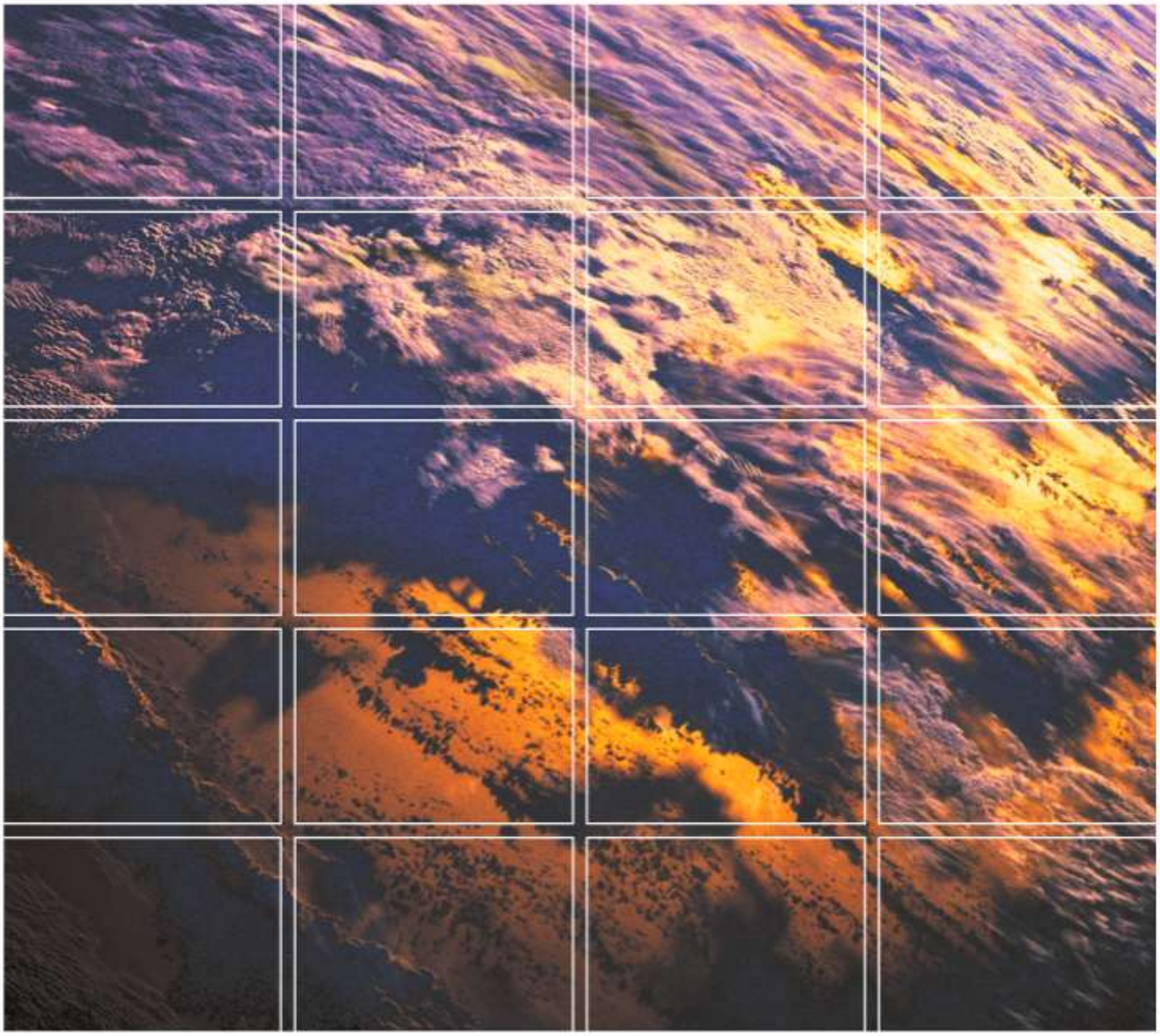

Kendall Bay Sediment Remediation Project

Request for Secretary's Environmental Assessment Requirements

For Jemena Limited

September 2014

0170208

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FINAL REPORT

Jemena Limited

Kendall Bay Sediment Remediation Project
Request for Secretary's Environmental Assessment Requirements

September 2014

Reference: 0170208

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Kendall Bay Sediment Remediation Project

Request for Secretary's Environmental Assessment Requirements

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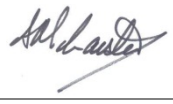
Signed:	
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1 INTRODUCTION

1.1 OVERVIEW

Jemena Ltd (Jemena) is requesting Secretary's Environmental Assessment Requirements (EARs) for the preparation of an Environmental Impact Statement (EIS) to accompany the State Significant Development (SSD) application for the proposed Kendall Bay Sediment Remediation Project (the Project). New EARs are necessary for the Project given that the existing Director General's Requirements are over two years old (issued on 10 August 2011) and that there has been a new State Significant Development Declaration for the Project. The new SSD Declaration, issued under Government Gazette Number 77, dated 19 September 2014, includes the remediation works proposed within Areas A and B in Kendall Bay (refer *Figure 2.2*), and the use of a site located at 140 Tennyson Road, Mortlake (herein referred to as the 'staging site'), to facilitate sediment remediation works in Kendall Bay. The Project does not involve any works or activities in public parks.

The staging site is intended to be used exclusively for the Project. The staging site benefits from direct access to Parramatta River, with existing wharf facilities and an industrial building, which until January 2014 was used as a commercial marina. As part of Jemena's commitment to carrying out the Project, Jemena has purchased the staging site, with the sole purpose of securing it to facilitate the carrying out of the Project and minimising impact on the community.

The overall Project will reduce the current human exposure risks and facilitate safe recreational use of those areas required for remediation near the shoreline in the south western corner of Kendall Bay and at a former wharf where historic discharges occurred. The Project will also improve the current ecological condition of Kendall Bay and reduce potential bioaccumulation impacts among the marine biota.

1.2 PROJECT BACKGROUND

In May 2004, the bed of the Parramatta River and Kendall Bay within 200m from the shoreline bordering the former Mortlake Gasworks was declared a 'Remediation Site' by the NSW Environment Protection Authority (EPA) (formerly the Department of Environment and Climate Change (DECC)) under Section 21 of the *Contaminated Land Management Act 1997* (CLM Act). The EPA declared area is identified in *Figure 2.2*.

Investigations carried out by the Australian Gas Light Company (AGL) (now known as Jemena) established that areas of sediments within the Bay had been contaminated and AGL entered into a voluntary remediation proposal (VRP) with the NSW EPA on 20 September 2005. The VRP committed AGL to further

investigations and to remediate particular sediment areas, which are further detailed below.

The Project proposes to address the concerns raised in the Human Health Risk Assessment (HHRA) reported in 2007, involving numerous environmental investigations and detailed risk assessment involving the EPA, the Department of Health and a number of technical experts. This resulted in remediation areas A and B being delineated within Kendall Bay, which were agreed to by the EPA on 27 November 2007.

