Technical report M

Social impact assessment report

Cleanaway & Macquarie Capital

Western Sydney Energy and Resource Recovery Centre

Social Impact Assessment Report

WSERRC-ARU-SYD-ENSO-RPT-0001

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Contents

Environmental assessment requirements

The below table lists the Secretary's environmental assessment requirements (SEARs) relevant to social impact and where they are addressed in this report.

Relevant assessment requirements	Reference in this technical paper
Community and stakeholder engagement	A summary is provided in Section 3.4. Refer to Appendix F: Community and stakeholder engagement report.
Air quality • A quantitative assessment of the potential air quality, dust and odour impacts of all stages of the development (construction and operation) on surrounding landowners, businesses and sensitive receptors, in accordance with the relevant Environment Protection Authority guidelines, including 'worst case' emission scenarios (including a trip or emergency shutdown).	Social impacts (negative and positive) are analysed in sections 5.1.2 and 5.2.2. Refer to Technical report A: Air quality and odour assessment report
Traffic • An assessment of impacts on the intersection of Wallgrove Road and the Austral Bricks Road (Unnamed). • Describe the measures to be implemented to promote sustainable means of transport, including public transport usage and pedestrian and bicycle linkages, in addition to addressing the potential for implementing a location specific sustainable travel plan.	Social impacts (negative and positive) are analysed in sections 5.1.3 and 5.2.3. Refer to Technical report K: Traffic and transport assessment report
Noise • A quantitative assessment of potential construction, operational and transport noise and vibration impacts, including impacts on nearby sensitive receivers, landowners and businesses, in accordance with relevant environment protection authority guidelines.	Social impacts (negative and positive) are analysed in sections 5.1.2 and 5.2.2. Refer to Technical report I: Noise and vibration assessment report
Human health risk • A quantitative human health risk assessment in accordance with the 'Environmental Health Risk Assessment: Guidelines for assessing human health risks from environmental hazards' (enHealth, 2012) covering the inhalation of criteria pollutants and exposure (from all pathways, i.e. inhalation, ingestion and dermal) to specific air toxics, including impacts from the transport of waste material. • Consideration of the impacts on drinking water sources such as Prospect Reservoir and rainwater tanks, including the impacts on water quality and human health.	Social impacts (negative and positive) are analysed in sections 5.1.2 and 5.2.2. Refer to Technical report B: Human health risk assessment report

Relevant assessment requirements	Reference in this technical paper
Visual • A landscape character and visual impact assessment that includes a description of the visual catchment and considers the potential visual impacts of the development on the amenity of the surrounding area particularly from nearby public receivers and significant vantage points of the broader public domain. • Provide information detailing the impact on overshadowing, noise, visual privacy, view loss and wind impacts. A high level of environmental amenity must be demonstrated.	Social impacts (negative and positive) are analysed in sections 5.1.2 and 5.2.2. Refer to Technical report L: Landscape and visual assessment report .
13. Social – including: A social impact assessment, which: • identifies and analyses the potential social impacts of the development, from the points of view of the affected community/ ies and other relevant stakeholders • assesses the significance of positive, negative, and cumulative social impacts considering likelihood, extent, duration, severity/ scale, sensitivity/ importance, and level of concern/ interest • includes mitigation measures for likely negative social impacts, and any proposed enhancement measures • details how social impacts will be adaptively monitored and managed over time	Social impacts (negative and positive) are analysed in section 5. Mitigation measures for social impacts are set out in section 6.

Abbreviations and glossary

Abbreviations	
ABS	Australian Bureau of Statistics
C&I	Commercial and industrial waste
DPIE	Department of Planning, Industry and Environment
DPE	Former Department of Planning and Environment (now DPIE)
EfW	Energy from waste
EIS	Environmental Impact Statement
LGA	Local Government Area
MSW	Municipal solid waste
MW	Megawatts
NSW	New South Wales
Proposal (the)	The purpose of the proposal is to build an energy-from-waste (EfW) facility that can generate up to 58 megawatts (MW) of power by thermally treating up to 500,000 tonnes per year of residual municipal solid waste (MSW) and residual commercial and industrial (C&I) waste streams that would otherwise be sent to landfill.
SEARs	Secretary's Environmental Assessment Requirements
SEIFA	Socio-Economic Index for Areas
SEPP	State Environmental Planning Policy
SIA	Social Impact Assessment
Social Impact Assessment Guideline	DPE's Social impact assessment guideline for State significant mining, petroleum production and extractive industry development (2017)
WSERRC	Western Sydney Energy and Resource Recovery
WSP	Western Sydney Parklands
WSPT	Western Sydney Parklands Trust

Authorship

This report has been prepared in accordance with the Department of Environment and Planning's Social Impact Assessment Guideline for State significant mining, petroleum production and extractive industry development.[1] It has been prepared by a suitably qualified and experienced lead author and co-author who hold appropriate qualifications and have relevant experience to carry out the social impact assessment for this project. The following introduces each author.

Fran Dance (Lead author) - MSc Spatial Planning (merit), Bartlett School of Planning, University College London; BSc Geography with Study in Continental Europe (first class honours), University of Bristol and Institut des Etudes des Sciences Politiques de Paris

Fran is a Senior Urban Planner with more than 7 years of experience across urban and social planning policy, strategy and impact. Fran has a strong portfolio of social and socio-economic impact assessment projects for a range of infrastructure and mixed-use development projects, including social inputs to environmental impact assessments for major road and rail projects in Queensland, New South Wales, Victoria and the Australian Capital Territory, as well as numerous UK based transport and infrastructure projects.

Fran has also provided work on a broad range of projects within the waste sector, including working towards Development Consent Orders for major waste infrastructure projects, providing site planning appraisals for proposed energy from waste developments, advising decision makers on energy from waste applications and drafting waste policy at the local and national level.

Fran is a Chartered Member of the Royal Town Planning Institute (MRTPI) and a Registered Planner of the Planning Institute of Australia.

Sara Golingi – Bach of Built Environment (Urban and Regional Planning)

Sara is a Senior Planner with more than twelve years of experience, including in social, socio-economic and land use impact assessment for infrastructure projects in New South Wales, Victoria, and Queensland. These projects have provided her with an understanding of the relevant social impact assessment guidelines and the ability to identify potential social impacts resulting from the construction and operation of projects, assessing them in accordance with the relevant guidelines, and identify measures to mitigate those impacts.

Sara is a Registered Planner with the Planning Institute of Australia.

[1] Social impact assessment guideline for State significant mining, petroleum production and extractive industry development (2017) DPE https://www.planning.nsw.gov.au/-/media/Files/DPE/Guidelines/social-impact-assessment-guideline-2017-09.pdf

Social Impact Assessment Declarations

The authors declare that this Social Impact Assessment report:

- was completed on 10 September 2020.
- has been prepared in accordance with the Environmental Impact Assessment (EIA) process under the Environmental Planning and Assessment Act 1979 (EP&A Act).
- has been prepared in alignment with the Department of Environment and Planning's Social Impact Assessment Guideline for State significant mining, petroleum production and extractive industry development.[2]
- contains all reasonably available project information relevant to social impact assessment (SIA).
- As far as Arup is aware, contains information that is neither false nor misleading.

Limitations and assumptions are outlined in section 2.7.

Fran Dance, Senior planner

31 August 2020

Sara Golingi, Senior planner

31 August 2020

[2] Social impact assessment guideline for State significant mining, petroleum production and extractive industry development (2017) DPE https://www.planning.nsw.gov.au/-/media/Files/DPE/Guidelines/social-impact-assessment-guideline-2017-09.pdf

1 Introduction

This social impact assessment (SIA) provides an assessment of the likely social impacts (both negative and positive) associated with the proposed Western Sydney Energy and Resource Recovery Centre (WSERRC). It has been produced with reference to the Secretary's Environmental Assessment Requirements (SEARs) and the former Department of Planning and Environment (DPE) now Department of Planning, Industry and Environment's (DPIE) Social Impact Assessment Guideline for State significant mining, petroleum production and extractive industry development (Social Impact Assessment Guideline).[3] [4]

This section provides an introduction to the proposal and applicant, as well as setting out the purpose and structure of this SIA report.

1.1 Proposal description

Cleanaway and Macquarie Capital are jointly developing an energy-from-waste (EfW) facility known as the Western Sydney Energy and Resource Recovery Centre (WSERRC) (the proposal).

The proposal will be designed to thermally treat up to 500,000 tonnes per year of residual Municipal Solid Waste (MSW) and residual Commercial and Industrial (C&I) waste streams that would otherwise be sent to landfill. This process would generate up to 58 megawatts (MW) of base load electricity some of which would be used to power the facility itself with the remaining 55MW exported to the grid. The proposal involves the building of all onsite infrastructure needed to support the facility including site utilities, internal roads, weighbridges, parking and hardstand areas, storm water infrastructure, fencing and landscaping.

The proposal site is located at 339 Wallgrove Road in Eastern Creek, NSW (Lot 1 DP 1059698) which is in the Blacktown local government area (LGA). The site is in the Wallgrove Precinct of the Western Sydney Parklands (WSP) Plan of Management.

The 8.23ha site is divided by a small strip of land not part of the proposal site, resulting in a 2.04ha northern section and a 6.19ha southern section. This dividing strip is part of the adjacent lot and includes a right of carriageway benefitting the proposal site allowing vehicles to move between the two parts of the site. The proposal area will be fully contained in the 6.19ha portion of the site.

[3] Social impact assessment guideline for State significant mining, petroleum production and extractive industry development (2017) DPE https://www.planning.nsw.gov.au/-/media/Files/DPE/Guidelines/social-impact-assessment-guideline-2017-09.pdf

[4] It is noted that the DPE social impact assessment guideline does not strictly apply to the proposal as it does not fit within one of the development types specified. However, it provides a useful framework for considering social impacts on significant industrial developments and has been used on this basis.

Works to occur on the 2.04 ha northern section of the site include the clearing of weeds and exotic vegetation within the existing overland flow channel which is confined to the eastern section of this parcel of land. The northern section will also be used temporarily to support construction works. It is not currently expected that any other works will occur on the 2.04 ha northern section of the site as part of this proposal.

The facility will operate 24 hours a day 7 days a week, with construction carried out during standard working hours. The proposal will create around 900 direct construction jobs over the 3-year construction period, as well as 700–1200 indirect construction jobs. Moreover, 50 highly skilled jobs would be created locally during operation, supporting the development of new skill sets and employment opportunities in the Western Sydney region.. The proposal would also provide for education opportunities through a world-class Visitor and Education centre experience and facility tour. Further description of the proposal is provided in Chapter 3 of the EIS, Proposal Description.

A number of additional developments referred to as related development, are required to support the operation of the WSERRC. These are addressed in Chapter 22 of the EIS, Related Development, and are not considered as part of this SIA.

1.2 Purpose of this report

The purpose of this report is to provide an assessment of the social impacts of the proposal. In line with the requirements set out in the SEARs, this report will:

- Describe the social profile of communities and businesses within the vicinity of the proposal, and define community and social values, perceptions and potential concerns.
- Identify and analyse the potential social impacts of the development, from the points of view of the affected community/ies and other relevant stakeholders.
- Assess the significance of social impacts (positive and negative) considering likelihood, extent, duration, severity / scale, sensitivity/importance, and level of concern / interest.
- Include mitigation measures for likely negative social impacts, and any proposed enhancement measures.
- Detail how social impacts will be adaptively monitored and managed over time.

Cumulative impacts of the proposal are dealt with in Chapter 23 of the EIS.

1.3 Report structure

This report is presented over the following sections:

- *Section 1*: introduces the report, describes the context of the proposal, and sets out the purpose of this report.
- *Section 2*: describes the methodology used.
- *Section 3*: provides the social baseline for the SIA.
- *Section 4:* outlines research undertaken on similar proposals to understand likely impacts and community concerns.
- *Section 5*: details the impact assessment split into three stages (construction, operation and maintenance, and evaluation of impacts).
- *Section 6*: outlines the mitigation measures that should be carried forward to detailed design or implemented on-site to manage impacts, along with the identification of residual impacts.
- *Section 7*: provides the conclusion of the report.

2 Methodology

This section details the methodology used to define the baseline and undertake the environmental assessment of potential social impacts of the proposal. This methodology aligns with the DPE Social Impact Assessment Guideline, and includes the following steps:

- Definition of the area of social influence for the proposal.
- Review of existing information to establish a social baseline.
- Identifying, analysing and evaluating the potential social impacts of the proposal, and their significance.
- Planning mitigation and management actions to address potential impacts.

In line with the DPE Social Impact Assessment Guideline, social impacts are considered to include impacts associated with changes to people's:

- way of life
- community
- access to and use of infrastructure, services and facilities
- culture
- health and wellbeing
- surroundings
- personal and property rights
- decision-making systems
- fears and aspirations.

Social impacts are defined to include both the potential positive and negative impacts associated with the proposal.

2.1 Study area definition

The study area(s) for an SIA identifies the potential area of influence for social impacts as a result of a proposal. For this SIA, the area of social influence has been based on several factors, including:

- The location and context of the proposal site in relation to Blacktown and Fairfield LGAs, the Greater Sydney Area, and NSW more widely.
- The nature and scale of the proposal, and the scope of the potential direct and indirect social impacts throughout its lifecycle.
- The location and characteristics of the proposal site and nearby land uses – characterised by its location adjacent to the WSP, close to industrial and transport uses, and separated (approximately 1km) from significant residential areas.
- Key built and natural features, including the local road network, and local areas of recreation and open space.

- Statistical boundaries (as defined by the Census Statistical Area 2 (SA2) boundaries).[5]
- Key findings from technical assessments, including distance parameters and likely impact sphere.
- Identified radii for community engagement, as set out in the Community and Stakeholder Engagement Report provided in Appendix F (EIS Volume 1).

To allow consideration of impacts to the communities most likely to experience social impacts from the proposal, a local study area has been developed. This is consistent with community engagement, which focussed on residents and businesses closest to the proposal (refer to section 2.4).

In acknowledgement that the proposal could have broader impacts at different spatial scales, consideration is also given to regional, State and national impacts. This is described in the following sections.

The local study area

The local study area represents those areas and communities considered to be most highly impacted by social impacts as a result of the proposal. It is defined as those areas within a 3km radius of the construction footprint, and the key communities which intersect with this radius. It is shown in Figure 1.

Figure 1: The proposal site and the local study area

To define the local study area, the spatial extents applied in other parts of the EIS were considered. In particular, the air quality assessment carried out for the

[5] Statistical Areas Level 2 (SA2) are medium-sized general purpose areas defined by the Australian Bureau of Statistics (ABS). Their purpose is to represent a community that interacts together socially and economically.

proposal (Technical report A, the Air Quality and Odour Assessment) was drawn upon. This particularly assessed impacts on receptors within a 3km radius, noting that the peak impact would occur within this radius from the proposal site – even considering changes in wind direction. This was the greatest radius at which impact was assessed across all technical assessments undertaken.

