised by an intermittent unnamed creek that flows in an easterly direction towards the Gara River (refer **Figure 2**). From this low lying area, the land slopes up towards the higher gradients of the proposed landfill footprint. Beyond the proposed landfill footprint, to the south, the land gradually slopes towards Gara Road and to the east falls towards the Gara River.

Climate

Climate data from the Bureau of Meteorology (Armidale Airport: Station No. 562238; and University of New England: Station No. 056037). Key climate characteristics include:

- Average annual rainfall of 832 mm per annum.
- Mean monthly minimum temperature range from 0.5°C (July) to 14°C (June).
- Mean monthly maximum temperature range from 13°C (July) to 27°C (January).
- Average number of frost days is 97 per annum.

Hydrology

The Gara River flows from north to south to the east of the Project Site. The minimum distance between the Gara River and the proposed landfill footprint is approximately 1000m.

Two unnamed intermittent drainage lines flow easterly towards the Project Site from the neighbouring property Strathaven. These unnamed drainage lines flow in westerly and south-westerly directions, merging to form a single gully which passes to the north of the Project Site and then joins the Gara River northwest of the Project Site.

The Gara River catchment is a major catchment in the local area. The Gara River flows into the Macleay River, and the mid and lower reaches form part of the Oxley Wild Rivers National Park and the Gondwana Rainforests of Australia World Heritage Area. Commissioners Waters also flows into the Gara River from the east upstream of the Oxley Wild Rivers National Park.

Vegetation

Five vegetation communities have been identified within and surrounding the Project Site:

- 1) Stringybark woodland advanced regrowth
This partially cleared woodland is dominated by New England stringybark regrowth. This community is common and widespread in the New England region, although endemic to the region.
- 2) Cleared grasslands
This community is dominated by native grasses and is common and widespread on private land, but generally in a heavily grazed condition.
- 3) Sedgeland
Sedgelands generally occupy the shallow drainage lines running through the grassland. This community is common and widespread in low-lying damp areas but on private land is generally in a heavily grazed condition.
- 4) Wetland (dams)
Farm dams within and around the Project Site support an artificial assemblage of wetland plants both around the edges and in the water.
- 5) Box gum woodland
Box gum woodland occurs on the Gara TSR that adjoins the northern boundary of Edington. This community is an EEC (*TSC Act 1995*) and is listed as Critically Endangered (*EPBC Act 1999*).

Fauna

The surrounding land is largely cleared and used for grazing livestock, however there are scattered fragments and patches of woodland. The wooded areas within the Project Site are utilised by a variety of birds including two species of threatened woodland birds, the Speckled Warbler (*Pyrrolaemus saggitata*) and the Diamond Firetail Finch (*Stagonopleura guttata*). A Little Eagle (*Hieraaetus morphnoides*) nest was also observed in the Stringybark Woodland.

Log piles resulting from clearing between 10 and 20 years ago provide potential habitat for ground dwelling native fauna, particularly reptiles. However, they also provide shelter for high densities of rabbits, foxes, feral cats and blackberries.

Key Site Attributes

Key attributes of the site and its surrounding areas that have influenced key aspects of the design of the landfill and its associated infrastructure requirements are as follows:

- Overall distance to the Gara River (located approximately one kilometre to the east).
- The significant distance from the Oxley Wild Rivers National Park World Heritage Area (located 4 kilometres to the south-east).
- The location of the Gara TSR. The Gara TSR is a partially protected remnant of good quality native vegetation located along Waterfall Way and the northern boundary of the Edington property.
- The nature of existing vegetation on the Project Site, providing potential habitat for various fauna species. These vegetated areas are located within the Gara TSR area and within an area to the immediate south of the Project Site.
- The proximity to existing rural residential dwellings (located within two kilometres of the Project Site, to both the west and south).