More recently in 2014 (SKM, 2014), an updated Human Health Risk Assessment was prepared that confirmed the concentrations of contaminants within the sediments in certain parts of Kendall Bay, continue to pose a health risk to recreational users of the shoreline and the near shore environment. Also completed in 2014, (SKM 2014) was a draft Remedial Action Plan (RAP), which amended and increased remediation areas A and B, from that previously agreed to in 2007, to which the EPA further agreed in writing on 14 July 2014.

Jemena proposes to secure approval for remediation works (including ancillary activities) the under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The Project was initially declared a 'Major Project' under the former Part 3A of the EP&A Act in 2008. The Project was then transitioned to 'State Significant Development' as determined by the Minister for Planning and Infrastructure (now Planning and Environment) in accordance with Clause 6.1 of Schedule 6A of the EP&A Act, published in in the *NSW Government Gazette Notice No. 44* on 12 April 2013.

With the inclusion of the staging site, a new SSD declaration was issued, and subsequently published in the *NSW Government Gazette No. 77* dated 19 September, 2014. This declaration has the effect of ensuring that the proposed sediment contamination treatment works at the staging site are integrated and form part of the overall sediment remediation works within Kendall Bay.

Further detail about the Project Area is set out in *Section 2.2.1.*

1.3 PURPOSE OF THE DOCUMENT

Environmental Resources Management Australia Pty Ltd (ERM) has been commissioned by Jemena to commence the preparation of environmental assessments for the Project. This request for EARs will facilitate the preparation of the EIS and initiation of the SSD application process.

Specifically, this report has been prepared to:

- obtain the EARs to proceed with the preparation and completion of the EIS and associated SSD application process;

- ensure that the Project Area is correctly noted and included within the SSD application;
- describe the key components of the Project, including the incorporation of 140 Tennyson Road into the Project as a 'staging site';
- identify the planning provisions that apply to the Project Area;
- identify the potential environmental, social and economic implications associated with the Project; and
- provide sufficient information for the relevant agencies to make an informed decision on the items to be addressed in the EIS.

1.4 PROJECT JUSTIFICATION

The justification for the Project is based on the following key objectives:

- meet Jemena's obligations for the management / remediation of sediments within Kendall Bay;
- alleviate the current risk to human health through voluntary or involuntary contact with contaminated sediments; and
- promote ecological diversity and alleviate adverse ecological impacts.

The above key objectives are further discussed in the subsequent section.

1.4.1 Risk to Human Health

The HHRA reported by SKM (2014), concluded that concentrations of contaminants within the sediments in certain parts of Kendall Bay, pose a health risk to recreational users of the shoreline and the near shore environment. The risks were associated with dermal exposure to polycyclic aromatic hydrocarbons (PAHs) within the bed sediments during recreational activities, particularly wading and beach play in the accessible areas of the shoreline.

Two areas of Kendall Bay (Area A and Area B) have been identified as requiring remediation. The approximate extent of these remediation areas follows environmental investigations and detailed risk assessments involving the EPA, the Department of Health and a number of technical experts.

The Project will reduce the current human exposure risks and facilitate safe recreational use of those areas required for remediation near the shoreline in the south western corner of Kendall Bay and at a former wharf where historic discharges occurred.

1.4.2 Marine Ecology

The Ecological Risk Assessment (URS 2006) concluded that there was a potential for adverse ecological effects to organisms residing in Kendall Bay. Notwithstanding the two areas to be remediated, the results indicated that the sediments across most of the EPA declared area, do not pose an unacceptable ecological risk and that ecological impacts are localised to these specific areas. A preliminary ecological investigation conducted by ERM (2012) concluded that the shoreline environment is in poor ecological health which can be attributed to the high concentrations of contaminants within sediments.

In addition, the current condition of the sediments is unlikely to be capable of supporting a sustainable and productive benthic habitat, which contributes to the aquatic ecosystem within Kendall Bay.

The Project will improve the current ecological condition of Kendall Bay and reduce potential bioaccumulation impacts among the marine biota.

1.4.3 Voluntary Remediation Agreement and Environmental Responsibility

Jemena is committed to meeting its obligation under the VRA to reduce the current ecological and human health risks posed by the contaminated sediment. Jemena is also committed to undertake the Project to meet their corporate social and environmental responsibilities.

1.5 APPLICANT DETAILS

Details of the applicant are outlined below:

Proponent	**Jemena Limited**
Primary Contact	Tyrone Singleton (HSE Operations, Risk and Assurance Manager)
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2 PROJECT DESCRIPTION

This Chapter provides an overview of the proposed sediment remediation process, site location and anticipated timing of the Project. This information has been provided to assist in the assessment of potential impacts associated with the removal, treatment and disposal of contaminated sediment from areas A and B in Kendall Bay.

2.1 SITE DESCRIPTION

2.1.1 Site Locality

Kendall Bay is located on the southern side of the Parramatta River, within the Canada Bay Local Government Area (LGA). It is located directly to the east of the Breakfast Point residential development and to the north of the suburb of Cabarita. Cabarita Park is situated to the immediate east of Kendall Bay, and extending to the eastern shoreline of the Bay.

The dredged sediment will be processed at the staging site, which was formerly a marina operated by River Quays Pty Ltd. It is currently vacant and has been acquired by Jemena to facilitate the treatment and transport of the excavated sediment. The staging site is located on the southern shoreline of Fairmile Cove within the Parramatta River and situated approximately 1.4 kilometres (km) north-west of the remediation area in Kendall Bay.