A review of the land uses and character within this 3km radius revealed several similarities. The area is substantially occupied by industrial and commercial land uses, with the nearest residential communities approximately 1km from the proposal site. Major residential communities are located beyond this 3km radius (3.5km approximately). Further detail on the land use context within the local study area is provided in section 3.

While this suggests support for a 3km study area for the SIA, social impacts are unlikely to align directly to a geometric radius, particularly noting the networks nature of communities. In addition, it is noted that some of the data required to understand the social baseline for the area (see section 2.2) is only obtainable for ABS statistical areas, which do not perfectly align with a 3km radius.

As such, it was also considered that the local study area should include existing communities (particularly residential areas) that interact with the 3km radius. This involved a review of population distribution across ABS statistical areas that intersect with the 3km radius. ABS Statistical Area 2 (SA2) level boundaries were used for this exercise as this is the most granular level at which baseline data is most widely publicly available.

This exercise identified that there are two SA2 communities relevant to the proposal:

- Prospect Reservoir – 116031318.
- Horsley Park – Kemps Creek – 127021518.

Both of the identified SA2 areas intersect with a 3km radius of the construction footprint. While both extend beyond this radius, substantial parts of their communities do fall within the 3km radius, and there is potential for some social impacts to be felt within that wider community. However, the southern parts of Horsley Park – Kemps Creek (which are not within a 3km radius of the site) are heavily residential, and therefore it should be noted that the majority of the population within the local study area (as identified in the social baseline) is located a significant distance from the proposal footprint.

The Rooty Hill – Minchinbury SA2 area also minorly intersects with the 3km radius from the site. This intersection represents only a small proportion of the overall SA2 area, and the area within a 3km radius from the site, is different in character from the rest of the SA2 area (industrial compared to residential

character beyond the radius). As a result, it is considered that the social impacts experienced within the 3km radius in this SA2 area are unlikely to extend to the wider community (noting its different character). As such, only the area of the SA2 that intersects with the 3km boundary has been included in the local study area. For the purposes of the social baseline (noting data cannot be obtained to exactly align with the 3km radius area, this SA2 has not been included).

Other impact areas

Social impacts may affect different areas at different times. While many social impacts would predominantly occur within, or adjacent to the proposal, there are potential for flow-on impacts in the surrounding area as a result of construction and / or operation. For the purpose of this SIA, therefore, consideration has also been made of the broader scale of impact the proposal may have, where relevant to the impacts assessed, based on the factors outlined. These include:

- **Regional** – encapsulating the Blacktown and Fairfield LGAs (noting that the proposal is located on the border between the two). This area is likely to be impacted particularly due to the transport of materials to and from site. The SA2s identified in the local study area also intersect with Penrith LGA, however, this is beyond the 3km radius and is therefore not considered at the regional level.
- **NSW –** covering the NSW State area, related to the proposal's role within the State-wide waste management strategy, in providing a solution to the management of waste.
- **National** – related to the proposal's role within the national waste management strategy, in providing a solution to the management of waste.

2.2 Establish the baseline

Following study area identification, a social baseline was developed for the proposal, in line with the DPE Social Impact Assessment Guideline (see Section 3). The baseline drew on a number of activities and sources, including:

- Review of relevant policies, guidelines and plans – to identify relevance and directions for the assessment (see Section 3.1).
- Preparation of a community profile through analysis of population and demographic data such as population size and growth, families and housing, diversity, employment and income, and socio-economic advantage/disadvantage, drawing on sources such as the 2016 ABS Census, ABS population projects and ABS business data at national, State, LGA and SA2 levels (see Section 3.2).
- Analysis of aerial photography and land use data to understand existing land uses within the identified study areas.

- Review of key legislation, strategic planning policies and documents, having regard to zoning maps relevant to the study areas, to identify planned future priorities and land uses.
- Identification of local businesses, community facilities, social infrastructure, open space (from desktop review of aerial imagery and publicly available GIS mapping)
- Identification of existing community values through a review of community and stakeholder engagement outcomes summarised in Appendix F (EIS Volume 1): Community and Stakeholder Engagement Report to identify direct social impact considerations, and to gain community feedback that addresses concerns, values and needs.
- Review of recent major development and projects (last three years) on DPIE's major projects tracker to understand forthcoming developments upon which the proposal may impact.

2.3 Predict and analyse social impacts

Building on the baseline identified, potential social impacts were identified associated with the proposal, in line with the DPE Social Impact Assessment Guideline (see Section 5). These were identified under the following categories:

- Socio-demographic profile impacts (including community composition, livelihood and housing impacts).
- Amenity impacts (including acoustic, visual and air quality).
- Movement and access impacts (including transport and utilities impacts).
- Community values impacts (including cohesion, health, heritage and other elements considered to be of value to the community).
- Land use and property impacts (including built environment, property and access, and land use impacts – particularly to social infrastructure and businesses).

The potential impacts of construction and operation of the proposal under these categories was informed by a number of sources, including:

- Proposal details and final site layout as described in the EIS.
- Other technical studies, including:
    - Human health - Technical report B: Human health risk assessment report
    - Movement and access - Technical report K: Traffic and transport assessment report
    - Landscape and visual - Technical report L: Landscape and visual assessment report
    - Air quality - Technical report A: Air quality and odour assessment report

    - Noise - Technical report I: Noise and vibration assessment report
- High level research and literature review of social impacts (experienced) for similar projects in Australia and globally (see Section 4) and findings from the Community and Stakeholder Engagement Report (Appendix F to the EIS).

2.4 Community engagement

The identification of the social baseline conditions and potential impacts draws upon the findings of the community and stakeholder engagement carried out to date as documented in the Community and Stakeholder Engagement Report provided in Appendix F (EIS Volume 1). The overall aims of the engagement strategy are to:

- provide information about the proposal.
- understand stakeholders' preferred level of involvement and methods of engagement.
- understand the community's sentiment regarding the proposal.
- document and respond to the community and stakeholder feedback and concerns.
- encourage input to the preparation of the EIS.
- provide two-way discussions alongside the project development and EIS process.

It also aims to facilitate efficient communication with the community to achieve a positive and safe step forward for developing a sustainable waste management future in Sydney in accordance with the IAP2 values and model code for community engagement.

Direct community engagement and consultation (including door knocking activities) was undertaken with residents and businesses closest to the proposal location – adjoining landowners; Horsely Park, Erskine Park, the industrial area opposite the site, parts of St Clair and parts of Wetherill Park. In addition, broader engagement, including pop-up events, workshops and a citizens panel, was undertaken with residents and businesses within an 8km radius of the proposal location, and wider residents, agencies, and business who may use the WSERRC, may be employed in waste management industries, or have concerns about the impact of the proposal at a regional level.

The WSERCC communications and engagement approach was informed by qualitative and quantitative research conducted in December 2018 and January 2019 respectively. This research focussed on obtaining insight into the community's opinions towards waste management and EfW facilities generally, how they would like to be engaged regarding the project, and the sources of information which they would trust. A range of engagement activities were

carried out utilising various communications tools and approaches. Targeted engagement was carried out for the residents and businesses closest to the proposal location.

For preparation of The Cultural Heritage Impact Assessment (Technical report O: Aboriginal cultural heritage assessment report), consultation with 25 Aboriginal community individuals and groups who hold relevant knowledge to determine the cultural heritage significance of Aboriginal objects and Aboriginal places in the proposal area, has been undertaken in accordance with the former Department of Environment, Climate Change and Water (DECCW) Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.[6] The list of Aboriginal Stakeholders that participated in the consultation is outlined in the Cultural Heritage Impact Assessment (Technical report O: Aboriginal cultural heritage assessment report).

2.5 Evaluate social impacts

Each of the identified potential positive and negative social impacts (as outlined in section 2.3), was assigned a rating with regard to its potential significance, having regard to the following key factors (in line with the DPE Social Impact Guideline):

- when the potential positive or negative social impact is expected occur.
- the expected impact receivers, and their level of concern or interest and/or sensitivity to the impact.
- Likely extent of impacts.
- Impact duration.
- Severity of impact or scale of benefit.
- Likelihood/probability of impact.
- Potential level of social risk or benefit.

While the DPE Social Impact Assessment Guideline recommends assessment of cumulative impacts as part of the SIA, cumulative impacts for the proposal are assessed collectively in Chapter 23 of the EIS.

The social risk matrix set out in the DPE Social Impact Assessment Guideline was used to inform the evaluation of social impacts for the proposal. This matrix considers likelihood of impacts (as shown in Table 1) against the potential

[6] Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Part 6 National Parks and Wildlife Act, 1974). 2010. Department of Environment, Climate Change and Water NSW.

consequence (as shown in Table 2) to give an overall rating, as summarised in Table 3.

Table 1: Likelihood of impact

Likelihood of impacts	Risk/benefit probability categories
Rare	May occur only in exceptional circumstances - can be assumed not to occur during period of the proposal (Probability <10%)
Unlikely	Event is unlikely to occur, but it is possible during period of the proposal (Probability 10-30%)
Possible	Event could occur during period of the proposal (Probability 30-70%)
Likely	Event likely to occur once or more during period of the proposal (Probability 70-90%)
Almost certain	Very likely to occur as a result of the proposed proposal construction and/or operations; could occur multiple times during relevant impacting period (Probability > 90%)

Table 2: Social consequence criteria

Consequence Level	Description
Minimal	No change to the social environment. Impacts are likely to be beneath detection levels.
Minor	Impacts are noticeable but acceptable and tend to be short term, or temporary and at a local scale. The social environment is changed (i.e. decreased amenity) and people who live and work in the area (or its surrounds) may become annoyed by impacts associated with the proposal. It is expected that the community can/will adapt to changes over time and that negative public perceptions of the proposal are easily managed.
Moderate	Impacts tend to range from long term to short term and occur over medium scale or localised areas. The social environment is changed (i.e. decreased amenity) and people who live and work in the area (or its surrounds) may be moderately annoyed by impacts associated with the proposal. It is expected that the community has some capacity to adapt and cope with change and that negative public perceptions of the proposal can be managed.
Major	Impacts tend to be permanent, or otherwise long to medium term and occur over large or medium scale areas. The social environment is damaged, and people no longer want to live and work in the area (or its surrounds). The community has limited capacity to adapt and cope with change and the public negativity of the proposal is difficult to manage.
Catastrophic / transformational	Impacts tend to be permanent, or irreversible, or otherwise long term and occur over large scale areas. People can no longer safely live or work in the region because of impacts associated with the proposal. The social environment is irrevocably damaged. The community has no capacity to adapt and cope with change and there is a great level of public negativity surrounding the proposal.

Table 3: Impact evaluation matrix

		Consequence				
		Minimal	Minor	Moderate	Major	Catastrophic / transformational
Likelihood	Almost certain	A1	A2	A3	A4	A5
	Likely	B1	B2	B3	B4	B5
	Possible	C1	C2	C3	C4	C5
	Unlikely	D1	D2	D3	D4	D5
	Rare	E1	E2	E3	E4	E5

Social risk rating:

Low
Moderate
High
Extreme

2.6 Mitigation and residual impacts

The next step in the methodology was to consider opportunities to reduce negative impacts and enhance positive impacts.

In line with the DPE Social Impact Assessment Guideline, for all material impacts, mitigation and/or management actions were considered to reduce or manage the significance of the impact (Section 6.1 and 6.2). Material impacts were considered to include impacts evaluated to be high or very high in risk, although consideration was also given to all other risk levels. In developing mitigation and management measures, regard was had to the following considerations (drawing on the DPE social impact assessment guidance):

- The potential for the proposal to influence the impact as the sole or primary case of the impact, and therefore the scale of measure(s) required.
- The acceptability of the proposed measure(s) to those expected to be affected by the impact.
- Any potential negative social impacts that might arise as a result of the proposed measure(s).
- The requirement for action by external parties to respond to proposed measure(s).
- The deliverability of proposed measure(s).
- Cost-effectiveness of the proposed measure(s).

For each mitigation and management measure, consideration is also given to how impacts can be adaptively monitored and managed over time.

The proposal was then re-evaluated taking into account the proposed mitigation and management measured, to describe the expected residual impact of the proposal (Section 6.3).

2.7 Limitations and assumptions

This SIA has been based on available information at the time of writing and has been designed to respond to the SEARs specific to the proposal. There are a number of assumptions made which should be noted, including:

- Health impacts are assessed as part of a separate technical study and have been drawn upon in this SIA.
- The assessment report does not provide a detailed assessment of economic impacts, although there is some consideration of socio-economic factors such as employment and business impacts of the proposal.
- Background and baseline information is based on desktop research and engagement undertaken (and summarised in Appendix F: Community and stakeholder engagement report).
- The impact assessment is based on information provided in the specialist technical impact assessments completed for the proposal.

3 Social baseline

3.1 Legislative and policy context

The SIA has drawn on State legislation and State, regional and local strategy and policy to identify the relevant legislative and policy context to inform the SIA. Particular policy of relevance to this SIA is summarised in Table 4. A more detailed summary of the legislative and policy position in relation to the proposal is provided in Chapter 4 of the EIS.

Table 4: Summary of relevant policy

Document name	Description	Relevance to SIA
State Environmental Planning Policy (SEPP) (Western Sydney Parklands) 2009	The SEPP puts in place planning controls that will enable the Western Sydney Parklands Trust to develop the Western Parklands into a multi-use urban parkland for the region of western Sydney[7]. It identifies the land uses and provisions applying to the land which dictate the planned future land use environment on the WSP.	As the proposal is within the WSP, the SEPP sets out general provisions for land use on the site, and surrounding areas also within the WSP.
NSW State Plan - NSW 2021: A Plan to make NSW number one	NSW State Plan is a strategic plan to guide NSW meeting the target of $650 billion in new business investment and the creation of more than 475,000 jobs over the next 10 years[8]. The Plan delivers actions in accordance with five strategies. The strategies of relevance are: • Rebuild the economy • Renovate infrastructure • Strengthen our local environment and communities	This Plan provides relevant strategies at the State level and can help in understanding the values to the community, broader demographic and socio-economic aspirations for the State and the potential role the proposal might have in contributing to these.
Greater Sydney Regional Plan - A Metropolis of Three Cities	A Metropolis of Three Cities, or the Greater Sydney Regional Plan[9] sets out the strategic vision for the Greater Sydney Region considering the context of social, economic and environmental matters in the next 20 years. The Plan is structured around 10 directions. The directions and their associated objectives relevant to the SIA for the proposal are: • A city supported by infrastructure	These themes help provide an understanding of the ambitions and aspirations for the Greater Sydney Region, providing an indication of key priorities for the area and its community. They help to inform what factors

[7] NSW Government, *State Environmental Planning Policy (Western Sydney Parklands) 2009*,
[8] New South Wales, New South Wales, & Department of Premier and Cabinet 2011, *NSW 2021: a plan to make NSW number one*, Dept. of Premier and Cabinet, Sydney, viewed 27 March 2020
[9] Greater Sydney Commission 2018, *Greater Sydney region plan: a metropolis of three cities: Connecting people*.