The Project Site as shown in **Figure 4** has been selected to minimise potentially adverse land use impacts, as well as severance of existing property boundaries due to either the proposed location of the landfill facility or its access corridor. For example, the route proposed to provide access to the landfill area would be aligned to run adjacent to the eastern boundary fence of the adjoining property known as 'Strathaven' in order to minimise the impacts on the existing agricultural land uses of the properties known as 'Edington' and 'Sherraloy'.

Approximately 86 hectares of land would be acquired by Council for the proposal. Of the 86 hectares, approximately 20 hectares would be occupied by the proposed landfill facility (landfill footprint, site buildings, leachate and surface water management measures and the access road from Waterfall Way) and 61 hectares would form part of a biodiversity offset area.

1.5 Land Ownership and Existing Development

The Project Site is proposed to incorporate portions of the Sherraloy and Edington properties (refer **Figure 4**). Edington is identified as Lot 1 DP 253346. Sherraloy comprises Lot 2 DP 253346 and Lot 1 DP 820271. These lots would be subdivided and appropriate portions, totalling 86 hectares, would be formally acquired by Council to facilitate the proposed landfill facility. This subdivision process forms part of Council's overall development proposal which is the subject of this EA.

Both 'Sherraloy' and 'Edington' have been previously developed as agricultural properties and are currently used as pasture land for intermittent cattle grazing. 'Sherraloy' also contains a rural residential dwelling occupied by the landowner. Council's proposed acquisition of parts of both of these properties and its subsequent use of the subject land for the proposed landfill facility, would not require significant alteration of any of the existing land uses currently being carried out within the residual portions of either property.

Seven small farm dams are also scattered across the Sherraloy property and two dams are located on the Edington property. The proposed landfill footprint and its associated buffer areas would be located on land in which two small farm dams on the Edington property are located.

Cadastral boundaries of affected properties are shown in **Figure 4**.

1.6 Land Classification

A system of five land classes is used by the former NSW Department of Primary Industries (DPI), now the Department of Industry and Investment (DII), to classify land with respect to its potential suitability for agricultural use.

The majority of the surrounding land within a two kilometre radius of the Project Site (as well as the majority of the land within the proposed landfill footprint) is classified by DII as “suitability Class 4”, defined as “land suited to grazing but not cultivation. Overall level of production is comparatively low due to major environmental constraints”. Class 4 land is regarded as potentially being suitable for only rain fed (i.e. not irrigated) grazing pasture.

The vegetated areas situated within the proposed landfill footprint are classified as “suitability Class 5”, defined as “land not suited for agriculture or only light grazing”. That is, this land would generally only be suited to support light native pasture grasses, if used for agricultural purposes.

1.7 Surrounding Development

The property known as ‘Strathaven’ is located immediately to the west of the Project Site. Strathaven contains an olive grove, estimated to be approximately seven hectares in area. This is believed to be the only significant “non-grazing” agricultural land use within the immediate vicinity.

Apart from the existing residence located about 410 metres south of the proposed development, within the portion of the Sherraloy property that is not proposed for acquisition for the development site, other existing land uses within a one (1) kilometre radius of the proposed landfill footprint are as follows:

- To the north of the site lies agricultural land used for sheep and cattle grazing, the TSR and Waterfall Way.
- To the south and east lies the Gara River (including a dry creek that flows from west to east through the site toward the Gara River), agricultural land used for sheep and cattle grazing, and other vegetated areas.
- To the west lies agricultural land used for sheep and cattle grazing and other vegetated areas, including the olive grove on the neighbouring Strathaven property.