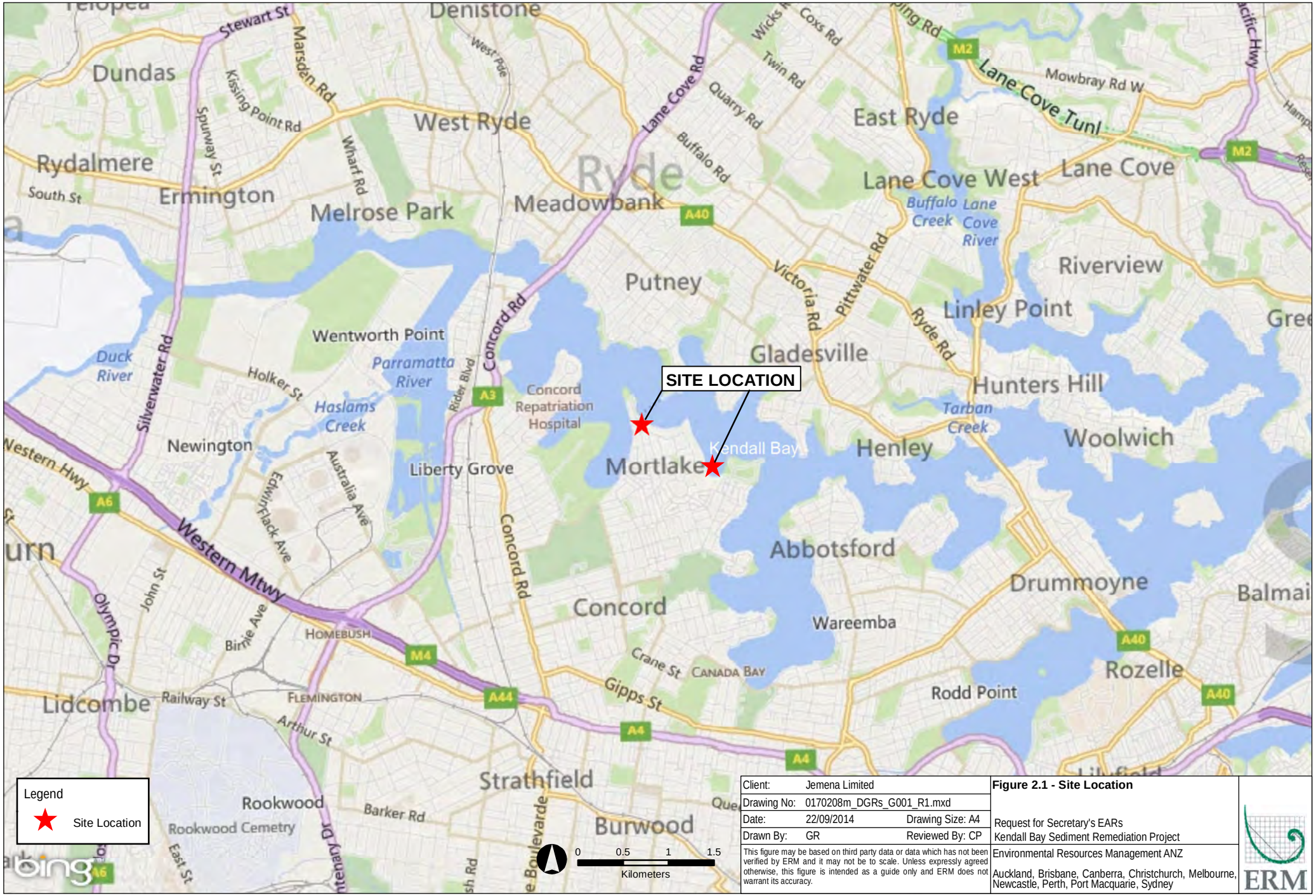

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Figure 2.1 - Site Location

Request for Secretary's EARs
Kendall Bay Sediment Remediation Project

Environmental Resources Management ANZ

Auckland, Brisbane, Canberra, Christchurch, Melbourne, Newcastle, Perth, Port Macquarie, Sydney

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2.1.2 *Site Ownership and Jurisdictions*

The marine area of Kendall Bay is subject to the *Sydney Regional Environmental Plan (SREP) (Sydney Harbour Catchment) 2005*, and falls under the jurisdiction of the NSW Roads and Maritime Service (RMS). The areas immediately adjacent to Kendall Bay are zoned "General Residential", "Public Recreation" and "Medium Density Residential" according to the *Canada Bay Local Environment Plan (LEP) 2013*. These land use zonings, which comprise the shoreline area surrounding Kendall Bay, are under the jurisdiction of the Canada Bay Council. Further, the staging site is zoned "R1 General Residential" under the LEP. Jemena Ltd is the current owner of the land referred to as the 'staging site', at 140 Tennyson Road, Mortlake.

2.1.3 *Surrounding Context and Land Uses*

The land surrounding Kendall Bay comprises a western shoreline consisting of a walkway, with a medium density residential backdrop situated on the former gasworks site (the development forming Breakfast Point). The southern shoreline area consists of an intertidal beach and mangroves, and is more natural in comparison to the western shoreline. The eastern shoreline largely consists of rock outcrops and smaller pockets of mangroves.

Cabarita Park is located to the immediate east of Kendall Bay with internal access roads and picnic areas extending throughout the parkland.

The Parramatta River is located to the north of Kendall Bay. A mixture of both powered private and commercial vessels is used on the waterway along with unpowered craft, such as canoes, row boats and small yachts. Large passenger ferries also operate along the river between the Sydney CBD and Parramatta.

Breakfast Point is situated to the immediate west of Kendall Bay and consists of residential dwellings, which are predominately attached medium density dwellings and residential apartment buildings.

Kendall Bay is predominately used for recreational purposes by small private motorised boats, canoes and row boats. Kendall Bay can be accessed by pedestrians utilising the shared pathway that leads from Cabarita Point to Kendall Bay, and there is a public boat ramp adjoining the public wharf towards the north western corner of Cabarita Park.

The staging site is adjoined by the Parramatta River to the north and north east, light industrial buildings to south and west, and residential dwellings generally located slightly beyond the marina site to the north-west and south east.

2.2 *PROJECT OVERVIEW*

An overview of the remediation area and the remediation approach currently being considered by Jemena is outlined in the subsequent sections.

2.2.1 *Project Area*

It is proposed that the Project Area will comprise the following areas:

- the remediation works area within Kendall Bay (Areas A and B) and approximately 10m to 15m surrounding those areas for associated silt curtains, which are areas owned by RMS;
- the staging site, which comprises:
  - a land-based area located at 140 Tennyson Road, Mortlake; and
  - surrounding waterway area (which is owned by RMS) and wharf structures; and
- the water-based corridor between the staging site and the remediation works area within Kendall Bay, which falls within the area the subject of the EPA declared area, and includes:
  - an area approximately 10m to 15m seaward of the seawall alignment between the staging site and Area A to accommodate a floating pipeline; and
  - a Project navigation route between the staging site and Areas A and B to accommodate potential barging.

These three key areas are outlined in the subsequent sections and shown in *Figure 2.3.*

2.2.2 *Remediation Areas*

The Project will involve the removal of contaminated sediments within two defined areas (Areas A and B) totalling approximately 13,600 square metres (m^2). Area A occupies an area of approximately 10,000m^2 situated within the southern portion of Kendall Bay, extending into the southern and eastern shoreline areas. Area B, located adjacent to the western shoreline of Kendall Bay, occupies an area of approximately 3,600m^2.

2.2.3 *Staging Site*

The treatment of contaminated sediment will occur at the proposed staging site. The staging site provides direct access to Parramatta River, which is strategically important as it enables ready access to Kendall Bay, without the reliance on adjoining parkland. All plant and equipment to be utilised as part of the Project will be transported from the staging site to Kendall Bay.

2.2.4 EPA Declared Area

The Project Area is within the EPA Declared area, including the project navigation route and a floating dredge pipeline, which will be used to facilitate the transport of the removed sediments from the remediation areas to the staging site.