Document name	Description	Relevance to SIA
	• A city for people • A city of great places • Jobs and skills for the city • A city in its landscape	to consider in the SIA for the proposal.
Central City District Plan 2018	Central City District Plan is a plan implementing A Metropolis of Three Cities at a district level[10]. The Plan guides the local strategic planning in Blacktown, Cumberland, Parramatta and The Hills LGAs (which make up the Central City District).	As the development site is in the Blacktown LGA, this provides an overview of the strategic planning aspirations for the broader district within which the proposal sits. This helps to understand what factors may be of importance to local community and socio-economic aspirations.
Western Sydney Parklands Plan of Management 2030, 2018	Western Sydney Parklands Trust (WSPT) Plan of Management 2030 provides a strategic management framework for the Parklands to achieve its vision – to make WSP 'a place that offers diverse experiences, celebrates its natural qualities and creates an identity for local communities'[11]. Four strategic directions are outlined to guide the operation and development of all precincts in the Parklands. The directions are: • Environmental Protection and Land Stewardship • Creating Recreational and Community Facilities • Community Participation and Engagement • Financial Sustainability and Economic Development	The WSPT Management Plan provides an overview of the strategic objectives for the WSP (in which the construction footprint sits), including the development site and surrounding land. This helps to inform the land use assessment, as well as to identify key aspirations to the local area. The proposed site is located within Precinct six – Wallgrove as described in the Plan. The precinct is confirmed to have potential for the development of renewable energy and recycling opportunities.
Blacktown City Council Community Strategic Plan	Blacktown City Council Community Strategic Plan was updated in 2016, outlining how Council works align with the vision for the City of Blacktown – 'City Excellence – diverse, dynamic, progressive'[12]. The Plan consists of six strategic directions which reflect the community's aspirations and needs.	This document provides an overview of the community aspirations and needs and is therefore important in developing a baseline to understand what the community particularly

[10] Greater Sydney Commission 2018, *Central City District plan: our greater Sydney 2056: connecting communities*, viewed 27 March 2020
[11] Western Sydney Parklands Trust 2016, *Western Sydney Parklands Plan of management 2030*, viewed 27 March 2020.
[12] Blacktown City Council 2017, *Our Blacktown 2036 Our vision, our plan - Community strategic plan*, viewed 27 March 2020.

Document name	Description	Relevance to SIA
	The directions of particular relevance are: • Direction 2: A clean, sustainable and healthy environment • Direction 3: A smart and prosperous economy	values within the local study area. It is noted that as the site is within the WSP it is not governed by the Blacktown Local Environmental Plan, however strategic planning documents from the LGA still provide useful detail for information the social baseline.
Blacktown City Council Local Strategic Planning Statement (LSPS) 2019	The Draft Blacktown LSPS 2019 is prepared as required in the EP & A Act[13]. The relevant priorities are: • **Priority 1:** Planning for a City supported by infrastructure • **Priority 9:** Maximising opportunities to attract advanced manufacturing to, and innovation in, industrial and urban services land • **Priority 16**: Reducing carbon emissions and managing energy, water and waste efficiently	The site falls within Blacktown LGA. It is noted that as the site is within the WSP it is not governed by the Blacktown Local Environmental Plan, however strategic planning documents from the LGA still provide useful detail for information the social baseline.
Fairfield City Plan (2016-2026)	The Fairfield City Plan is the community plan for the area to 2026[14]. It outlines the vision, priorities, goals and strategies for the Fairfield LG and its community. The document covers five key themes. Those of particular relevance are: • Community wellbeing • Places and infrastructure • Environmental sustainability • Local economy and employment	While the site is not within Fairfield LGA, a large proportion of the local study area is. This document, therefore, provides an overview of the community aspirations and needs in the local study area, and is important in developing a baseline to understand what the community particularly values.

3.2 Socio-demographic profile

This section presents a demographic analysis of the local study area (comprised of the Prospect Reservoir and Horsley Park – Kemps Creek SA2s). As there is only a small population in the Prospect Reservoir SA2, demographic data is not available

[13] Blacktown City Council 2019, *Draft local strategic planning Statement 2019*, viewed 27 March 2020.
[14] Fairfield City Council 2016 *Fairfield City Plan* viewed May 2020.

for some topics due to confidentiality[15]. In these instances, data is provided for the Horsley Park – Kemps Creek SA2 only.

Data for the LGAs in which the local study area sits, Blacktown and Fairfield, is also presented to provide regional context. Where relevant, State and nationwide data is also provided for comparison.

Establishing the socio-demographic profile of the local study area and broader region, through key topic areas provides an understanding of the social context to enable a clear assessment of the proposal's impacts on the community. The following provides a summary of:

- Population and age profile.
- Housing and household composition.
- Employment, industry and business.
- Travel behaviour.
- Vulnerable communities.

Impacts to the socio-demographic profile of the study area are addressed in section 5.1.1 and 5.1.2.

3.2.1 Population and demographic composition

Population

Based on the 2016 census, the local study area has a population of 4,465. Of this, 4,426 (99%) live in the Horsley Park-Kemps Creek SA2, located to the south of the site and 39 (0.9%) live in Prospect Reservoir. The residential population within the Prospect Reservoir SA2 area, where the proposal site is located, is therefore minimal. The nearest residential community is approximately 1km away (see section 3.4 for further detail).

The majority of the population in the local study area live in the Horsley Park – Kemps Creek SA2, which is within the Fairfield LGA, whilst the site itself is located in the Blacktown LGA. In 2016, the Fairfield and Blacktown LGAs had a population of 198,817 and 336,965 people respectively. As a proportion of the wider regional population, therefore, the local study area accounts for less than 1%.

Most of the population in the local study area reported living at the same address in the one year and five years prior to the 2016 census. Only 21% reported living

[15] In statistical areas where a population is very small, data has the potential to enable individuals to be identified, which could result in issues with confidentiality of individuals. In such instances, ABS redacts certain datasets to ensure confidentiality of the people within these areas is maintained.

at a different address five years ago, with the majority of these (20%) being elsewhere in Australia, and only 7% reported living elsewhere in the year prior. This suggests that the population within the local study area is relatively consistent, and less transient than other areas across the State – this suggests they may be more vulnerable change potentially.

Population growth

Population projections are not available at the SA2 level. However, at the LGA level, it is projected that the population will grow in both Blacktown (to 478,011 people by 2031) and Fairfield (to 232,681 people by 2031).[16] This represents a respective 56% and 17% increase, compared to that projected across NSW (37%) and Australia (44%) between 2016 to 2036. This suggests that Blacktown LGA in particular, is expected to be the focus of targeted residential growth in the coming decade.

However, while growth is planned in both Fairfield and Blacktown, it is noted that the local study area does not contain any significant areas identified within strategic planning documents for residential development or growth. It is also noted that residential development is not permitted in the WSP or the Western Sydney Employment Area to the west of the proposal site (see Section 3.4 for more detail). Therefore, population growth in the local study area is expected to be limited and is unlikely to have any relationship to the proposal site.

Age profile

Data on the age distribution of a population can provide an indication of potential need, values, and vulnerability of communities. For example, young children under the age of four years old and those over the age of 65 years are considered to be more vulnerable to health impacts, and older populations may be less adaptable to change.

In 2016, the median age of the population in the local study area was 39 years old. This is slightly older than the median age of 38 across NSW and Australia. The age profile of the local study area indicates a high proportion of population within the 10 to 19 year old and 40 to 49 year old age brackets, and a low proportion within the 0-9 age year old and 70 years and above age brackets. This indicates a high proportion of middle aged people, and suggests that the area is not home to a significant number of young people, families or elderly residents, which are age groups generally considered to be more vulnerable to health impacts.

Other vulnerable groups are discussed further in section 3.2.5.

[16] Population, Household and Implied Dwelling Projections by LGA (ASGS 2019), NSW Government

Gender split

Gender information can provide insight to the composition of a community, allowing for consideration of the different roles, values, and situations of men and women. Gender ratios can impact on society, demography, and the economy. In 2016, gender was split fairly in the local study area (51% males compared to 49% females). However, there is a noted split in gender in the population of Prospect Reservoir SA2, where there were 74% males to 28% females[17]. This is likely to be a reflection of its small population and the industrial nature of the area, which would attract a male dominant workforce to live in the area.

Place of birth and ancestry

Most people (63%) in the local study area were born in Australia. Other common countries of birth were from the regions of Southern Europe (10%) – namely Italy and Malta - and the Middle East (5%) – namely Iraq, Lebanon, and Syria. The most common ancestries recorded for the population in the study area were Italian (28%), Australian (16%), Maltese (13%), English (12%), Assyrian (5%), and Croatian (4%). Place of birth of residents and their ancestry can provide an indication of the culture and heritage that makes up a community. It can also highlight potential vulnerable groups, such as recent migrants. This is discussed further in section 3.2.5.

Languages spoken

More than half of the population (53%) reported that they spoke English only. The most common languages spoken at home (other than English) were Northern European (54% - e.g. Celtic, German, Dutch), Southern European (18% - e.g. French, Italian, Greek, etc), Southwest and Central Asian (8% - e.g. Iranic, Arabic, Turkish) and Eastern European (6% - Hungarian, Croatian, Polish) languages. This provides an indication of the ethnicity of people in the local study area, however can also influence social cohesion or indicate potential vulnerabilities, as discussed in section 3.2.5.

[17] It is notable that these two percentages exceed 100%. The ABS has developed a technique to adjust counts to maintain confidentiality of information. This technique, known as perturbation, makes small adjustments to all counts - including totals - to prevent any identifiable data about individuals being released. These adjustments result in small introduced random errors and can mean that the rows and columns of a table do not sum to the displayed totals. However, the confidentiality technique is applied in a controlled manner that ensures the information value of the table as a whole is not significantly affected.

3.2.2 Housing and households

Household composition

The average household size in the local study area was 3.4 persons in 2016[18]. This is slightly larger than the average household size in Blacktown and Fairfield LGAs of three or 3.3 persons respectively. Almost 70% of households in the local study area were made up of one-family households; 40% were couples with children. This is similar to the composition across Blacktown and Fairfield, and higher than that across NSW (60.8) and Australia (61%).

Lone person households comprised almost 15% of households in the local study area, slightly higher than Blacktown (14%) and lower when compared to NSW (21%) and Australia (21%).[19] This indicates a large number of families living in the local study area – who can be more vulnerable to certain social impacts around amenity and transport. The household composition of the local study area compared to NSW is provided in Table 5.

Table 5 Household composition

Family Composition	Local study area	NSW
One family household - Couple family with children	39%	29%
One family household - Couple family with no children	18%	24%
Lone person household	15%	24%
One family household – One parent family	12%	10.3%
Two or three family households (with or without children)	4.5%	1%
Group household	2.1%	4%

Household tenure and cost

With almost 71% owner-occupied homes, and 44% of these owned outright, homeownership in the local study area is high in comparison to Blacktown and Fairfield LGAs where under 60% of homes were owner occupied and under 30% were owned outright. This also suggests a population who has lived and settled in the local study area. Whilst almost 7% of dwellings in Blacktown and Fairfield LGAs were rented from the state housing authority, none of these were located in the local study area.

[18] This is based on the data for Horsley Park – Kemps Creek SA2, as no information is available for Prospect Reservoir SA2 due to the small population for the area and confidentiality . Refer to footnote 15 for further explanation about small area confidentiality.
[19] Australian Bureau of Statistics 2016, *Household composition*, Table Builder, Findings based on use of ABS Table Builder data.

The median weekly rent in the local study area was $370 in 2016. This was slightly higher than the median across Fairfield LGA ($350), but lower than the median across Blacktown LGA and NSW ($380). In the local study area, the median weekly rent is about 20% of the median weekly household income. While measuring housing affordability is complex and is influenced by a range of variables including a household's financial situation, tenure type, and overall demand and supply in the housing market, a simple measure is to consider the ratio of housing costs to gross household income. A lower income household that spends 30% or more of their gross income on housing costs can be considered to be experiencing housing stress[20]. Based on this, housing stress is not considered to be an issue across the local study area. However, this would not reflect the housing affordability for those with mortgages, where other housing related costs such as rates, water, etc are unknown.

3.2.3 Socio-economic factors

Household income

The median weekly household income in the local study area was $1,976 in 2016.[21] This was higher than the median weekly household income for Blacktown LGA ($1,711), Fairfield LGA ($1,222), NSW ($1,486) and Australia ($1,438).[22] This suggests a generally more affluent population in the local study area, particularly when compared to the Fairfield LGA median, considering most of the population on the local study area fall within the Fairfield LGA.

Employment of residents

Of the resident population over 15 years of age in the local study area, 2,074 people (56%) were employed in 2016. Of the residents employed, most were working in the construction (19%), retail trade (9%), and transport, postal and warehousing (7%) industries. Across NSW, the top industries of employment were health care and social assistance (12%), retail trade (10%) and education and training (8%) and professional, scientific and technology (8%).

The unemployment rate in the local study area was 2.3%[23], with 45 people looking for full time work and 40 people looking for part time work. This was significantly lower than the unemployment rate in Blacktown (4.6%) and Fairfield

[20] Australian Bureau of Statistics, 2019. Housing occupancy and costs, 2017-18. ABS cat no. 4130. Canberra,
[21] This is based on the data for Horsley Park – Kemps Creek SA2, as no information is available for Prospect Reservoir SA2 due to the small population for the area and confidentiality . Refer to footnote 15 for further explanation about small area confidentiality.
[22] Australian Bureau of Statistics 2016, *Australia (AUST), 2016 Census QuickStats*, viewed 4 March 2020.
[23] This is based on the data for Horsley Park – Kemps Creek SA2, as no information is available for Prospect Reservoir SA2 due to the small population for the area and confidentiality . Refer to footnote 15 for further explanation about small area confidentiality.

(5.2%) LGAs and across NSW (3.7%) and Australia (4.1%). Across Blacktown and Fairfield LGA, there were more than 8,000 unemployed people looking for work.

Businesses and industry

The local study area provided 21,043 jobs in 2016. Almost 80% of these were full time jobs. The Blacktown and Fairfield LGAs provided 105,347 and 57,093 jobs respectively. It is noted that the Prospect Reservoir SA2 alone accounted for about 17% of the jobs in Blacktown LGA in 2016. The local study area is therefore a significant employment area for the region, and wider State.

In June 2019, there were 1,525 businesses in the local study area[24]. Most of the businesses were in the construction (21%); rental, hiring and real estate services (18%); and wholesale trade (11%); transport, postal and warehousing (8%); and financial and insurance services (7%) industries. Further detail on businesses in the local study area is provided in section 3.4.5.

3.2.4 Access and movement

In 2016, the average number of motor vehicles per dwelling in the local study area was high at 2.4. In comparison, the average across NSW was 1.7 vehicles per dwelling.

The ABS journey to work data from 2016 supports this indication that the local study area has a high level of reliance on private vehicle travel.[25] It indicated that 74% of residents commuting from Horsley Park - Kemps Creek SA2 trips to work travelled by motor vehicle, while less than 5% and 3% respectively travelled by public or active transport. As shown in Figure 2, a large proportion of residents also worked in the area, with a self-containment rate of 25%, many commuted to neighbouring Wetherill Park industrial area (10%), and only 3% commuted to Sydney. It is likely that commutes to Sydney involved use of public transport in addition to motor vehicles and active transport. Journey to work data was not available for Prospect Reservoir SA2 data, presumably due to small area confidentiality.