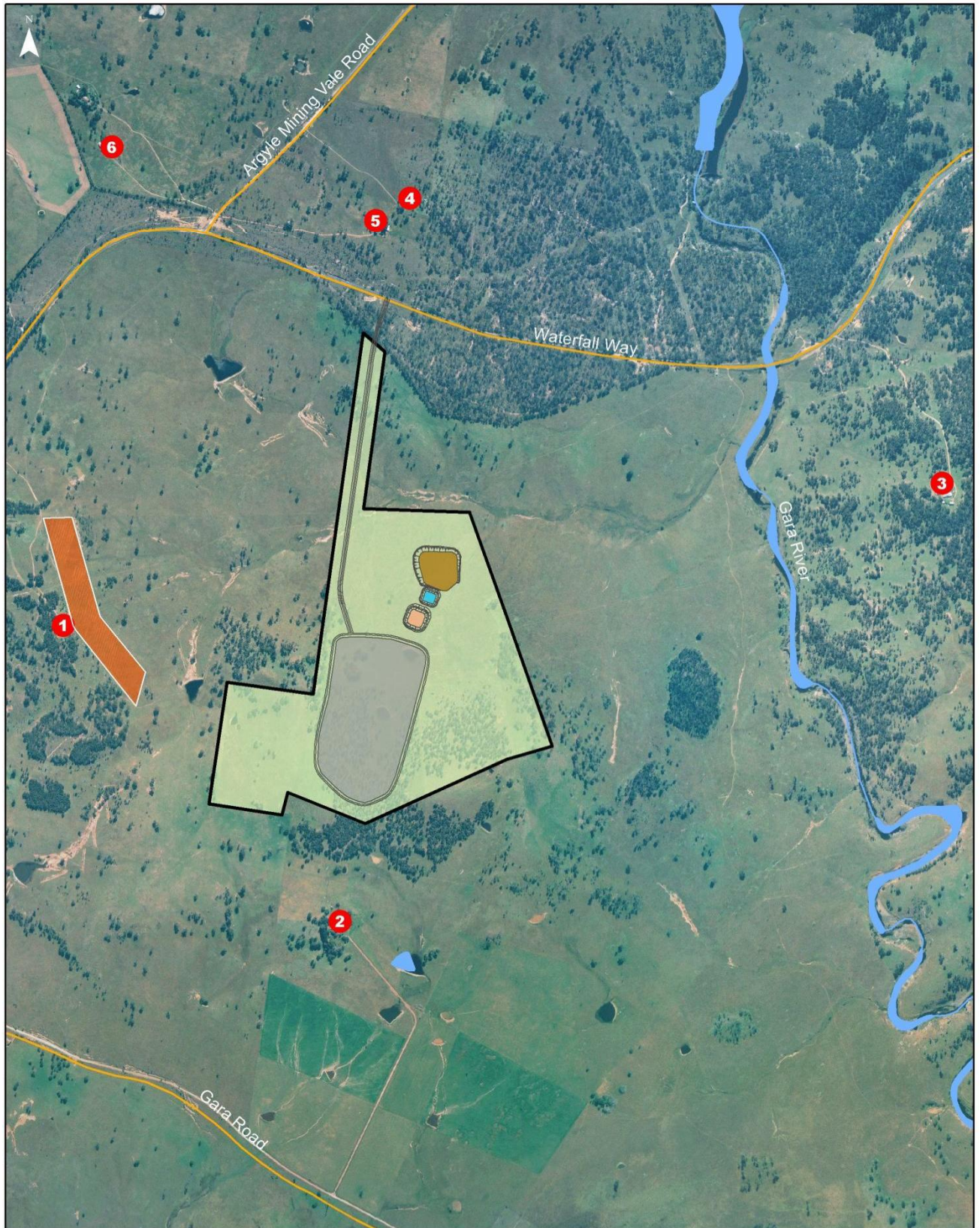
Surrounding development and sensitive receivers are shown on **Figure 5**.

1.7.1 Nearby Residential Receivers

The most significant potential receivers of any offsite impacts from the Project Site are the residential dwellings located closest to the site. The locations of all dwellings within a two kilometre radius of the site are shown on **Figure 5** and are also listed in **Table 1** (property owners’ names have not been listed within this document for privacy reasons). Potential impacts to all receivers have been investigated and are discussed in **Section 8.0**.