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Figure 2.2 Project Area

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Kendall Bay Sediment Remediation Project

Environmental Resources Management ANP

Auckland, Brisbane, Canberra, Christchurch, Melbourne, Newcastle, Perth, Port Macquarie, Sydney

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2.2.5 *Description of the Project*

Development consent is being sought for the Project, which comprises the following key activities:

- site establishment works, including environmental controls and associated preparatory works;
- excavation of contaminated sediments from Remediation Area A and B to a depth of up to approximately 600 mm utilising:
  - a combination of cutter suction and mechanical dredge excavation methods; or
  - only the mechanical dredge excavation method.
- transportation of sediments from Kendall Bay to the staging site via either pumping of removed sediments to the staging site via a floating pipeline combined with the transport of oversized material (rock, debris etc.) via barge and/or barging of removed sediments within a wet bin to the staging site.
- sediment treatment at the staging site involving passive and mechanical means, treatment of waste water and treatment through immobilisation via cement stabilisation (agreed to in an EPA approved Specific Immobilisation Approval) and disposal to a licensed land fill facility under a general waste classification;
- capping of the excavated areas within Remediation Area A and B by placement of an engineered cap over the dredged/excavated surface within the remediation areas and placement of a clean soil layer not less than 500mm thick by mechanical means to return Kendall Bay to its pre remediation bathymetry.
- Demobilisation of plant and equipment and reinstatement of Project Area.

A Remedial Action Plan (RAP) has been finalised for the Project, which will provides further information around the remediation methodology. The RAP will be submitted as part of the SSD application. The Project Plan provided at *Figure 2.3* presents key aspects of the concept forming the remediation methodology.

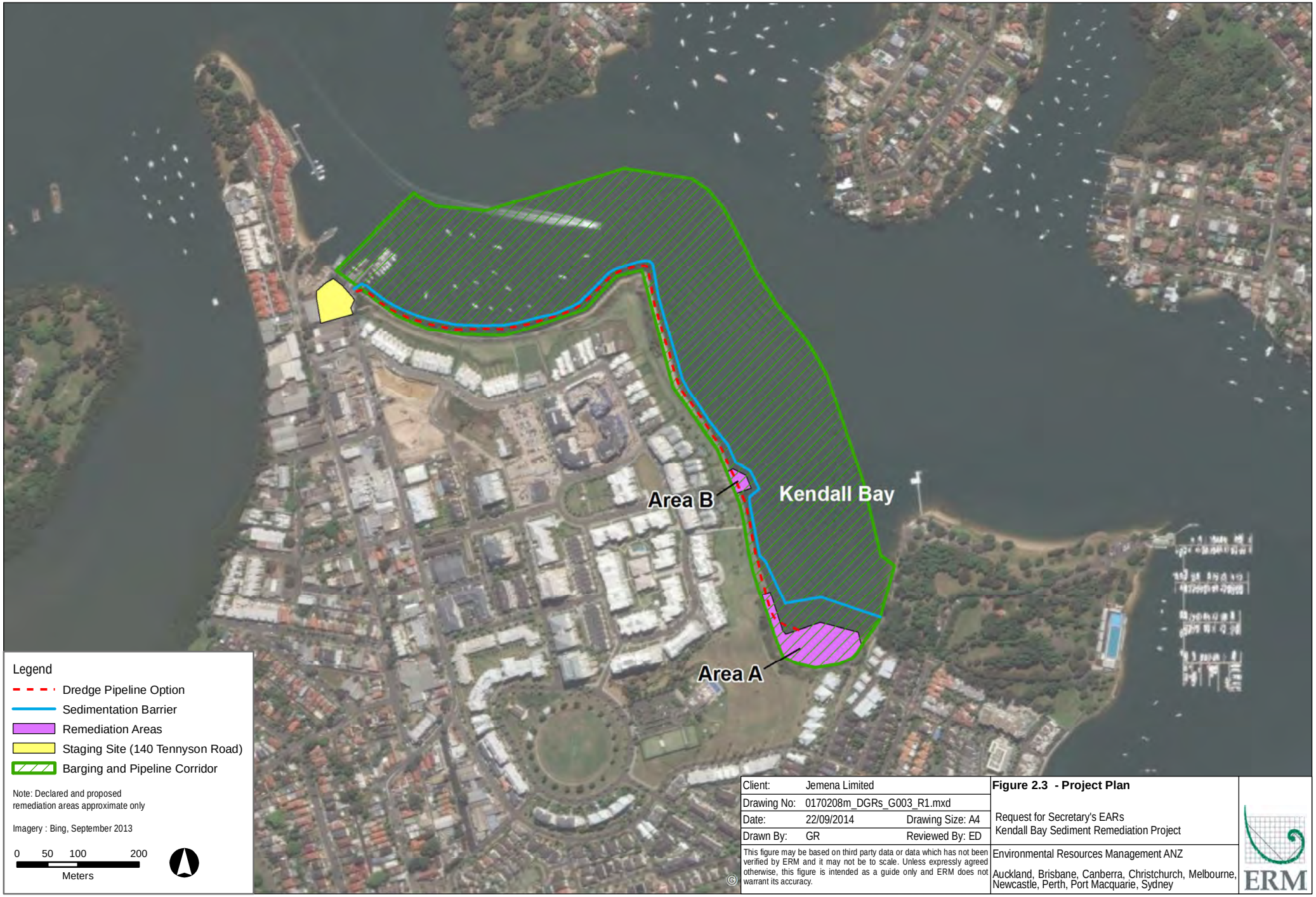

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Figure 2.3 - Project Plan

Request for Secretary's EARs
Kendall Bay Sediment Remediation Project

Environmental Resources Management ANZ

Auckland, Brisbane, Canberra, Christchurch, Melbourne, Newcastle, Perth, Port Macquarie, Sydney

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2.3 *PROJECT TIMEFRAME*

An anticipated conservative timeframe to complete the Project is between 12 to 18 months. A breakdown of the timing of the key project tasks is outlined in *Table 2.1*.

Table 2.1 Project Timeframe

Project Task	Approximate Timeframe
Mobilisation, site establishment and commissioning	3 months
Undertake remediation, capping and filling works within Kendall Bay and the staging site (inclusive of a 6 months contingency period)	6-12 months
Site reinstatement and decommissioning	3 months

3 STATUTORY CONSIDERATIONS

3.1 COMMONWEALTH LEGISLATION

3.1.1 Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is the primary Commonwealth environmental legislation of relevance to the approval status of the Project.

Under the EPBC Act any action that has, or is likely to have, a significant impact on a Matter of National Environmental Significance (MNES) requires approval from the Commonwealth Minister for Sustainability, Environment, Water, Population and Communities. The EPBC Act also requires Commonwealth approval for certain actions on Commonwealth land.

An action is defined as a project, development, undertaking, activity (or series of activities), or alteration to any of these. MNES include:

- World Heritage properties;
- National Heritage places;
- Ramsar wetlands of international importance;
- listed threatened species and communities;
- internationally protected migratory species;
- Commonwealth marine areas; and
- impacts on the environment from nuclear actions.

Any proposed action that is expected or has the potential to have an impact on matters of MNES must be referred to the Commonwealth Minister for Sustainability, Environment, Water, Population and Communities for assessment under the EPBC Act, or assessed under the bilateral agreement between the Commonwealth and the State of NSW.

Implications for the Project

The Project is not located within a World Heritage Area, Ramsar wetland or Commonwealth marine environment. The Project Area also does not contain National Heritage places, or involve nuclear actions. Ecological and heritage investigations undertaken to date by ERM identified that the Project will not impact on any listed threatened species and communities or internationally protected migratory species.

Given no impacts to MNES are anticipated at this stage from the Project, it is unlikely the Project will be referred to the Commonwealth Minister.