A review of the journey to work into Horsley Park - Kemps Creek SA2 indicated that almost 85% of people commuting into the area travelled by motor vehicle, and less than 1% and 2% respectively travelled by public or active transport. The remaining people in the SA2 identified as working from home. As shown in Figure 3, a large proportion of people working in Horsley Park- Kemps Creek

[24] Australian Bureau of Statistics 2020, Counts of Australian Businesses, including Entries and Exits, June 2015 to June 2019.

[25] Australian Bureau of Statistics, 2016. *Census of Population and Housing: Commuting work. 2071.0.55.001*

travelled from within the area, with a self-containment rate of 17% and the remainder of workers commuted from a range of origins.

A review of the journey to work into Prospect Reservoir SA2 indicated that more than 90% of people commuting into the area travelled by motor vehicle, and less than 3% and 1% respectively travelled by public or active transport. As shown in Figure 4, most people working in Prospect Reservoir travelled from the north-west.

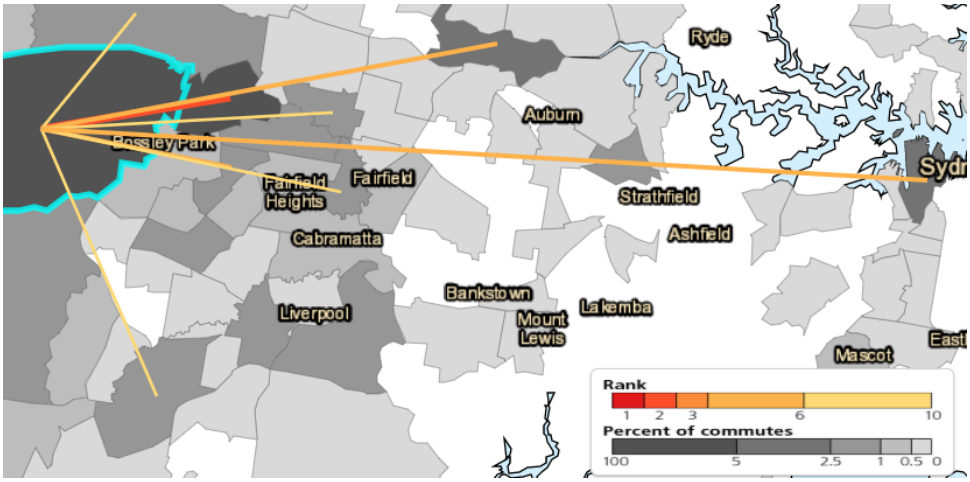

Figure 2 Commutes from Horsley Park-Kemps Creek SA2[26]

The high ownership and use of motor vehicles is unsurprising given the limited public transport servicing the local study area. In the areas immediately surrounding the local study area, only Blacktown, Seven Hills and Mount Druitt are supported by train services. Meanwhile, three motorways (M4 Western Motorway, M7 Westlink; and Great Western Highway) provide connections in and out of the area which encourage the use of cars. Technical report K: Traffic and transport assessment report provides detail on the transport network.

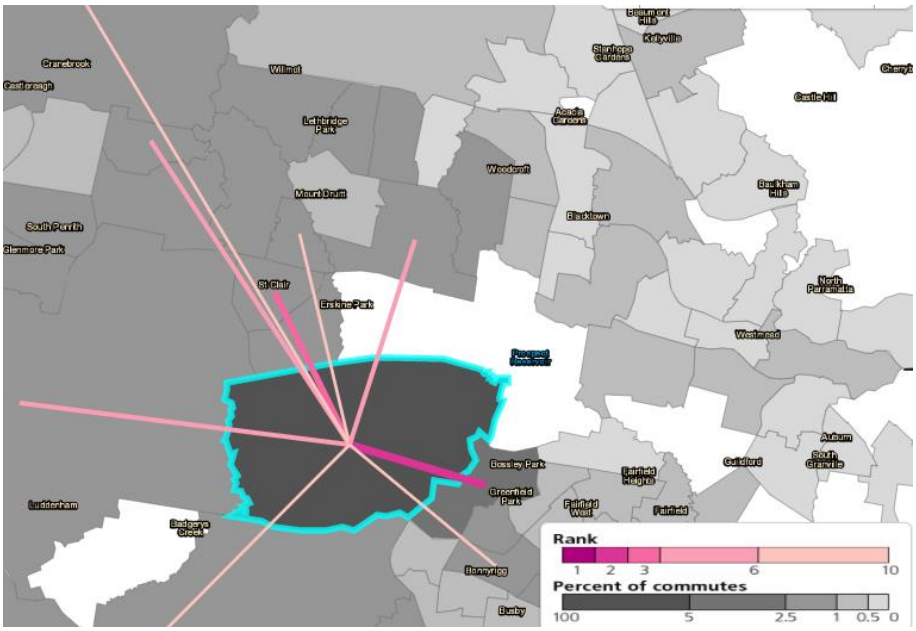

Figure 3 Commutes to the Horsley Park - Kemps Creek SA2[27]

[26] Australian Bureau of Statistics, 2016. Interactive map: Journey to work to place of work. Accessed from https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/2071.0.55.001~2016~Main%20Features~Journey%20to%20Work%20to%20Place%20of%20Work~60

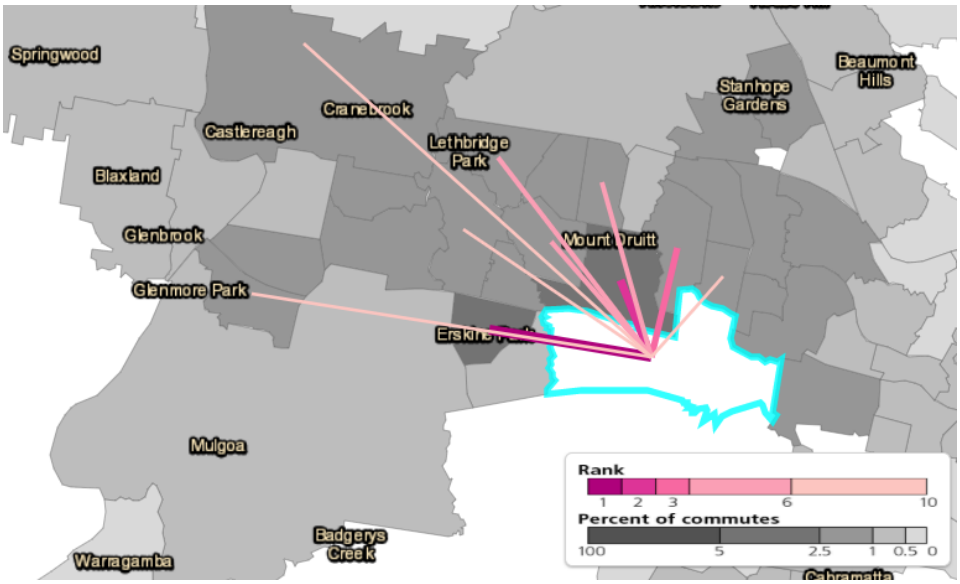

Figure 4 Commutes to the Prospect Reservoir SA2

3.2.5 Vulnerable communities

Data relating to age, gender, ethnicity, employment status, and affordability of housing presented in sections 3.2.1 to 3.2.3 can provide indicators of potential vulnerable groups in the community. However, as has been shown in the relevant sections, the data generally suggests that there are no significant vulnerable groups related to these indicators in the community. Additional indicators of vulnerable communities are presented in this section.

Socio-Economic Index for Areas (SEIFA)

The Socio-Economic Indexes for Areas (SEIFA) is an index provided by the ABS that summarises different aspects of the socio-economic conditions of the people living in a given area based on a range of socio-economic data from the census such as income, educational attainment, unemployment and dwellings without motor vehicles. It provides a more general measure of socio-economic advantage (indicated by high deciles) and disadvantage (indicated by low deciles) than is given by measuring income or unemployment alone.

Noting that a score was not assigned to the Prospect Reservoir SA2 (due to small area confidentiality), the local study area (i.e. Horsley Park – Kemps Creek SA2) had a SEIFA score of 7 in 2016[28], indicating a relatively advantaged area, particularly when compared to the surrounding SA2s shown in Figure 5. When considering the broader area, the Blacktown LGA had a similar score of eight,

[28] Australian Bureau of Statistics 2016, *Socio-economic index for areas - IRSAD*, Table Builder, Findings based on use of ABS TableBuilder data.

whilst the Fairfield LGA had a much lower score, of two, which indicates a higher level of disadvantage, as shown on Figure 6.

Noting that typically, socio-economically disadvantaged communities may be more vulnerable to change and impact, this relative advantage in the local study area suggests that the direct community are less likely to be vulnerable to change. On the other hand, the wider community, particularly those living to the north west, north, and south of the local study area may be more vulnerable to change and the negative impacts as a result of those changes.

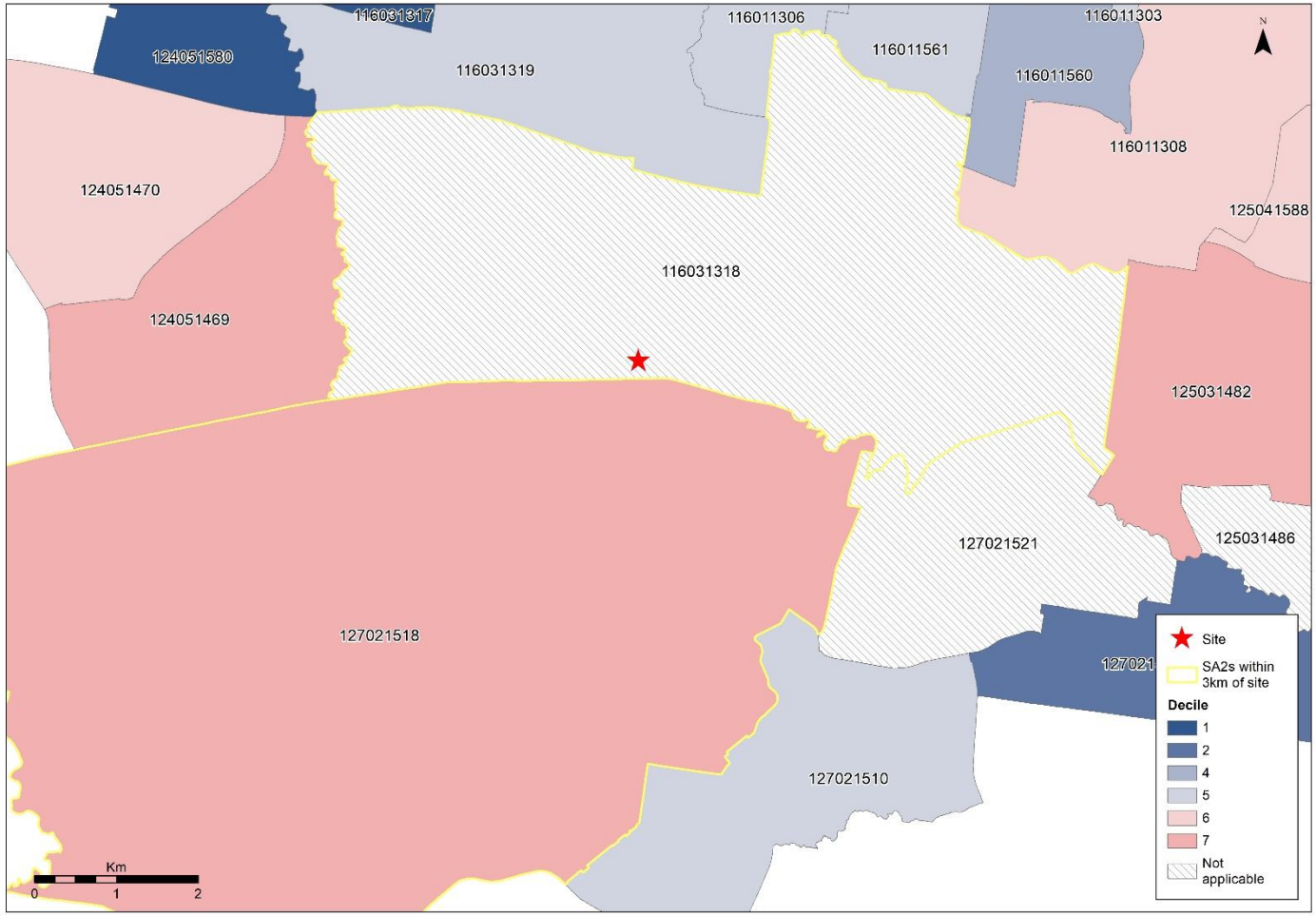

Figure 5 Map of SEIFA scores at SA2 level

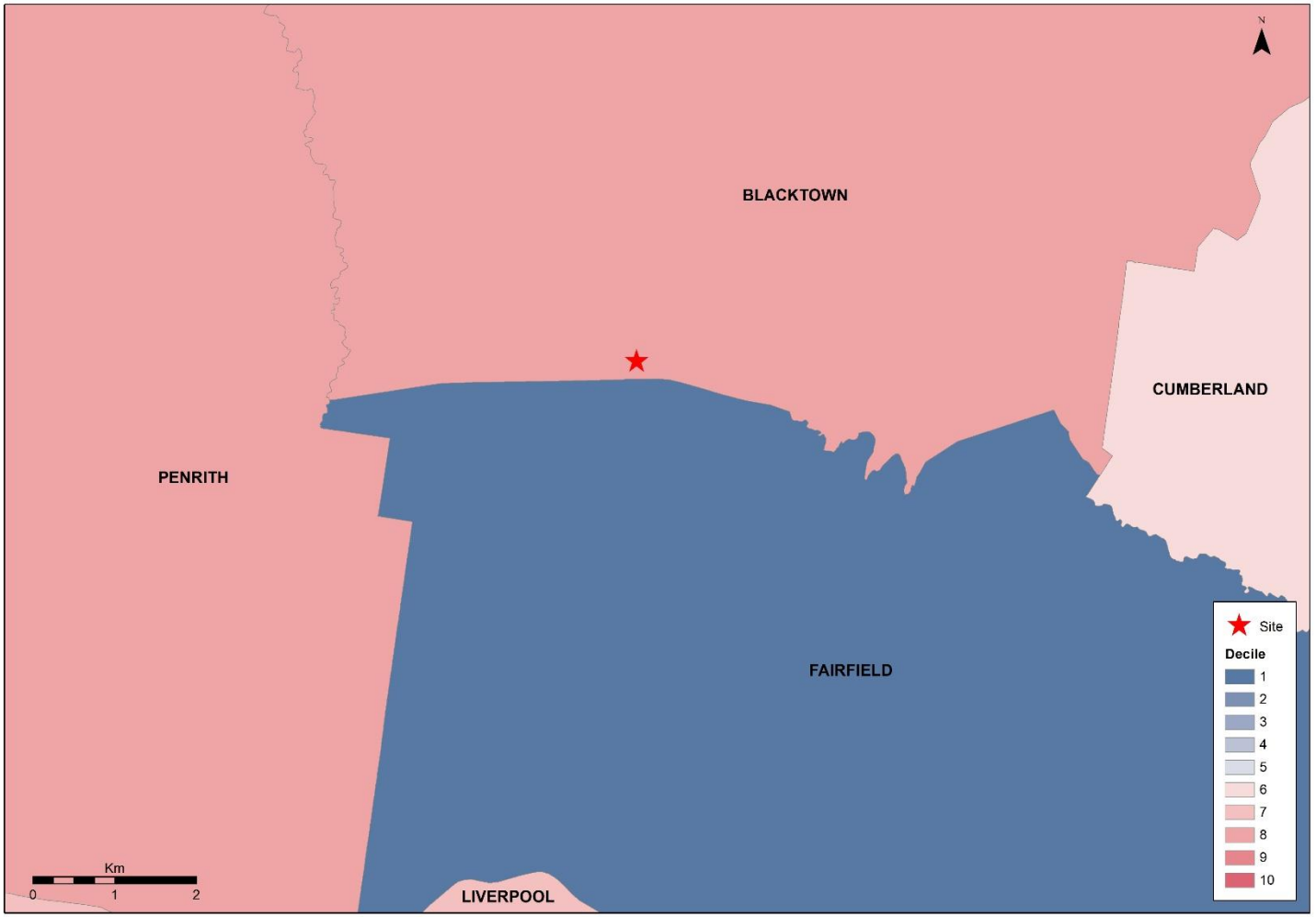

Figure 6 Map of SEIFA scores at LGA level

Need for assistance

Disability can limit mobility, employment opportunities and consequently access to financial resources. The need for assistance dataset provides an indication of the disability status of people in the local study area by identifying the proportion of people who need help with core activities (self-care, mobility and communication) due to a disability, long-term illness, or advanced age. While the results of the ABS Survey of Disability, Ageing and Carers (SDAC) provides a more comprehensive measure of disability (i.e. communication, mobility, etc), it is reported at a State level and does not provide data to a level relevant to this study.