Table 1: Residential Properties (Receivers) around the Proposed Landfill Site

	Property/Receiver Name	Address	Direction and Distance from Proposed Landfill Footprint
1	Strathaven	1060 Waterfall Way, Armidale NSW 2350	West – 950 metres
2	Sherraloy	600 Gara Road, Armidale NSW 2350	South – 410 metres
3	Riverton	1352 Waterfall Way (also known as Grafton Rd), Armidale NSW 2350	East – 1.9 kilometres
4	-	52 Argyle-Mining Vale Road, Argyle via Armidale, NSW 2350	North – 1.5 kilometres
5	-	8 Argyle-Mining Vale Road, Argyle via Armidale, NSW 2350	North – 1.4 kilometres
6	-	7 Argyle-Mining Vale Road, Argyle via Armidale, NSW 2350	Northwest – 1.9 kilometres



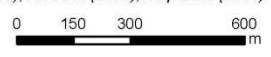
- ① Sensitive receivers
- Biodiversity offset area
- Landfill footprint
- Leachate pond
- Sedimentation basin
- Dry basin

- Olive grove (approximate location)
- Permanent watercourse

ARMIDALE DUMARESQ COUNCIL - ARMIDALE REGIONAL LANDFILL FACILITY

LOCATION OF SENSITIVE RECEIVERS

Source: EA Systems (2007), AECOM (2007), Map Data (2008)



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Fig **5**

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1.8 Project Approval Process

1.8.1 Approvals Process to Date

The *Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)* governs the Commonwealth EA process and provides protection for matters of National Environmental Significance (NES), including Australia's World Heritage properties.

The *EPBC Act* defines proposals that are likely to have an impact on matters of NES as a "controlled action" and also requires a referral to be made to the Commonwealth Minister for the Department of Environment, Water, Heritage and the Arts (DEWHA) for a determination about whether the proposed action is considered to be a controlled action. In October 2007, the Minister declared that the project is a controlled action under the *EPBC Act*.

The proposed development therefore requires approval under the *EPBC Act*. Assessment requirements of the Commonwealth have been incorporated into the formal requirements of the NSW State Government. While the State process is the primary mechanism for assessment, the project will ultimately be reviewed for approval at both State and Commonwealth levels on this basis.

Further discussion regarding the planning approvals process and other legislative matters is contained in **Section 6.0**. Details of consultation undertaken with the NSW planning authorities are contained in **Section 7.0**.

1.8.2 Stages of Project Development

The preparation and submission of an EA is only one aspect of the process involved in the development of a new landfill facility. The process of identifying a suitable location for the proposed landfill facility evolved over a period of approximately 10 years. The site selection process undertaken and the evaluation of sites are detailed in **Section 4.2**.

The process involved in the development of a new landfill facility is summarised in **Table 2**.

Table 2: Project Stages and Tasks for the Development of a New Landfill

Project Stage	Tasks	Notes
Investigate Facilities at Waste Transfer Station	Additional AWT investigations	Refer to Section 2.0 .
Consultation	PFM 09/06/2005 Receive DGRs 25/10/2005 Community consultation Consultation with authorities PFM 22/10/2008 Receive new DGRs 20/11/2008	Refer to Section 6.0 and 7.0 .
Pre-Planning Studies	Detailed survey Preliminary hydro-geotechnical investigation Additional groundwater investigation Flora and fauna assessment - Autumn Flora and fauna assessment - Spring AECOM lodges Site Suitability findings Council confirmation to proceed	Refer to Section 8.0 for results of pre-planning studies that have been used to assess the potential environmental impacts.
Preparation of EA	Preliminary design of landfill Detailed concept design of landfill Environmental studies undertaken EA undertaken	Refer to Sections 5.0 and 8.0 .
Planning Approval	Submit Final EA to DoP Public exhibition (minimum 30 days) DoP determination Prepare preferred project report (if required) DoP assessment and determination	After completion of the EA.