3.2 NSW LEGISLATION

3.2.1 Environmental Planning and Assessment Act 1979

The relevant State planning legislation for major projects in NSW is the EP&A Act. The EP&A Act instituted a system of environmental planning and assessment in NSW and is administered by the Department of Planning and Environment (DP&E).

Implications for the Project

Approval for the Project is sought under the SSD provisions (Division 4.1) of Part 4 of the EP&A Act. The Project has been formally declared as SSD based on an order by the Minister for Planning and Environment published in the *NSW Government Gazette No. 77,* on 19 September, 2014.

3.3 APPLICABLE APPROVALS AND PERMITTING

Section 89K of the EP&A Act outlines approvals that cannot be refused if necessary for carrying out SSD Projects. It states:

An authorisation of the following kind cannot be refused if it is necessary for carrying out State significant development that is authorised by a development consent under this Division and is to be substantially consistent with the consent:

- *Protection of the Environment Operations Act 1997* - an environment protection licence under Chapter 3 of the Act; and
- *Roads Act 1993* - a permit under Section 138 to impact on public roads.

3.3.1 Protection of the Environment Operations Act 1997

The Protection of the Environment Operations Act 1997 (PoEO Act) is concerned with waste disposal and pollution in NSW and provides the licencing framework for types of pollution generated by the construction and operation of developments. Schedule 1 of the Act provides a list of activities requiring an environmental protection licence under the Act.

Implications for the Project

It is anticipated that an environmental protection licence issued under the PoEO Act will be required for treatment of contaminated sediments and the discharge of treated waste water to the Parramatta River or Kendall Bay.

3.3.2 Roads Act 1993

The *Roads Act 1993* (Roads Act), provides the regulatory framework for undertaking various activities on public roads. The Roads Act is administered by the NSW RMS who has jurisdiction for major roads. Other road authorities include the local Council for local roads and the Department of Lands for Crown roads and other road reserves.

Section 138 of the Act outlines the provision regarding the permitting for undertaking activities on public roads.

Implications for the Project

No road works are proposed to any public roads, therefore no approval under the Roads Act is anticipated for the Project.

3.4 OTHER NSW LEGISLATION

3.4.1 Contaminated Land Management Act 1997

The *Contaminated Land Management Act 1997* (CLM Act), administered by the NSW EPA, provides a framework, for establishing and controlling the process for the investigation and where appropriate remediation, where the area of contamination presents a risk to human and/or ecological health.

Implications for the Project

The proposed remediation site in Kendall Bay was declared a remediation site under the CLM Act on 25 May 2004. This declaration is issued as a Remediation Order (RO) under Section 23 of the CLM Act, and was issued to NSW Maritime on 22 June 2007. The RO has the effect of restricting activities and works across the declared area, unless otherwise approved by the EPA. On 20 September 2005, AGL entered into a VRP under section 26 of the CLM Act. The Project is being carried out by Jemena to satisfy its obligations under VRP.

3.4.2 Threatened Species Conservation Act 1995

The *Threatened Species Conservation Act 1995* (TSC Act) lists threatened species, populations and ecological communities under Schedules 1 and 2 of the Act, that are priorities for conservation within NSW.

Implications for the Project

An ecological investigation undertaken by ERM (2013) of the shoreline and marine area within Kendall Bay concluded that the Project would not impose any adverse impacts on listed threatened species, communities or populations under the Act. Further marine ecological investigations may need to be undertaken around the staging site during the preparation of the EIS.

3.5 NON- APPLICABLE APPROVALS

Section 89J(1) of the EP&A Act outlines approvals which are not required for an approved project under the provisions for SSD. This includes the following authorisations relevant to the Project which may have otherwise needed to be attained:

- *Fisheries Management Act 1994*- permit to remove, destroy or damage mangroves and a permit for work within a waterway;
- *National Parks and Wildlife Act 1974*- a permit under section 87 or consent under section 90;
- *Heritage Act 1977*- approval to disturb an item under Part 4, or an excavation permit under section 139;
- *Native Vegetation Act 2003*- authorisation to clear native vegetation or state protected land;
- *Rural Fires Act*- a bushfire safety authority; and
- *Water Management Act 2000*- water use approval under section 89, a water management work approval under section 90 or an activity approval under section 91.

3.6 STATE ENVIRONMENTAL PLANNING INSTRUMENTS

3.6.1 State Environmental Planning Policy (State and Regional Development) 2011

State Environmental Planning Policy (SEPP) (State and Regional Development) 2011 provides a framework to identify major developments to be assessed as SSD under Part 4 of the EP&A Act.

Implications for the Project

The SEPP (State and Regional Development) does not apply to the Project.

The Project initially transitioned from the former provisions of Part 3A to SSD based on an order by the Minister for Planning and Infrastructure published in the NSW Government Gazette Notice No. 44. *A* recent request was made to the Minister to make an new SSD declaration to include the revised Project Area incorporating the staging site. This was undertaken in accordance with the provisions of Section 89C (3) of the EP&A Act and published in the NSW Gazette No. 77, 19 September 2014.

3.6.2 State Environmental Planning Policy No 55 (Remediation of Land)

The object of the *State Environmental Planning Policy No. 55* (SEPP 55) is to provide for a State wide planning approach to the remediation of contaminated land and in particular, the policy aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment.

The Project requires consent as Category 1 development under SEPP 55. Clause 8 of SEPP 55 enables the remediation works to occur with development consent.

3.6.3 Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005

The SREP 2005 covers the area of Sydney Harbour, including Parramatta River and its tributaries and the Lane Cove River. The aim of the plan is to establish a balance between promoting a prosperous working harbour, maintaining a healthy and sustainable waterway environment and promoting recreational access to the foreshore and waterways. It establishes planning principles and controls for the catchment as a whole. The plan consolidates and replaces the following instruments: - Sydney Regional Environmental Plan No. 22 - Parramatta River; - Sydney Regional Environmental Plan No. 23 - Sydney and Middle Harbours; and amends State Environmental Planning Policy No. 56 - Sydney Harbour Foreshores and Tributaries.

The sediment remediation works within Kendall Bay are in the Foreshore and Waterways Area zoned W1 Maritime Waters under the SREP. Remediation works, including soil contamination works are not listed within the SREP and therefore in accordance with Clause 18(2) development is permitted with consent.

Whilst the soil remediation works will include dredging elements, they are ancillary to overall works and in any event, 'dredging' is permissible with consent in the W1 zone.

3.7 LOCAL PLANNING CONTEXT

3.7.1 Canada Bay Local Environment Plan 2013

The aims of the LEP 2013 are; to create a land use framework that allows detailed provisions to be made, including; to maintain and enhance the existing amenity and quality of life of the local community; to ensure development embraces the principles of ecological sustainability; to identify and conserve those items and localities that contribute to the built form, environmental and cultural heritage of Canada Bay; to protect and manage areas of remnant bushland, natural watercourses and threatened species; to provide measures to retain, and where possible to extend, public access to the foreshore areas of Canada Bay and to control development in those areas; to provide effective community participation and consultation for planning and

development; to provide clarity and certainty for the community and development applicants, while allowing flexibility to respond to changing needs.