About 7% of the local study area reported having a need for assistance with core activities in 2016. This was similar to that reported for Blacktown LGA, NSW, and Australia (all 6%), but lower than Fairfield LGA (10%). This suggests that the local study area does not contain a significant proportion of people in need of assistance.

English proficiency

Language and linguistic diversity can influence social cohesion and capital in a community. Those with lower levels of English can suffer from poor communication, isolation and reduced socio-economic opportunities. They can be a high risk, vulnerable group with poor literacy, comprehension and slower response rates to acute and chronic impacts. The ABS 2016 census data indicates that 53% of the population reported that they spoke English only, and that 24% spoke another language and spoke English well. It is noted that 191 people (4%) in the Horsley Park – Kemps Creek SA2 reported not speaking English well, and 44 people (1 %) reported not speaking English at all[29]. Whilst this is a minority, this vulnerability should be noted, and communications about the project may wish to include the relevant languages for this group (see Section 6 around mitigation measures). The most common languages spoken at home (other than English) were Northern European (54% - e.g. Celtic, German, Dutch), Southern European (18% - e.g. French, Italian, Greek, etc), Southwest and Central Asian (8% - e.g. Iranic, Arabic, Turkish) and Eastern European (6% - Hungarian, Croatian, Polish) languages.

Recent migrants

People who have just moved into an area may be more vulnerable as they may not be settled or have an established support network or sense of community. As indicated in section 3.2.1, the majority of the population in the local study area

[29] Australian Bureau of Statistics, 2018. SA2 Proficiency in Spoken English/Language. Access from Table Builder.

(63%) indicated they were born in Australia. For those that were born overseas only 113 people (3% of the population) had arrived between 2006 and 2016 (i.e. within 10 years prior to the census). As such, it is not considered that there is a significant vulnerable community in the local study area associated with recent migration. While there may be a number of localised or small vulnerable population groups within the local study area, overall it is not considered to be home to significant vulnerable populations.

3.2.6 Social and community cohesion

Social cohesion refers to the positive social relationships in communities. While difficult to measure, a community's level of participation in voluntary work can be an indicator of community cohesion as community bonds can be strengthened and it involves giving help and provides opportunities for community engagement[30]. In the ABS 2016 census, about 11% of the local study area's population reported doing voluntary work for an organisation or group.[31] This is higher than the participation rate in Fairfield LGA (9%), but lower than Blacktown LGA (14%), NSW (18%), and Australia (19%). This suggests an average level of community cohesion and participation within the local study area.

Services provided in the community by groups, clubs, and charitable organisations can also provide support to communities, provide opportunities for community interaction, and create bonds. Social infrastructure in the study area is described in section 3.4.4.

Studies have indicated that ethnic diversity can be regarded as having a detrimental impact on social cohesion[32]. This negative impact may relate to differences in values and perceived threats (e.g. to jobs). However, where an ethnic community is established, this in itself can provide a sense of belonging and build community cohesion. Fairfield (about 10km east of the local study area) is home to Australia's largest Assyrian community, and this is reflected through the number of Assyrian businesses in Fairfield, the celebration of Assyrian events and the establishment of the an Assyrian school in Horsley Park[33], just outside of the local study area. The data on place of birth and languages spoken presented in section 3.2.1 indicates there is a significant representation of people who were

[30] Australian Bureau of Statistics 2015, *Family, Community and Social Cohesion.* Accessed online at https://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/1383.0.55.001Main+Features252009
[31] Australian Bureau of Statistics 2016, *Voluntary Work*, Table Builder, Findings based on use of ABS TableBuilder data.
[32] McKenna S, Lee E, Klik KA, Markus A, Hewstone M, Reynolds KJ (2018) Are diverse societies less cohesive? Testing contact and mediated contact theories. Accessed from PLoS ONE 13(3): e0193337, from https://journals.plos.org/plosone/article/file?type=printable&id=10.1371/journal.pone.0193337
[33] St Narsai Assyrian Christian College, 2020. *Our college*. Accessed from https://www.stnarsai.nsw.edu.au/our-college/

born in the Southern Europe and Middle East and people who speak a European language living in the local study area.

3.3 Community and stakeholder values

As well as understanding the data on the community within the local study area, and beyond, it is important to understand the values of importance to that community. Evidence of key community values is summarised in this section.

3.3.1 Wider community values

A review of the community plans for Blacktown[34] and Fairfield[35] LGAs can provide us with an indication of the key aspiration the local community holds for the local study area and wider region. These documents show a collective vision for a vibrant area with diverse employment opportunities. There is also a focus on environmental and landscape values, around the WSP, and a sustainable and resilient approach to growth. Drawing on the aspirations and themes set out in these two documents, the following elements can be seen as important to the community, and their values:

- Supporting sustainable growth of the local economy and employment through provision of a range of business opportunities, and diverse local jobs.
- Supporting diverse and vibrant communities which are safe, accessible, liveable and inclusive.
- Encouraging a clean, sustainable and healthy environment, with a focus on neighbourhood amenity, water quality, biodiversity, environmental awareness, and sustainability and climate change.
- Providing and maintaining key community spaces, including recreation, outdoor spaces and other facilities to support community cohesion, health and wellbeing and life-long learning.
- Listening to the local community and ensuring active engagement and involvement in planning and decision making.

3.3.2 Values associated with the proposal

Community values associated with the proposal specifically have been drawn from community engagement undertaken for the proposal, and summarised in in the Community and Stakeholder Engagement Report provided in Appendix F (EIS Volume 1).

The feedback obtained from early research indicated there was generally a low level of awareness of waste management processes and issues, with assumptions

[34] Blacktown City Council 2017, *Our Blacktown 2036 Our vision, our plan - Community strategic plan*, viewed 27 March 2020.
[35] Fairfield City Council 2016 *Fairfield City Plan* viewed May 2020.

that these facilities will be dirty, result in pollution, and cause health risks - although seeing examples of well-designed facilities helped reframe this. While more than 80% of respondents indicated they cared about what happens to waste and there was a general positive response to EfW conceptually as a solution, roughly 30% were unsure of the acceptability of having an EfW facility in a nearby suburb. The potential health and safety risks and a lack of trust in government and waste management companies were the main reasons around hesitation and opposition. However, roughly 40% of survey respondents considered having an EfW facility in a nearby suburb would be acceptable. When asked to choose between EfW or landfill as a means of managing residual waste, respondents were in strongly in favour of EfW (89%) over landfill (11%). Further engagement activities to date have included doorknocking, pop-up displays, distribution of postcards and brochures, media releases, community workshops, proposal email and toll-free phone line, formation and meetings of the Air and Health Citizens Panel, media releases and newspaper articles. The activities found that the community's key concerns with the proposal are:

- the safety of locating the facility in proximity to residential areas.
- the potential impact of emissions (gasses and particulates) on people's health
- anticipated traffic issues.
- potential negative impacts on recycling habits.
- negative impacts on property values, potential increase in council rates.
- environmental impacts, including on plants, water and air quality.
- the (in)efficiency of the facility and its ability to adapt to technological change.
- that the facility does not achieve compliance with international and local regulations or reflect best practice.
- that the operations would lack the appropriate monitoring, reporting and enforcement of safety and environmental standards.

As summarised in the Community and Stakeholder Engagement Report (Appendix F), the community also recognises the positive impacts that an EfW facility would have, regarding it as a beneficial use of waste, valuable source of cheaper energy, providing local jobs and better outcomes for the environment than landfill. Through the proposal, those community groups supporting the proposal (as identified on the former page) hoped for cheaper electricity rates and local employment. When considering potential community positive impacts, there was strong support for subsidised energy pricing and local employment opportunities, and less for training and education opportunities, community investment funds, and co-location of community facilities.

Overall, the findings and feedback from engagement indicate that the community values living in safe residential neighbourhoods with good levels of amenity, their health, wellbeing, and safety, and the region's environmental values such as its waterways and wildlife. The community values having their opinions sought and heard, with some community members expressing appreciation of the engagement efforts whilst others indicated more involvement and transparency in planning and decision making is required. The community expressed they valued innovative and sustainable ways of dealing with waste and energy generation, with comments such as:

- *"it should already be in place; we need to do more of this"*
- *"what took so long? Was here 30 years ago and waiting for something like this to come along"*

In addition to sustainability, reducing financial costs associated with electricity and management of waste generated in the local community were also drivers to the support of the facility with statements such as:

- *"we need to reduce our landfill; sounds like a great idea; just make sure it's Western Sydney's waste."*

Noting that these issues are important to the community, it will be important to understand if and how the proposal supports, or detracts, from these broader community aspirations. Impacts to community values are addressed in sections 5.1.4 and 5.2.4.

3.4 Land use

This section provides a summary of the land use context within the local study area. Impacts to land use are addressed in section 5.1.5 and 5.2.5.

3.4.1 Property and access

The proposal site is owned by a Joint Venture (JV) company established and co-owned by Cleanaway and Macquarie. It is understood that there are no property acquisitions required on the site as part of the proposal. As such, direct property impacts are not considered further within this assessment.

The site access is currently via an existing access road off Austral Bricks Road, which crosses over the Warragamba pipelines corridor and into the proposal site. The Austral Bricks Road is currently used to service Horsley Park Austral Bricks. The carriageway is owned by TfNSW and the land below the pavement is owned by WaterNSW. Negotiations are ongoing between WaterNSW, Transport for NSW, and the applicant in relation to site access. Any impacts associated with this

access are dealt with in Chapter 22 of the EIS, Related Development. As such, access impacts are not considered further within this assessment.

3.4.2 Current land use

The existing site includes buildings associated with a disused poultry facility, which will be cleared from the site prior to starting construction.

The site is bounded by the M7 Motorway to the west with the Eastern Creek industrial area located farther west. The wider local study area is characterised by industrial, commercial and transport land uses, including industrial and warehousing areas. The site also forms part of a wider waste and recycling precinct. The now-closed Eastern Creek landfill site (which still has an operational organics recycling facility component) is located to the north and north-east, with the operational Global Renewables waste management facility located immediately to the east. To the south, the site is bounded by the Warragamba Pipeline Corridor, and the Austral Bricks facility farther south.

The nearest residential area is located around 1km south of the site. The Erskine Park residential area is located around 3.5km west, with Minchinbury located around 3km north. Horsley Park Public School is located over 2km south of the site and a childcare centre is located approximately 1km west (within the Eastern Creek industrial area).

The site sits adjacent to the WSP, an urban park system of almost 5,280ha.[36] The parklands feature picnic areas, sports grounds and walking tracks. In addition, the land immediately surrounding the site provides a range of industrial and commercial uses. The site is also in close proximity to Prospect Reservoir (east of the site), a designated nature reserve and conservation area, which provides a water storage and supply infrastructure role.

3.4.3 Land use zoning

While the site is not part of the WSP it is regulated by the SEPP for the WSP for planning purposes. Future land use aspirations for the site are contained within the WSPT Plan of Management 2030, which was adopted in 2018 and provides the strategic management framework for the parklands. The site falls within the Wallgrove Precinct, which is identified "*to be an evolving precinct that…has potential for the development of renewable energy and recycling opportunities, agriculture, unstructured recreation and sport uses, and a potential WSPT Business Hub development*."

[36] Western Sydney Parklands (2020) Our Story, accessed online at: https://www.westernsydneyparklands.com.au/about-us/our-story-2/

A large proportion of the wider local study area also falls within the WSP, as summarised below:

- Land immediately to the north and south of the proposal site is contained also within the Wallgrove Precinct.
- Land to the east is contained within Eastern Creek Motor Sports Precinct 5 with the Prospect Reservoir and Nature Reserve Precinct 8 located farther east. Precinct 5 contains Sydney Motorsports Park, Sydney Dragway and the proposed site for the new Sydney International Speedway. Precinct 8 supports protection of the designated nature reserve and conservation area and continued use of Prospect Reservoir for water storage and supply.
- To the south of the site is the Horsley Park precinct, which is identified as an extension of the Smithfield/Wetherill Park industrial area, surrounded by a sustainable urban farming precinct.
- Further south is Abbotsbury Precinct, a centre of major activity for the Parklands, offering a full range of cultural, recreational, tourism, sport and community uses, including urban farming and equestrian activities.

Within the western part of the local study area, a significant portion is covered by the Western Sydney Employment Area. This is an identified area for industry and employment within the region for transport, logistics, warehousing and office space. Strategic plans are under development for the area, noting that the area was established to supply employment land close to major road transport and provide jobs for Western Sydney.

Further south, beyond the WSEA and west of the WSP, land is zoned for RU2 rural landscape (with aims to encourage sustainable primary industry production by maintaining and enhancing the natural resource base) and RU4 Primary production, to enable sustainable primary industry and other compatible land uses with the Fairfield LEP 2013. Residential development is prohibited in the WSP and the Western Sydney Employment Area.

3.4.4 Social infrastructure

There are a number of community facilities and social infrastructure within 3km of the construction footprint. Social infrastructure potentially impacted by the proposal may include those in close proximity to the proposal site (such as the M7 shared path), however it is also important to consider the facilities located in the wider study area.