Project Stage	Tasks	Notes
Land Valuation and Acquisition	Revaluation of land requirements for development / acquisition Negotiation with private landowner(s) Acquire land through negotiation process Alternatively undertake just terms process Acquire land through just terms process Plan registration, subdivision certificate	Subject to planning approval.
Detailed Design	Landfill Water Management (Surface Water, Leachate etc) Roads Submit detailed design of the landfill facility to Council Council to review detailed design Finalise detailed design	The EA and Planning consent will influence the detailed design to ensure potential environmental impacts are minimised and mitigated.
Environmental Licence	Preparation / finalisation of LEMP Prepare EPL application to DECCW/ EPA Council to review Submit licence application to DECCW / EPA DECCW / EPA review and prepare licence Receipt of DECCW / EPA licence	Draft LEMP has been prepared and is being considered for consistency with this EA.
Construction	Contractor procurement Construction Commissioning Handover	Construction will be undertaken in accordance with the recommendations and SoC outlined within this EA and the conditions imposed by the EPL.

1.8.3 Correlation of the EA to the LEMP

A LEMP is a documented plan that outlines procedures proposed for the environmental management, monitoring, reporting and contingency measures that should be applied for appropriate management and operation of a landfill facility. The LEMP is an important guiding document that is used by DECCW (i.e. specifically the EPA, part of DECCW) in their administration and regulation of any licensed landfill.

A draft LEMP has been prepared and will be finalised as part of the detailed design process. The draft LEMP is presented in **Appendix B** and discussed further in **Section 9.2.3**.

Environmental management measures, during both construction and operation of a landfill identified in the EA would be included in the LEMP.

1.9 Structure of this Report

This EA has been structured to present the findings of the EA and consultation processes employed so far during this project.

The EA is presented in four volumes. Volume 1 comprises the sections identified in **Table 3**. Volumes 2 to 4 comprise appendices of technical studies and supporting documentation, relevant to this EA. Due to the period of time over which this EA has been prepared, technical reports and studies have been prepared between 2005 and 2010. These studies have been accepted as supporting documents to this EA.

Table 3: Outline of Report Structure

Section	Issues Addressed
Section 1 Introduction	Provides an introduction and context for the proposal, outlines the project objectives, describes the key attributes of the proposal and presents an overview of the EA process.
Section 2 Background and Project Need	Describes the project need. This section provides information on the existing waste management facilities operated by Council and the associated need for a new landfill facility. This section also provides a rationale behind Council choosing to develop a landfill facility that would be suitable for the receipt of wastes from other regional LGAs.
Section 3 Project Justification	Provides further justification for the project and information about its significance, the consideration of other options and an overview of the benefits and potential impacts associated with the site proposed for the landfill facility.
Section 4 Review of Alternatives and Site Selection Process	Addresses the alternatives assessed relating to site selection including the 'do nothing' option. The community consultation undertaken during the site selection process is also discussed in this section.
Section 5 Project Description	Describes the project and details the concept design, construction, staging, operation, closure and rehabilitation of the landfill facility.
Section 6 Planning Framework	Describes the planning context and approval process.
Section 7 Consultation	Describes the consultation process undertaken with all key stakeholders, in accordance with the requirements of the <i>EP&A Act</i> and provides details of the issues raised during this process.
Section 8 Environmental Impact Assessment	Provides details of the environmental impacts assessment undertaken. It describes the existing environment, outlines potential environmental impacts resulting from the construction and operation of the proposed landfill facility, and presents appropriate mitigation measures to avoid or ameliorate potential impacts.
Section 9 Draft Statement of Commitments	Provides a draft SoC by Council for the project and provides details of the environmental monitoring, management and reporting process that will be undertaken.
Section 10 Residual Risk Assessment	Provides a Risk Assessment for the proposed landfill facility.
Section 11 Sustainability	Provides information on the sustainability issues and initiatives related to the proposal.
Section 12 Conclusion	Presents the key findings and conclusions of this EA.
Section 13 References	Provides a list of the reference documents used in this EA.

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