The land comprising 140 Tennyson Road, Mortlake is zoned R1 General Residential under the Canada Bay LEP. The objectives of the R1 General Residential Zone are:

- *to provide for the housing needs of the community;*
- *to provide for a variety of housing types and densities; and*
- *to enable other land uses that provide facilities or services to meet the day to day needs of residents.*

Implication for the Project

The bed of Kendall Bay and consequently the area requiring remediation is not caught by the LEP. However, the staging site is caught by the LEP.

The intended use of the staging site is most likely defined as a "contaminated soil treatment works" (being works for on-site or off-site treatment of contaminated soil, including incineration or storage of contaminated soil, but excluding excavation for treatment at another site), which is identified within Schedule 3 of the Environmental Planning and Assessment Regulations (the Regulations).

The structure of the LEP 2013, with relevant land uses being listed as permissible, and all others being listed as prohibited, indicates that the use of the staging site for contaminated soil treatment works is a prohibited land use under LEP 2013.

The inclusion of the staging site at 140 Tennyson Road, Mortlake is an integral component of the Project, assisting in the timely carrying out of the Project, as well as in its ability to effectively comply with the VRP.

The use of the staging site in the Project is permitted by clause 89E of the EP&A Act. Clause 89E of the EP&A Act applies to SSD, and allows development consent to be granted on the staging site despite the development being partly prohibited by LEP 2013.

The Project will be carried out under SEPP 55 and accordingly the planning controls in the LEP 2013 are not relevant to the Project.

3.7.2 Canada Bay Development Control Plan 2011

The *Canada Bay Development Control Plan (DCP) 2011* provides non-statutory planning controls for new developments with the aim to produce high standards of design and improve the environmental amenity and liveability for residents within the LGA.

Implication for the Project

Broadly, controls relating to the following aspects, which are outlined in the DCP will be addressed in the EIS:

- contamination;
- odour and air quality;
- traffic impacts;
- acid sulphate soils ;
- car parking and access;
- heritage;
- noise controls;
- waste management; and
- environmental and residential amenity.

Whilst the controls and objectives of the DCP 2011 will be considered and where applicable addressed as part of the EIS, under the provisions of the EP&A Act compliance is not required.

4 ENVIRONMENTAL AND SOCIAL ISSUES

This Chapter aims to identify the extent of potential impacts from the Project and identify further specialist assessments required to support a robust EIS. The potential impacts outlined in the subsequent sections have been identified through:

- preliminary specialist assessments undertaken to date; and
- a review of the initial key issues provided in DGRs issued for the former Part 3A Project Application (Application Number MP_08_0020) for the remediation of contaminated sediments in Kendall Bay in 2008 and supplementary DGRs issued in August 2011.

4.1 ENVIRONMENTAL AND HUMAN HEALTH RISK

The URS (2006) DRG report focused on chemicals associated with coal gasification and included the analysis of surficial sediments and water samples for total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene and xylene (jointly termed BTEX), napthalene, polyaromatic hydrocarbons (PAHs) and cyanide (free and total). The analytical results were used to assess the potential for sediment contamination to cause adverse effects to benthic organisms. The results suggested that the condition of the sediments is unlikely to be capable of supporting a sustainable and productive benthic habitat, which contributes to the aquatic ecosystem within Kendall Bay. Based on this, the suspension of the contaminants during the dredging process has the potential to impact on marine environmental receptors in the absence of adequate control measures.

As previously discussed, URS (2007) undertook a HHRA and more recently SKM (2014) to examine exposure risks associated with the contaminated bed sediments within the remediation areas. The relevant toxicity data, exposure scenarios, exposure assumptions and models were developed and agreed to with the DECC (now EPA) and NSW Health (now NSW Ministry of Health). The HHRA used average and worst case exposure assumptions for adults and children and assumed prolonged (i.e. lifetime) exposure to contaminants in the investigation area. The HHRA focused on gasworks-related chemicals, namely TPH, BTEX, PAHs and cyanide, with identification of chemicals of potential concern (COPC) based on reported concentrations from within Kendall Bay.

The findings of the investigations indicate that PAHs were the primary chemicals of potential concern (COPC) in sediments within the remediation areas.

Concentrations of PAHs in sediment exceeded the Interim Sediment Quality Guidelines (ISQG) within the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC & ARMCANZ, 2000). Concentrations of PAHs in sediment have potential to pose adverse effects to benthic organisms in some areas.

An assessment for potential acid sulfate soils (PASS) to occur within Kendall Bay was undertaken as part of the Preliminary Remediation Planning report. The findings from the investigations were that there was an exceedance of the action criteria trigger values for the samples indicating that the sediments have characteristics that suggest they are PASS and along with the high volume of sediment which is likely to be disturbed (> 1,000 tonnes), triggers the need for a detailed Acid Sulfate Soils Management Plan.

4.1.1 Conclusions and further assessment

Given the recognised potential for exposure of contaminated sediment to impact on the environment and human health, the following will be undertaken throughout the assessment period and addressed in the EIS with respect to the Remediation Areas A and B:

- document the studies undertaken to quantify the extent and volume of contamination to be remediated;
- describe the studies undertaken to quantify the risk to the environment and to human health;
- preparation of a specialist Health Risk Assessment (HRA) to better clarify the potential impacts to human health and ecological receptors during the Project implementation;
- describe the controls to manage environmental and human health risk including sediment containment, water treatment, monitoring and the identification of trigger levels against which compliance will be measured; and
- exposure risks associated with PASS.

4.2 WATER QUALITY

The remediation of sediments has the potential to impact on the water quality in the localised vicinity of Kendall Bay. Environmental controls would be required to manage the dispersal of contaminated sediment outside of the remediation areas. This would include but not be limited to the installation of silt curtains around the remediation areas and the pipeline leading to the staging site if the transport of dredged sediment via pipeline is adopted.

4.2.1 Conclusions and further assessment

Based on the potential impact to water quality associated with removal of contaminated sediment from the remediation areas the following will be undertaken throughout the assessment period and addressed in the EIS:

- establish the physical and chemical processes likely to result in sediment mobilisation and contaminant release;
- establish the controls that will be implemented to manage contaminant release; and
- develop a monitoring program and identify trigger levels against which compliance will be measured.

Consultation would be carried out with Office of Environment and Heritage (OEH) and the EPA during the development of the monitoring program and the establishment of trigger levels.

A Water Quality Management Plan would be prepared and implemented for the Project.

4.3 EROSION AND SEDIMENT CONTROL

The Project involves various construction activities that require the implementation of erosion and sediment control measures both at the remediation site and the staging site. The management of the dispersion of turbidity plumes potentially containing elevated levels of contaminants into Kendall Bay is the key environmental management issue associated with the works.

Measures to reduce the spread of turbid plumes would be adopted to allow tidal flushing whilst preventing unacceptable movement of disturbed sediments to other parts of Kendall Bay. The natural turbidity of shallow waters in Kendall Bay during tidal movement, especially when subject to wind action, prevents turbidity monitoring as an effective monitoring tool.