Table 6, supported by Figure 7, outlines the social infrastructure, services, and facilities within the local study area. The majority of these facilities are considered to have a local reach, as their users will predominantly come from the local study area (e.g. schools, places of worship, local open spaces). The identified SUEZ Eastern Creek Resource Recovery Park plays a role across the wider region, and State, servicing a much larger catchment.

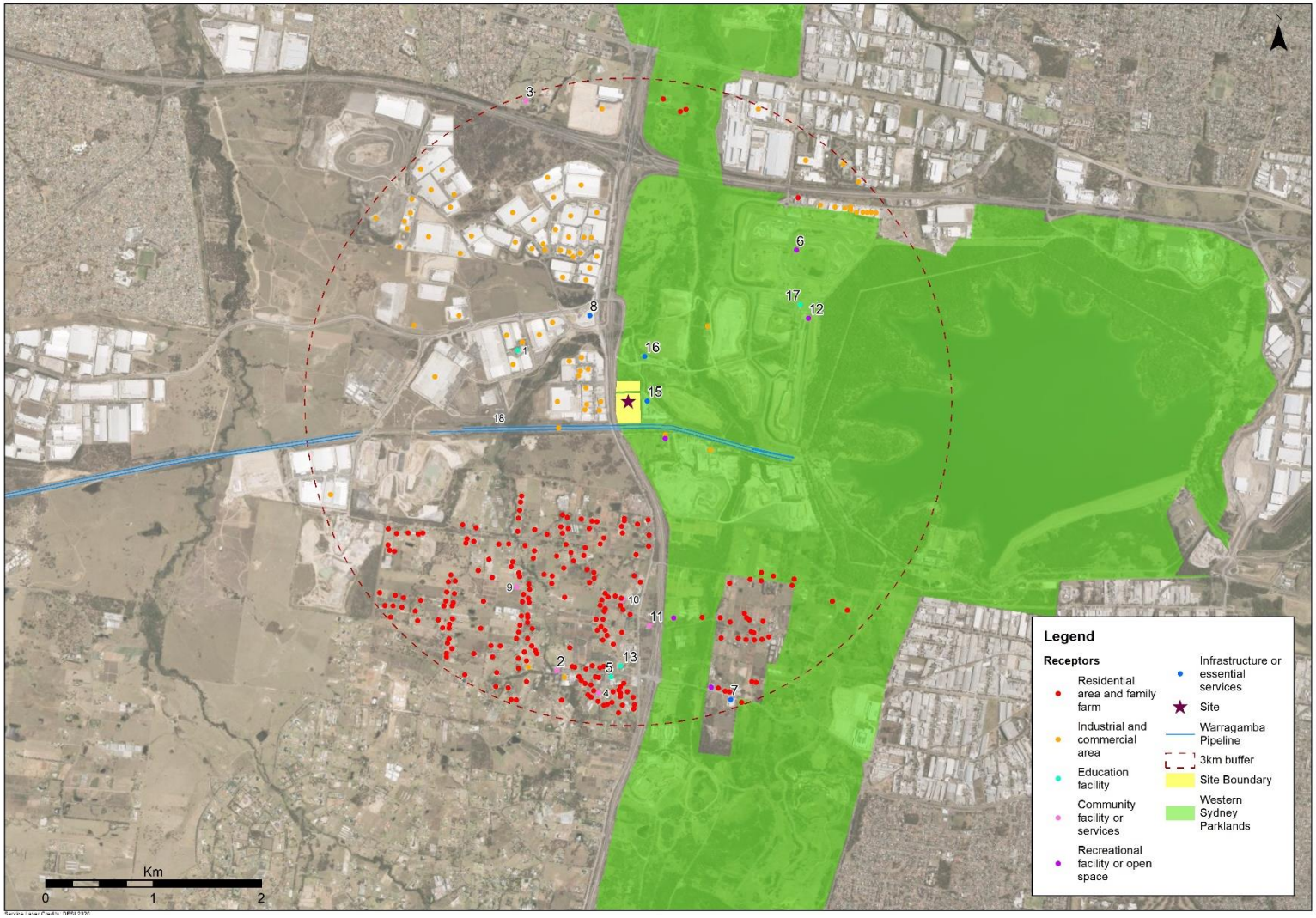

Figure 7: Social infrastructure and community facilities near the proposal site

Table 6: Social infrastructure and community facilities near the proposal site

Category	Map ref.	Facility type	Name
Community facility or services	2	Community Centre	Horsley Park Community Hall
	3	Cremation service	Pinegrove Memorial Park
	4	Place of worship	Our Lady of Victories Horsley Park
	9	Place of worship	Horsley Park Christian Church
	10	Place of worship	Panditarama Sydney Meditation Centre
	11	Place of worship	Spanish Community Bible Church
Education facility	1	Child Care Centre	Little Graces Childcare Centre
	5	School	Marion Catholic Primary School
	13	School	Horsley Park Public School
Recreational	6	Racing track	Sydney Motorsport Park
	12	Racing track	Sydney Dragway
	17	Driving school	Drift School Australia
Infrastructure or essential services	7	Petrol Station	BP Truckstop
	8	Petrol Station	BP
	15	Waste treatment facility	Global Renewables
	16	Waste treatment facility	SUEZ Eastern Creek Resource Recovery Park
	18	Water pipeline	The Warragamba Pipeline Corridor
	n/a	Road	Westlink M7 (including shared path for walking and cycling) – western edge of the proposal footprint
	n/a	Road	Wallgrove Road – western edge of the proposal footprint

There are also a number of existing above and below ground utilities within the construction footprint and surrounding area, which will require upgrades or decommissioning as a result of the proposal, including water supply pipe, septic tanks, electrical networks and telecommunication cables.

3.4.5 Local businesses

As set out in section 3.2.3, the local study area is home to approximately 1,525 businesses.[37] The businesses in the study area accounted for almost 4% of the 41,235 businesses registered across both Blacktown and Fairfield LGAs. Horsley Park-Kemps Creek SA2 accounted for 6% of the businesses in Fairfield LGA.

The top industries locally are listed in Table 7, and compared to those regionally, State and nation-wide. The largest proportion of these businesses (21%) are in construction, which aligns with a large number of construction industry businesses in both Blacktown (18%) and Fairfield (23%) LGA's and is more than the national average of 17%, which suggests the local study area is a hub for construction businesses.

Wholesale trade (11%) also makes up a significant proportion of businesses in the local study area, greater than the 4% in Blacktown more widely, and 5% in Fairfield. Businesses in transport, postal and warehousing (8%) are also strong, however, this is significantly less than the 22% and 14% for Blacktown and Fairfield LGA's more widely.

There is a lower share of businesses in the local study area within the professional, scientific, and technical services and financial and insurance services compared to the region, State and Australia more widely. This would reflect the lack of any higher order economic centres in the local study area. Likewise, businesses in the agriculture, forestry and fishing industry, are minimal in the local study area, but comprise a significant portion across NSW and Australia.

Table 7: The top industries of businesses in the local study area, region, and State[38]

	Local study area	Blacktown LGA	Fairfield LGA	NSW	Australia
Construction	21%	18%	23%	16%	17%
Rental, Hiring and Real Estate Services	18%	10%	7%	11%	11%
Wholesale Trade	11%	4%	5%	4%	3%
Transport, Postal and Warehousing	8%	22%	14%	8%	8%
Financial and Insurance Services	7%	5%	5%	9%	9%
Professional, Scientific and Technical Services	5%	10%	7%	13%	12%
Agriculture, forestry and fishing	1%	1%	1%	7%	7%

[37] ABS Counts of Australian Businesses (June 2019) Businesses by Industry Division.

[38] Australian Bureau of Statistics 2020, Counts of Australian Businesses, including Entries and Exits, June 2015 to June 2019.

There are a number of business parks and industrial estates which provide home for the businesses within the local study area. These include the eastern creek industrial park (west of the site) and Bungarribee Industrial Estate (north of the site). The Oakdale Industrial Estate, to the south west of the site and within the local study area, is currently under development (having been approved), and is expected to create around 2,000 new jobs with a focus on e-commerce, logistics, retail, pharmaceutical and automotive businesses. This forms part of the wider Western Sydney Employment Area.

The Westpark Industrial Estate, Interlink Industrial Estate and Erskine Park Industrial Estate are located on the western edge of the local study area, and home to a range of wholesale, logistics and industrial businesses.

The proposal is also located in proximity to a number of other waste facilities, including the now-closed Eastern Creek landfill site (which still has an operational organics recycling facility component), and the operational Global Renewables waste management facility. This makes it part of an existing waste recycling and processing precinct.

This context indicates there is scope for the proposal to draw upon local and regional businesses as relevant to its construction and operation.

3.4.6 Heritage and culture

A Cultural Heritage Impact Assessment Technical report O was carried out for the proposal. This found that there are no Aboriginal and non-Aboriginal archaeological sites or areas of archaeological potential within the local study area and the proposal would not impact on areas or items of cultural heritage. Further, while it is recognised that the general area exhibits Aboriginal cultural value, the consultation with Aboriginal stakeholders did not identify any specific cultural features associated with the study area.

The assessment was based on database searches of Aboriginal and non-Aboriginal statutory and non-statutory heritage registers, desktop modelling of the levels of the distribution of registered archaeological sites and information from heritage investigations in the area. It also drew on a landscape assessment and a visual inspection by an archaeologist, and consultation with 25 Aboriginal community individuals and groups carried out in accordance with the former DECCW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010[39], the requirements of Clause 61 of the National Parks and Wildlife Regulation 2019, and the SEARs for the project.

[39] Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Part 6 National Parks and Wildlife Act, 1974). Department of Environment, Climate Change and Water NSW.

Drawing on these conclusions, it is considered that the Cultural Heritage Impact Assessment Technical Report O provides all relevant analysis of potential impacts associated with cultural heritage, and these are not considered further in this SIA. Furthermore, as the project does not involve property acquisition and displacement of people or any impacts on places where cultural or religious gatherings or practices may occur, impacts on intangible cultural heritage is unlikely and is not assessed further as part of the SIA.

3.4.7 Sensitive receivers

Drawing on this analysis of land use context, social infrastructure and businesses within the local study area, Figure 8 provides an overview of the key sensitive receptors within 3km of the construction footprint.

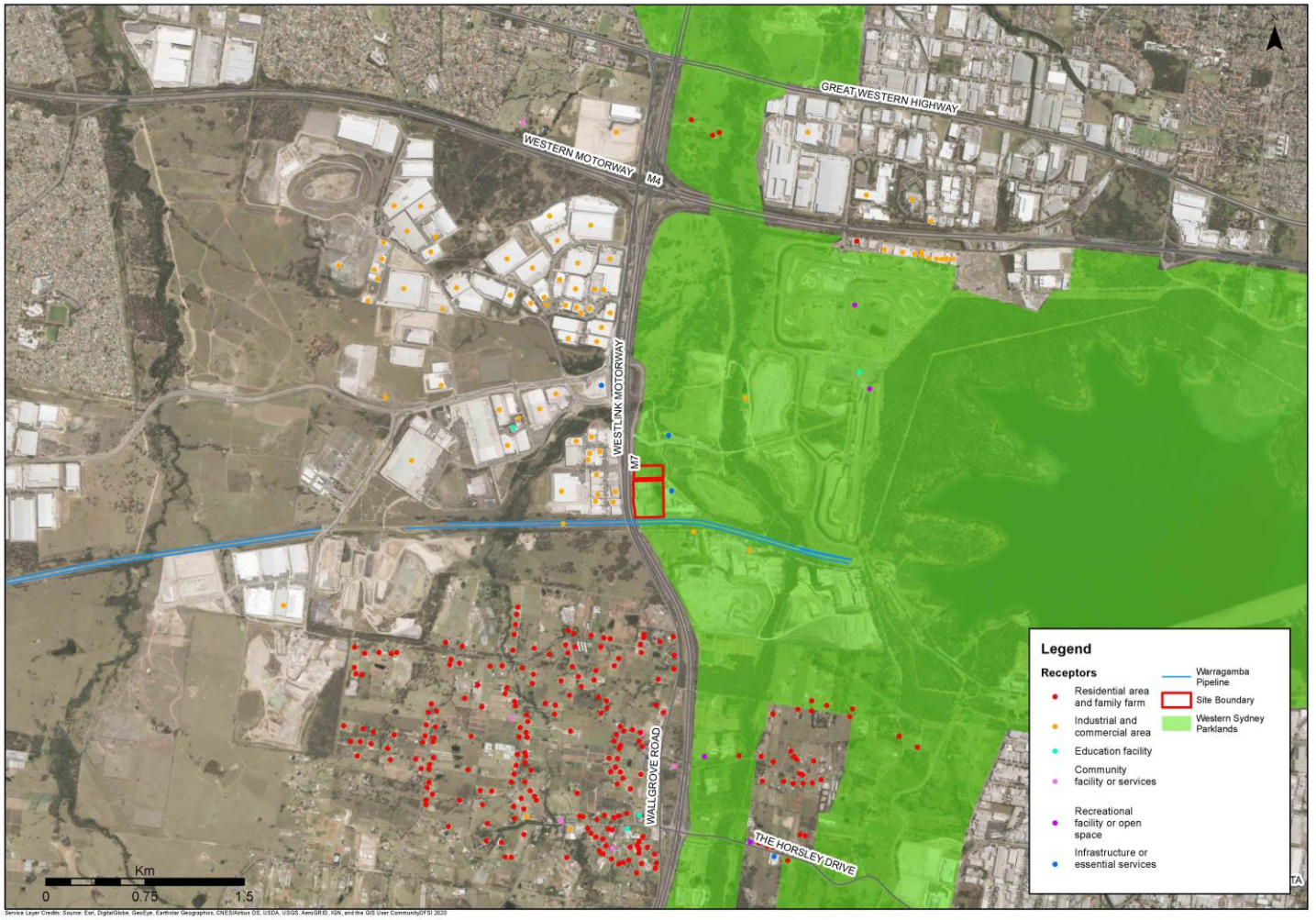

Figure 8: Sensitive receptors map

3.4.8 Future developments

Due the proposal's location in Western Sydney, there are several planned projects within the local study area to support NSW Government's planned growth in the region. Known future developments are set out in Table 8, based on a review of the DPIE Major Projects register in May 2020. Section 5.1.5 and 5.2.5 assess the potential impacts of the proposal upon these future developments. Cumulative impacts of the proposal and known future developments are addressed in Chapter 23 of the EIS.

Table 8: Major development within local study area (lodged in last three years)

Project	Description	Status	Distance from construction footprint
Horsley Park Brickworks Plant 2 Upgrade	Proposed upgrade works to existing Plant 2 brick making facility including replacement of existing two kilns with one new kiln and alterations and additions to the existing production building.	Approved (May 2020)	Approx. 500 m south from the site
Gazcorp Industrial Estate	An industrial warehouse estate located at 813 – 913 Wallgrove Road. The Concept Proposal sought approval for 211,550m² GFA across 16 lots. Stage 1 of the proposal is expected to generate 157 peak hour trips with this increasing to 600 once the Concept Proposal is complete. This application is relevant to the proposal as it proposes to signalise the Wallgrove Road / Austral Bricks Road intersection.	Approved (November 2019)	Approx. 700 metres west
Sydney International Speedway (Sydney Metro)	Construction and operation of a new speedway (Sydney International Speedway) including a clay-based racetrack, support infrastructure for competitors, support infrastructure for spectators and ancillary infrastructure and services.	Prepare EIS (SEARs issued May 2020)	Approx. 1km east of site
Roberts Road Data Centre	Construction and operation of a data storage facility.	Response to submissions (Requested February 2020)	Approx. 1km west of site
Light Horse Interchange Business Hub Eastern Creek	Concept proposal for staged redevelopment of site as an industrial business hub with approximately 157,600sqm industrial and light industrial	Under assessment (more information required)	Approx. 1.5km north of site

Project	Description	Status	Distance from construction footprint
	floorspace and 7,900sqm ancillary offices		
Western Sydney Green Gas Project	A 5-year trial to construct a Power to Gas facility at an existing Facility at Horsley Park, inject hydrogen gas into the Sydney secondary gas distribution network, supply it for bus refuelling, and/or for power generation back into the grid.	Assessment (Further information requested May 2019)	Approx. 2km south of site
Eastern Creek Energy from Waste Facility	The construction and operation of an energy from waste facility.	Currently being assessed by the NSW Land and Environment Court	Approx. 2.8km north-west of site
Eastern Creek Retail Centre Lot 1	Construction of a specialised retail centre (GFA 11,358 m2), with three new buildings, uses include an indoor recreation facility, vehicle repair station & café, food & drink premises, signage zones & 355 parking spaces	Recommendation	Approx. 3.1km north (note outside local study area, but immediately adjacent)
Eastern Creek Resource Recovery Facility	Construction and operation of a resource recovery facility comprising a concrete recycling plant with a processing capacity of 100,000 tonnes per year and a material storage depot with a capacity of 36,000 tonnes per year	Prepare EIS (SEARS issued February 2019)	Approx. 3.8km north west (note outside local study area, but in proximity)

3.5 Baseline future conditions

The socio-demographic profile, community and stakeholder values, and land use descriptions provided in sections 3.1 to 3.4 describe the existing social context of the local study area and its surrounds. These represent the baseline, and the likely conditions that would continue in the local study area, in absence of the proposal. Whilst population projections specific to the local study area are not available, strategic planning documents and land use zoning do not indicate areas for significant residential growth in the local study area. Rather, the Western Sydney Employment Area, located in the local study area is identified for industry and employment to provide jobs for Western Sydney. In addition, residential development is prohibited in the Western Sydney Parklands. It is therefore likely that, with or without the project, the number of people employed within the local study area and wider region would increase. For the proposal site itself, while it is noted that strategic planning identifies the site for employment, it is the approval,

construction and operation of a development that creates the jobs. Without the proposal, the on-site job opportunities would not exist.

Given the existing land use designations, the local study area and its surrounds would be available for future development for a range of industry uses, including specifically the development of renewable energy and recycling opportunities in accordance with SEPP for the WSP. As such, it is expected that without the project, a similar land use may be established on the site or the surrounding areas.

Until such time, the project site would remain as a disused poultry farm with abandoned sheds. In addition to being under-utilised land, the site and its sheds could be subject to vandalism and anti-social behaviour. This has the potential to create an unsightly and unsafe environment.

Without the project, waste management and energy generation practices in the region would remain the same until the development of another EfW facility in the area, or other projects or initiatives are put in place to increase the amount of waste diverted from landfill. Until then, residual waste which would otherwise be directed to this project would continue to go to landfill.

Overall, in the absence of the proposal, it is anticipated that the local study area would experience similar social conditions to those set out in the social baseline for this SIA – it would be challenging to meet the policy and strategic aspiration for the area, both around waste management, and broader employment and industrial development.

4 Social impacts of comparable facilities: precedent projects

In order to support an understanding of the potential social impacts associated with the proposal, a review has been undertaken of a range of literature and case study EfW facilities. This section summarises the results of this analysis.

4.1 Levels of support and influencing factors

In 2016, in response to the interest and potential for new and emerging options for cost-effective renewable energy in the Northern Rivers region of NSW, and in recognition of the potential for local communities to scrutinise energy proposals, the NSW Office of Environment and Heritage funded the Northern Rivers Bio Hubs project. The project sought to establish what level of support exists in the community for bioenergy in the Northern Rivers and what factors would influence the support. The findings of the project were documented in a report titled *Social licence for bioenergy: Prospects in the NSW Northern Rivers*, and provides an indication of potential areas of concern for communities associated with the proposal.

It reported that there was good support for bioenergy in general. Out of the bioenergy technologies, there was most support for anaerobic digestion, followed by pyrolysis and then combustion. Out of the bioenergy feedstocks, municipal waste and agricultural wastes had equally higher levels of support followed by forestry residues and energy crops.

Through workshops and surveys, the project found the following factors would influence social licence for bioenergy:

- Appropriate use of land and feedstocks – because the underlying motivation for bioenergy support are related to sustainability, waste should be minimised and resources must be used efficiently. Support would diminish if a project involved clearing forest, using food-producing land for energy, using feedstocks that have other, more valuable uses, over-cropping, diminishing habitat, etc
- Relative costs and benefits – there was awareness but uncertainty over the costs of a bioenergy project (transport, technology, processing, infrastructure, etc) and its benefits (beneficial use of waste, avoid landfill, local employment, etc). Benefits would need to outweigh costs and this would depend on perceived costs and benefits.
- Community engagement and dialogue – ongoing engagement and more information would be needed for people to decide whether they would support a project. Evidence of the benefits of bioenergy, through peer-

reviewed, scientific research and examples from other regions would increase support. The community wanted honest presentation of impacts and risks using plain language and to be engaged along the way.

- Minimising transport – feedstocks should be from local sources, minimising transport cost and distances. Therefore, the location of bioenergy energy projects is critical to feasibility. In addition, communities were concerned about the impacts of heavy traffic moving feedstocks, noting smells, noise and safety could affect support.
- Ownership, governance and regulations – there would be more trust in a community-owned and governed or locally-owned and managed project. There would be opposition to commercialisation of bioenergy, with concerns that profit-making motives would compromise the integrity of the operation. This highlights the need for transparent decision-making, community involvement, and adequate regulatory support to build trust[40].

A CSIRO report published in 2016 which explored attitudes and social acceptance in the waste and resource sector in Victoria[41] had similar findings This was based on analysis of participant responses to the 2016 CSIRO Victorian Attitudes to Waste Management survey. The report assessed seven potential drivers of social acceptance in the waste and resource recovery sector in Victoria, for their perceived risk or impact. These are summarised as follows:

Success factors

- **Beneficial impacts** at the local scale, and wider societal level (regional and State) associated with: convenient disposal of waste; economic, employment and training opportunities; reducing public health risks, and support for community activities. Societal beneficial impacts were seen to be more beneficial than local beneficial impacts by survey respondents.
- **Procedural fairness** relates to public inclusion and engagement in the decision-making process, which is an important factor in planning and development of a waste management facility. The results suggest that residents feel they do have opportunity to participate in decision making, but this is particularly the case for those already impacted by waste and resource infrastructure.
- **Relationship quality** refers to the quality of communication between the local community and the local waste complex operator. The paper

[40] Parsons, R. (2016). *Social licence for bioenergy: Prospects in the NSW Northern Rivers,* http://sustainnorthernrivers.org/wp-content/uploads/2015/10/Social-licence-for-bioenergy-Prospects-in-the-NSW-Northern-Rivers_final-revised2.pdf
[41] CSIRO (2016) *Attitudes and Social Acceptance in the Waste and Resource Sector,* https://publications.csiro.au/rpr/download?pid=csiro:EP165110&dsid=DS3

suggests that an open, transparent and genuine two-way dialogue, together with an accessible and responsive contact create beneficial communication.

- **Trust** is about the level of trust for the private company operator, local council and State government bodies to operate or manage a waste management facility with the following considerations:
    - acting in the local community's best interest.
    - acting responsibly.
    - their capability.

  In general, the level of trust for State government is the highest, followed by the local government. The local waste facility operator receives the lowest level of trust.
- **Governance** refers to regulation and compliance, planning and strategic vision and collaboration between different stakeholders.

Risk factors

- **Impacts** including dust and odour (and associated health concerns), environmental management, noise, increased traffic, litter, scavenging birds and visual impacts. Overall levels of concern about living near a waste facility were considered to be high, with two-thirds of residents reporting an overall concern of four or five out of five. There was no reported significant difference between impacted and non-impacted residents, suggesting perceived impacts to be important.
- **Distributional fairness** relates to the feeling of fairness or unfairness about the location of a waste management facility. At a personal level, residents generally feel it is unfair to live near a facility. However, when residents take broader societal considerations into account, it is reviewed to be less unfair.

4.2 Other examples

Although EfW using thermal treatment is an emerging concept in Australia, it is a proven and widely used approach to residual waste management globally. In addition, there are other EfW facilities similar to the proposal already approved and under construction and in the planning stages in Australia. The application documents for these projects demonstrate a range of potential positive and negative social impacts. Table 9 provides a summary of the key impacts assessed as part of the EIS for a number of comparable EfW facilities, based on a high

level review of relevant documents, including such as EIS documents, SIAs and, where relevant, Planning Assessment Reports.

Table 9: Comparison of the proposal and other EfW examples

Project name/ location	Key description	Key social impacts assessed within the SIA

Avertas Energy, Western Australia	• Will process up to 400,000 tonnes per annum of residual waste from MSW and C&I sources to deliver 36MW of power using moving grate technology– slightly smaller than the proposal but the same combustion technology.	• No social impact assessment has been found for the project.
		• Some social elements considered as part of the Public Environmental Review include:
		  • Provision of education to the community on recycling and waste management
		  • Health and safety of workers, the community and the environment
		  • Impacts to community wellbeing
		  • Impacts to community associated with noise and air quality

Australian Paper EfW facility, Victoria	• Will thermally treat approximately 650,000 tonnes per annum of residual MSW and C&I waste to produce 225MW of thermal energy using moving grate technology– larger than the proposal but the same combustion technology.	• No social impact assessment has been found for the project.
		• Broader EIS considers a range of impacts, including some impacts to community across:
		  • Human health impacts associated with dust, noise, emissions and odour.
		  • Community impacts associated with traffic.
		  • Surface water quality impacts and their impact to social values and recreation
		  • Wellbeing and changes in levels of stress and anxiety
		  • Sustainability benefits to community wellbeing
		  • Impacts to community belonging as a result of amenity changes

East Rockingham Resource Recovery Facility, Perth,	• Will process up to 330,000 tonnes of residual waste per annum and recover energy to produce 28.9 MW of power using moving grate	• No social impact assessment has been found for the project.

Project name/ location	Key description	Key social impacts assessed within the SIA

Western Australia	combustion – smaller than the proposal but same combustion technology.	• Broader Public Environmental Review (PER) covers impacts to social surroundings, which covers:
		  • Noise impacts
		  • Odour impacts
		  • Dust impacts, as part of construction.
		• The PER also refers to broader community benefits of the project, including diversion from landfill, energy provision, essential infrastructure provision and job creation.

Dublin Energy from Waste Project, Dublin, Ireland	• Thermally treats up to 600,000 tonnes of residual waste per annum and recovers energy to produce up to 60 MW of power using grate combustion processes – larger than the proposal but same combustion technology.
	• Also, similar land use setting - surrounded by industrial land use and located approximately 1km from the nearest residential area.
		• Impact on human beings assessment:
		  • Consideration of impacts to health associated with plant operation and air quality
		  • Impacts to community facilities
		  • Impacts upon residential amenity
		  • Employment generation opportunities
		• Broader EIS considers a range of impacts including traffic, air quality, noise and landscape and visual impact. These don't appear to be covered in the SIA.

Mount Piper Energy Recovery Project, NSW	• Thermally treats up to 200,000 tonnes of non-recyclable solid materials per annum to generate 30 MW of power using moving grate technology - smaller than the proposal but same combustion technology.	• Socio-economic impact assessment:
		  • Impact on resources (e.g. housing for workers)
		  • Employment generation opportunities
		  • Opportunities for spend in the local economy
		  • Support for local and State industries, such as transport, maintenance, facilities support etc.
		  • Community positive impact through developer contributions

Project name/ location	Key description	Key social impacts assessed within the SIA

		• The project also assessed the environmental and social risk associated with all impacts. Those of particularly high risk included:
		  ◦ Air quality and odour
		  ◦ Human health
		  ◦ Waste
		  ◦ Greenhouse gas

North London Heat and Power Project, UK	• Using up to 700,000 tonnes of waste as a fuel to generate approximately 70 MW of power using moving grate technology - larger than the proposal but same combustion technology	• Socio-economic impact assessment:
		  ◦ impacts to community facilities
		  ◦ employment generation opportunities
		• Broader planning statement assessed social impacts in relation to:
		  ◦ Flood risk
		  ◦ Air quality, emissions, dust and odour impacts
		  ◦ Noise and vibration impacts
		  ◦ Visual impacts
		  ◦ Impacts to the historic environment
		  ◦ Traffic and transport impacts
		  ◦ Sustainability positive impacts

Drawing on these examples, common social impacts assessed and community concerns about an EfW facility include:

- Noise during construction.
- Odour during construction and operation.
- Air quality and human health impacts, particularly during operation.
- Visual impacts associated with the scale of facilities.
- Greenhouse gas emissions and sustainability impacts.
- Additional traffic generation.

The common positive impacts identified in the examples include:

- Job creation for locals and employees from other locations during construction and operational phase.

- Generating spending on goods and services within the local economy.
- Generating additional electricity to support the needs of homes in NSW.
- Reducing greenhouse gas emission and supporting sustainability outcomes.

4.2.1 Eastern Creek Energy from Waste application

In 2015, The Next Generation Pty Ltd submitted a development application to build a new EfW facility in Eastern Creek. In July 2018, the Independent Planning Commission (IPC) announced that they would refuse consent for the proposal, for a number of reasons. These reasons are summarised in the IPC Statement of Reasons as:[42]

- the applicant's predicted modelling was based on data from reference facilities that are not representative of the actual waste streams proposed to be treated at the energy from waste facility.
- there is insufficient evidence that the pollution control technologies are capable of appropriately managing emissions from the project due to the untested nature of the waste streams and would be agnostic to the composition of the project's waste stream.
- there is uncertainty in relation to the air quality, and the relationship between air quality impacts and water quality impacts in the locality.
- as a result, there is uncertainty in relation to the human health risks and site suitability.
- it is not satisfied that the project is consistent with certain objects of the Environmental Planning and Assessment Act 1979.
- the project is not in the public interest.

As a result, it is important that this SIA takes into account these potential areas of concern, particularly around air quality and human health risks, to ensure an assessment is made as to what social impacts can be expected around these factors.