4.3.1 Conclusions and further assessment

The following will be undertaken throughout the assessment period and addressed in the EIS:

- describe all potential processes which may contribute to potential erosion and sedimentation impacts and develop control measures to manage the potential impacts; and
- address the potential sedimentation and erosion impacts and outline management measures for implementation for the duration of the Project.

4.4 AIR QUALITY AND ODOUR

The Project has the potential to release coal tar odour into the atmosphere when the contaminated sediment is exposed to air. Odour emissions have the potential to occur during excavation of contaminated sediment in the intertidal portion of remediation Area A, and during the sediment treatment phase at the staging site.

Given the close proximity of residences to both Kendall Bay and the staging site, air quality and odour is recognised as a key issue requiring management.

There is also the potential for dust to be emitted during onshore site establishment works at Kendall Bay and at the staging site during the unloading and storage of fill material.

4.4.1 *Conclusions and further assessment*

Given the potential for odour exposure and the potential disruption to sensitive receptors in the vicinity of remediation works, the following will be undertaken throughout the assessment period and addressed in the EIS:

- Preparation of a specialist odour impact assessment to identify the likely sources and processes causing potential odour emissions and quantify the potential impacts;
- document the controls that will implemented to manage odour release such as covering exposed sediments or chemical treatment;
- develop a protocol for reducing odour should odour levels exceed an acceptable level; and
- preparation of a Project specific Air Quality Management Plan which documents the potential impacts and the prescribed management measures for implementation for the duration of the Project.

4.5 ECOLOGY

The remediation areas are located within a disturbed aquatic environment and existing mangroves border part of the foreshore area adjacent to Area A. Initial investigations undertaken by ERM indicate that the shoreline area of Kendall Bay, including the mangroves, is heavily disturbed and does not provide valuable habitat for marine and bird fauna.

A review of documented records of the locations of threatened flora and fauna species listed under the EPBC Act and TSC Act was undertaken. Threatened species records were accessed from an OEH Bionet Wildlife Atlas database search, which was undertaken utilising a 5km buffer from Kendall Bay.

A total of 47 species consisting of two frog, 31 bird (including one threatened population), 13 mammals, and one terrestrial snail species have been previously recorded within the locality.

Of the 47 threatened species reported, 16 species are considered to potentially utilise the marine and intertidal habitats within Kendall Bay, with the majority being bird species.

A search on the EPBC Act Protected Matters Search Tool for the Project Area listed a number of threatened and migratory species or species habitat that may occur within the area.

4.5.1 Conclusions and further assessment

To establish the potential impacts on the marine ecology of the Project Area, the following will be undertaken during the assessment period and addressed in the EIS:

- prepare a site specific marine ecology assessment to fully characterise the marine environments and quantify the potential impact to key ecological receptors; and
- establish control measures for implementation throughout the Project to manage potential impacts to the ecological receptors.

4.6 NOISE AND VIBRATION

Short-term and temporary noise and vibration impacts are likely to be generated during the Project. Noise may be generated from construction machinery, excavation and dredging activities, treatment of sediment at the staging site, barging activities, loading of sediment into trucks and vehicle movements.

4.6.1 Conclusions and further assessment

Given the potential for noise and vibration emissions, the following will be undertaken throughout the assessment period and addressed in the EIS:

- describe the likely sources of noise and vibration and location of key receptor locations both in the vicinity of Kendall Bay and the staging site;
- prepare a noise impact assessment incorporating noise and vibration modelling at key receptor locations and quantify the likely impact against appropriate standards and guidelines; and
- identify management measures to reduce noise emissions to an acceptable level.

A noise and vibration management plan would be prepared and implemented for the Project.

4.7 *TRAFFIC AND TRANSPORTATION*

The remediation works will generate traffic, both in terms of road traffic and vessel movements around Sydney Harbour and the Parramatta River, from a number of activities including:

- initial site establishment (construction traffic from trucks and barges);
- delivery of materials to service the Project, mainly by trucks to the staging site and barges to the works area;
- staff vehicle movements; and
- truck movements associated with the transport of the treated sediment to the licenced waste facility.

4.7.1 *Conclusions and further assessment*

The following will be undertaken to further assess the potential traffic related impacts and will be addressed in the EIS:

- prepare a specialist traffic and transport impact assessment to quantify the number of vehicle and vessel movements and qualitatively assess the potential impacts of the Project related traffic on the local road network; and
- a marine based report identifying the safe movement of barges and vessels within the Parramatta and Sydney Harbour in accordance with the RMS and the Sydney Harbour Master requirements.

A Traffic and Transportation Management Plan would be prepared and implemented for the Project.

4.8 *INDIGENOUS AND EUROPEAN HERITAGE*

Indigenous Heritage

It is considered unlikely that items of Aboriginal significance are located within the remediation area. Further, it is unlikely that Aboriginal significant items will be encountered at the staging site due to the limited ground disturbance required as part of the site establishment.

European Heritage

The Project Area is located adjacent to the Mortlake Punt ramp and Cabarita Park, which are listed as heritage items under Schedule 5 of the LEP 2013.

Given the proximity of the listed items, a heritage impact statement will be required to clarify the extent of potential impacts and outline specific management measures for implementation for the duration of the Project. The 'Lady Edeline' shipwreck, located to the east of the staging site and within the EPA declared area is listed on the Australian National Shipwreck Database (Shipwreck ID 1050) and is protected by the NSW *Heritage Act 1977*. The wreck will also be considered in the heritage impact statement.

4.8.1 Conclusions and further assessment

The following will be undertaken throughout the assessment period and addressed in the EIS:

- conduct a literature review of previously recorded Aboriginal items;
- outline the measures to be applied in the event that aboriginal items are uncovered; and
- prepare a heritage impact statement for the heritage listed items.

4.9 WASTE MANAGEMENT

The activities undertaken as part of the proposed remediation works would generate several waste streams including:

- general waste streams generated from site personnel and construction activities; and
- excavated treated sediments from the remediation areas in Kendall Bay.

4.9.1 Conclusions and further assessment

The following will be undertaken during the assessment phase and addressed in the EIS:

- laboratory analysis to clarify the anticipated waste classification of the treated sediment;
- preparation of a comprehensive Waste Management Plan for waste materials handling and recycling;
- identification of appropriately licensed waste transporters and waste management facilities for each waste stream; and
- implementation of a system for tracking and certification of all waste movements.

4.10 VISUAL IMPACTS

The surrounding area of Kendall Bay includes medium density residential dwellings and public recreational areas along the foreshore of the Parramatta River. Temporary structures surrounding the remediation area will likely be visible from residential dwellings at Breakfast Point and users of Cabarita Park. The potential amenity impacts will be experienced for the duration of Project.

As discussed in *Section 2.2.5,* temporary structures to service the treatment of the contaminated sediment will be erected within the staging site. It is anticipated that these structures will include the water treatment plant, dewatering equipment (tanks etc.) and an enclosure for emission control. Much of the equipment for carrying out the remediation works at the staging site will be housed inside the existing on site building. The potential impact on the visual amenity of the surrounding area at key receptor locations will be addressed in the EIS.

4.10.1 *Conclusions and further assessment*

A Landscape and Visual Assessment Report will be prepared identifying potential visual impacts at key receptor locations at Kendall Bay and the staging site. Where required, illustrations will be used to depict actual impacts and mitigation measures, where appropriate, will be identified and discussed in the EIS.

4.11 HAZARDS AND RISKS

To determine if the facility is a potentially hazardous development an initial risk screening assessment was undertaken in accordance with the procedure outlined in Section 7 of the *Applying SEPP 33 Guidelines* (NSW DoPI, 2011).

A preliminary assessment of anticipated dangerous goods and the likely quantities to be stored and utilised was undertaken and assessed against the general screening thresholds listed in *Table 3*, *Appendix 4* of the *Applying SEPP 33 Guidelines.*

Based on information provided by Jemena during this preliminary screening assessment, it is unlikely that the dangerous goods to be stored and utilised as part of the remediation project will trigger the screening thresholds. Notwithstanding the above, the handling and processing of approximately 23,538 tonnes of contaminated sediments from Kendall Bay is likely to be considered a potentially hazardous development, due to the inherent human health risks associated with exposure to contaminated sediments during the remediation process.

Therefore, adopting a conservative approach, it is likely that a preliminary hazard analysis (PHA) is required to develop a more thorough understanding of the hazards and risks associated with the development and understanding what controls are in place, or need to be in place, to mitigate unacceptable risks.

4.11.1 Conclusions and Further Assessment

The following will be undertaken during the assessment phase and addressed in the EIS:

- a preliminary hazard assessment of the treatment process at the staging site including an assessment of potential off-site risks.

4.12 SOCIAL IMPACT ISSUES

An assessment of potential social impacts will be undertaken and addressed in the EIS. This will be undertaken in consultation with key community stakeholders and government agencies. A broader overview of the stakeholder engagement strategy and community consultation is provided in *Section 5.2*.

5 STAKEHOLDER ENGAGEMENT

5.1 INTRODUCTION

Jemena recognise the importance of engaging with key stakeholders and the community throughout the duration of the Project and particularly throughout the environmental assessment process. The objectives for consultation are to ensure:

- stakeholders have access to up to date, relevant information regarding the Project; and
- are provided with an opportunity to raise their concerns and have these responded to by the Applicant.

5.2 STRATEGY FOR ONGOING CONSULTATION

The overall aim of the consultation is for Jemena to establish relationships with key stakeholders to facilitate and enable their inputs to be considered in the Project design, planning and implementation. Consultation commenced in 2012 as part of the initial development of the remediation approach.

5.2.1 *Consultation with Government Agencies*

The Project team will liaise closely with relevant State agencies, and if appropriate, Federal government departments to ensure that the EIS, technical specialist reports and Project design meets key agency and statutory requirements. This will include face-to-face meetings, telephone conversations, e-mail and written correspondence.

It is anticipated that relevant State and local government agencies requiring consultation will include but are not limited to:

- Office of Environment and Heritage;
- Roads and Maritime Services;
- NSW Environment Protection Authority;
- NSW Department of Planning;
- NSW Office of Water;
- Sydney Ferries Corporation; and
- Canada Bay Council.

5.2.2 *Community Consultation*

Jemena commenced formal community consultation in December 2012 as part of the former Part 3A Project Application in the form of a community consultation session. Jemena has appointed an independent consultancy firm to guide and manage the community consultation process. Jemena are committed to maintaining and strengthening their consultation approach and to ensure the community concerns are adequately addressed.

Consultation with the community and stakeholders undertaken to date is outlined in *Table 5.1*.

Table 5.1 Overview of Community Consultation Undertaken to Date

Date	Overview of Consultation
Community Meetings	
December 2012	Government agency and resident stakeholder briefings and workshops
March 2013	Stakeholder focus group meeting
September 2013	Project update following meeting
November 2013	Provide update and further explore the range of views from the public regarding the Project.
February 2014	Provide update and further explore the range of views from the public regarding the Project.
Newsletters Issued	
March 2013	Project Update
August 2013	Project Update
September 2013	Project Update
October 2013	Project Update, Community liaison group meeting
November 2013	Community Information and Feedback Session
December 2013	Project Update
February 2014	Further update and provide detail on the environmental assessment process
May 2014	Provided an update on the environmental assessment process
July 2014	Community Information and Feedback Session
Project Website	
Ongoing	Jemena maintains a Project specific website which regularly provides updates on the status of the Project and the outcome of the community meetings. Further, the website provides details for the Project specific hotline and the email address.

Date	Overview of Consultation
Community Liaison Group	
August 2013	An application pack was issued to seek applicants wishing to join the Community Liaison Group (CLG) (refer Section *5.2.3*). **Note**: Future CLG meetings are proposed towards the end of the year and ongoing for the life of the Project.
October 2013	Project discussion with the key outcome being for Jemena to consult with the Local Aboriginal Land Council (LALC) to clarify any investigations or studies relating to Aboriginal sites that may be affected.
November 2013	The EPA and the NSW Ministry of Health presented at the meeting outlining the current risks to human health imposed by the contaminated sediments. Both government agencies were available to answer a broad range of questions from members of the CLG.
December 2013	Jemena responded to questions raised by the community regarding the recent acquisition of the staging site and the associated concerns of the CLG.
March 2014	Jemena presented to components of the draft RAP to the CLG and responded to questions raised by the CLG relating to the proposed remediation methodology.
July 2014	ERM/Jemena presented draft findings of the preliminary studies into traffic, air, noise and ecology impacts of the proposed project to the CLG and responded to questions raised by the CLG.

5.2.3 Community Liaison Group

A Community Liaison Group has been established (the Group). The purpose of the Group is to maintain regular dialogue between Jemena and the community during the Project. The Group will provide input and consideration on issues during remediation works. The Group will be one way in which members of the community can raise issues of interest or concern with Jemena during the works.

The Group includes a mix of participants selected through an openly-advertised expression of interest process, and a small number of invited participants who represent community groups, environmental groups and local businesses. Participants have been selected to ensure a broad cross-section of interests is included in the Group.

The Group will provide the guidance for the ongoing community consultation throughout the assessment process, and if approved, for the duration of the remediation works.

6 CONCLUSION

Jemena is proposing to remediate two areas within Kendall Bay as agreed with the EPA. The removed sediment will be transported to the nearby staging site purchased by Jemena for the Project. The sediment will be treated at the staging site prior to being loaded onto trucks and transported to a licenced waste facility.

Jemena is seeking approval under Part 4 of the EP&A Act. The Project was formerly declared a 'Major Project' under the former Part 3A of the EP&A Act in 2008. The Project is now formerly categorised as 'State Significant Development' as determined by the Minister for Planning and Environment on 19 September, 2014 and published in the NSW Government Gazette Notice No. 77.

Jemena is seeking EARs for the preparation of an EIS to accompany the SSD application.

7 *REFERENCES*

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