4.3 Implications for the SIA and the proposal

This research has demonstrated the importance of considering social impacts as part of waste management facilities, and the broad range of factors that can be included in such an assessment, ranging from the amenity impacts associated with environmental changes such as noise and air quality; the social challenges

[42] Independent Planning Commission (2018) Statement of Reasons for Eastern Creek Energy from Waste Facility. Accessed online at https://majorprojects.accelo.com/public/3ab41388560829ffbc09ed7805ee7c4b/IPC%20Statement%20of%20Reasons_%20Eastern%20Creek%20Energy%20from%20Waste_%20SSD%206236.pdf

presented by traffic and transport impacts; and potential impacts to important social and community infrastructure.

Impacts can be perceived, as well as actual. The SIA will also address key stakeholders' values, concerns and needs to understand how the proposal might influence those features the community holds dear.

5 Impact assessment

This identifies and evaluates the potential social impacts of the proposal in relation to both construction and operation. The SIA has been undertaken in line with the methodology introduced in section two (and the DPE social impact assessment guideline). It covers impacts for the local study area, drawing on assessment of the impacts at the regional, State and national levels as appropriate and relevant. Cumulative impacts associated with the proposal are addressed in Chapter 23 of the EIS.

A hydrology and flood assessment has been undertaken for the proposal (Technical report H). This found that a proposed bioretention basin will improve the quality of stormwater discharged from the site as well as limiting discharge flows in accordance with Blacktown City Council requirements. In addition, no negative flood impacts are predicted in flood events up to the 1% Annual Exceedance Probability (AEP). As such social impacts associated with flooding are not addressed in this SIA.

This section is structured in line with the types of social impact set out in the DPE Social Impact Assessment Guideline. It is noted that the topic of 'culture' is excluded as the heritage assessment undertaken for the project (as summarised in Section 3) found no evidence of Aboriginal heritage assets, and no impacts to key cultural values of the proposal.

5.1 Construction

This section provides a summary of the key possible impacts associated with construction of the proposal.

5.1.1 Way of life

Liveability

Impacts to liveability are expected to be unlikely during the construction phase, and minimal in consequence where experienced. As discussed in 5.1.5, amenity impacts as a result of the construction of the proposal (e.g. construction noise or air quality impacts) may affect some residents closest to the project site, which may result in them making slight changes such as keeping windows or doors shut. However, this is considered to be relatively unlikely (noting the nearest residential communities are 1km away), and where experienced likely to be more of a slight nuisance and inconvenience and therefore having only a minimal negative impact to way of life.

Findings from the engagement activities indicated the community's concerns regarding the facility's implications on liveability and way of life generally relate

to the operation of the facility, rather than construction, and are discussed further in section 5.2.1.

Employment

Noting the analysis in section 3.2 that the construction industry employs a large proportion and accounts for many businesses in the local study area and region, it is anticipated that the proposal would result in likely moderate positive impacts to local employment and businesses opportunities.

The construction of the project will require trades and construction personnel, sub-contract construction personnel and engineering, functional and administrative staff. While workforce size will vary across the day and throughout the phases of the project, it is estimated that the proposal will create around 900 direct construction jobs over the 3-year construction period. In addition, the proposal is anticipated to generate a number of indirect jobs, including through the supply chain regarding raw materials and products – an estimated between 700-1200 jobs. This could lead to improved employment status, which could also improve financial status and potentially mental and emotional health and wellbeing. More local jobs could also enhance people's way of life by reducing the need to commute to other employment areas located further away, which would provide more time for other activities such as recreation. Related developments will also have social benefits, including potential for job creation. Impacts associated with related developments are discussed in Chapter 22 Related Development of the EIS.

Traffic and congestion

Drawing on the assessment in Technical report K: Traffic and transport assessment, social impacts associated with traffic and congestion during construction are likely but would be minimal and temporary in nature.

As a result of proposal construction, it is anticipated that there will be a slight increase in the number of vehicles using roads within the immediate vicinity of the site, associated with construction activities, movement of staff and heavy vehicles transportation of construction materials. However, it is estimated that the proposal would only slightly increase journey times during construction. Therefore, while an uplift in traffic may lead to a small increase in congestion, it is not anticipated to impact significantly upon people's daily routines and/or business operations, nor add significant time to existing commutes.

Moreover, while workers and residents closest to the site and associated works may experience a reduction in amenity such as increased traffic noise and emissions, this is unlikely to be significant enough to cause any associated stress and anxiety.

To mitigate potential traffic impacts, a construction Traffic Management Plan has been produced as part of the proposal (Appendix A to Technical Report K). This will ensure impacts on the road network are minimised and will therefore somewhat reduce the likelihood and consequence of associated social impacts.

Mode of travel

Given the localised nature of the proposal, and the small scale of uplift in vehicle traffic, and the proposed management of impacts, the proposal is not expected to have any impact on the travel behaviours regarding mode of travel listed in Section 3.2.4 of this report.

5.1.2 Community

Demographic composition and vulnerable groups

It is not expected that the construction of the project would significantly impact on broader elements of the socio-demographic profile of the community (gender, age, ethnicity etc) – impacts are unlikely, and would be minimal where experienced. The baseline data indicates the study area has a large existing working age population and a significant proportion of people employed in the construction industry. Therefore, the construction of the project is unlikely to require an influx of a construction workforce into the study area and a subsequent shift in the demographic composition of the community.

The baseline data also indicates the study area does not have a large population that is typically vulnerable to the negative impacts associated with construction such as air quality impacts (e.g. young people, elderly etc.). However, it is noted, that beyond the local study area, the Fairfield LGA has a higher proportion of population with need for assistance and the communities to the north and south have a lower SEIFA score indicating potential vulnerabilities. As these groups may consider themselves to be more vulnerable to the amenity impacts associated with construction, more targeted engagement activities may be required in this area prior to and during construction to understand people's needs and concerns, communicate potential impacts, alleviate and address those concerns.

Businesses community

There are no direct significant negative impacts anticipated associated with the proposal upon local businesses, and a number of potential positive impacts associated with construction opportunities.

The proposal may result in a likely, if minor, positive impact with increased business opportunities as a result of construction, noting the large proportion of construction businesses. Construction of the proposal may result in the creation of new business and employment opportunities within the supply chain.

The range of construction, wholesale and logistics businesses in the local study area do not typically rely upon passing trade, and therefore no impacts to footfall and/or turnover are expected as a result of the proposal. Access to the local businesses is generally via the M7, and therefore the proposal is also not expected to impact on access during construction. Users may experience some possible transport impacts associated with congestion, or amenity related impacts, such as noise and dust, however these are expected to be minimal (see Sections 5.1.2 and 5.1.3 for more detail).

5.1.3 Access to and use of infrastructure, services, and facilities

Social infrastructure and facilities

No direct impact to social infrastructure and community facilities (as per map in section 3.4 of this report) are anticipated due to construction of the proposal. These facilities may experience amenity impacts from construction, as summarised in section 5.1.2. However, the majority of social infrastructure that might be vulnerable to amenity impacts is located further from the proposal site.

Utilities infrastructure

The proposal is expected to have some possible impact upon utilities infrastructure and service provision during construction. This impact would be minor in consequence.

The proposal will include relocation and protection of utilities which run through the site. There are also a number of new utilities that will be required within the construction footprint as a result of the proposal. This may result in a temporary disruption to utilities and service provision within the local study area, particularly immediately adjacent to the proposal site. This could have social impacts on household and business routines and service provision. However, it is noted that the residential community in proximity to the site is limited, and therefore impacts are likely to be minimal. Agreement with the utility owners would be obtained before works commence and would be planned to minimise the need to cut off supplies. Any disruptions to services due to utility adjustments would be discussed with key stakeholders and communities would be notified of outages in advance of works.

5.1.4 Health and wellbeing

Prolonged exposure to the construction impacts such as noise and dust can affect people’s health. However, because of the site’s distance to the closest residential receiver (1km) the construction of the facility is unlikely to impact on the community’s health and wellbeing.

Air quality impacts

Social impacts during construction as a result of air quality are considered to be unlikely for the proposal, and where experienced, minimal in consequence. Technical report A, the Air Quality and Odour Assessment predicts no significant or prolonged effect as a result of construction activities and does not quantitatively model potential impacts. While certain construction activities have the potential to generate quantities of dust and exhaust emissions from diesel powered equipment, which could cause slight nuisance to nearby businesses and users, the activities are anticipated to occur for only a limited period. Community concerns regarding the proposal's impact are more related to the operations of the facility; this is addressed in section 5.2.5.

Findings from the engagement activities indicated the community's concerns regarding the facility's implications on health and wellbeing are generally related to the operation of the facility, rather than construction, and are discussed further in section 5.2.4.

5.1.5 Surroundings

The following provides a discussion of the potential impacts to the area's surroundings, including visual, air quality, noise and land use impacts.

Visual impacts

The construction of the facility would involve the removal of vegetation, establishment of site compounds and laydown areas and construction of the facility. However, the Landscape and Visual Assessment Report (Technical Report L) finds that construction impacts to landscape character and views would be predominantly moderate-low, low or negligible. Social impacts associated with these changes are therefore possible but anticipated to have minor consequence.

The Landscape and Visual Assessment does identify that the clearing of vegetation and subsequent gradual construction and introduction of the stack and views towards cranes would be visible from parts of Horsley Park rural residential area, Moonrise Lookout (a lookout from a recreation trail from within the WSP, just outside the local study area), and the highway and its adjoining shared cycle path. This may prompt a sense of loss of valued views and character to some residents/visitors in these areas who currently enjoy views over rural areas and vegetation when views include construction of the facility. However, these are in limited areas and the visual impact of construction is considered temporary with construction equipment being removed upon completion. Architectural and landscape treatments will also be applied to positively contribute to and integrate with existing and emerging local character of the area. Overall, therefore, the

construction of the proposal would result in some minor social impacts associated with temporary visual impacts within the local study area.

The permanent changes to landscape character and views and their impacts on the community are discussed in section 5.2.5 of this report.

Noise impacts

Based on the outputs of the Noise and Vibration Impact Assessment (Technical report I), social impacts associated with construction noise are possible, but will be minor and temporary in consequence. It is anticipated that the majority of construction activities would take place during standard construction hours. Some critical activities which are unable to be conducted during normal hours may be required to be undertaken outside of normal operating hours.

The predicted construction noise levels would exceed the noise management levels relevant to the proposal (as determined by the Interim Construction Noise Guideline (ICNG, Department of Environment and Climate Change NSW, 2009) for residential receivers to the south of the proposal site, and for some industrial and commercial receiver groups surrounding the proposal site. The proposal demolition in particular would also exceed the noise level for the childcare centre on Southridge Street in the Eastern Creek industrial area. While this could potentially cause annoyance (e.g. causing people to keep windows and doors closed to reduce internal noise while particularly noisy works are taking place), the levels experienced would be generally low, and are not likely negatively impact on people's health and wellbeing. In addition, this is based on a worst-case scenario and generally conservative predictions. In addition, the magnitude of construction noise impacts would be dependent upon a range of matters such as the intensity and location of activities, the type of equipment used, and background noise during construction. Noise generating equipment considered in the assessment is unlikely to be operated continuously for more than 15 minutes, or concurrently. The predicted noise levels would only be experienced while the works are occurring and are short term and temporary in nature.

Noise associated with construction vehicles travelling to and from the site is expected to not be audibly noticeable from any sensitive receivers.

For all construction works, the contractor would be expected to prepare a Noise and Vibration Management Plan (CNVMP) to minimise construction noise impacts. This would relate to the community engagement strategy. Noise mitigation work practices will also be adopted. Collectively these mitigation measures would slightly reduce the overall social impact associated with noise. Noise and vibration impacts are further discussed in Technical report I: Noise and vibration assessment report.

Land use and zoning

There are no anticipated negative impacts as a result of the proposal with regard to land use and zoning. Some minor positive impacts are likely, associated with the alignment between the proposal and aspirations for the area

There are no current operational uses on site, therefore land use impacts are not anticipated on the site. The proposal is also not expected to have any negative impacts on the land uses within the surrounding area, including the WSP, and aligns with the existing land uses around the site, which provide a range of industrial and commercial uses. The proposal will not directly impact on any of the identified residential properties within the local study area. These properties may experience amenity impacts from construction, as summarised in section 5.1.2.

The land use as an EfW facility is aligned with the desired future character and land use opportunities identified in the WSPT Plan of Management 2030 for renewable energy and recycling opportunities. It is also reflective of the directions illustrated in the Blacktown Community Strategic Plan and Local Strategic Planning Statement, aiming to create a clean and environmentally sustainable environment by providing waste and energy recovery services on site. As such, it is considered that the proposal will provide a likely, if minor, positive impact in supporting achievement of wider land use and strategic aspirations for the area.

Future development and cumulative impacts

As identified in Section 3.4.7, there are a number of forthcoming development sites within the local study area. Cumulative impacts of the proposal alongside these developments are addressed in Chapter 23 of the EIS.

The proposal has considered these known developments and integrates positively with the development intent for the area. It is not considered that the construction of the proposal will impact on the ability of these proposals to be developed. A number of these projects (e.g. Gazcorp) may be constructed prior to proposal construction. In such instances, the impacts expected would align with those set out in the business impacts section.

For development that has commenced or where construction programmes overlap, there may be a possible, but minor impact around the programming of construction activities and the exacerbation of potential effects of construction, for example increased construction noise and traffic volumes. This may intensify the potential social impacts associated with changes to movement and access and reduced amenity as described in section 5.1.2 and 5.1.3 of this report.

In addition, there is potential for the overlap of development to result in issues with sourcing construction workers, materials and equipment. However, as

construction makes up a large proportion of the workforce (19%) and businesses (21%) in the local study area, it is considered this risk is low.

5.1.6 Personal and property rights

No acquisition of property is required for the proposal and impacts to personal rights are not foreseen. However, some people may perceive that living near a waste facility would create a less desirable living environment. This is evident through comments from the community such as:

- *"Too close to schools and council."*
- *"Too much change out here, why not in Campbelltown or Eastern Suburbs?"*
- *"This issue needs attention and everyone says yes we need it BUT not in my back yard"*

In relation to this, property owners may be concerned about the impact on property values. The following comment was made during community engagement activities:

- *"Most people will be negative because of land de-value. Pollution concerns"*
- *"Will the land value decrease?"*
- *"Would like to know if it will affect real estate value of both houses and land for both short and long term."*

There is therefore a possible, if minor, perceived social impact associated with personal and property rights for some members of the local study area. However, it should be noted that other stakeholder comments indicated some community expectation for financial benefits once the facility is operational. These operational impacts are presented in section 5.2.6.

5.1.7 Decision-making systems

The proposal is not anticipated to impact on existing decision-making systems in place. Through its engagement approach, the applicant seeks to achieve two-way discussion and inform the community of the impacts of the proposal, encourage input to the preparation of the EIS and to support the making of submissions regarding the EIS, develop a long term relationship with the community and a positive step forward for waste management in Sydney. The applicant recognises the importance of a legitimate community engagement process, support by a government policy framework, and acknowledges the concerns of all opponents in achieving a genuine dialogue.

Although no impact is anticipated, feedback obtained for engagement activities to date indicate a level of doubt in the planning and decision-making process for the proposal. Therefore, there is a possible, perceived negative impact from communities of the proposal on decision-making. This could lead to frustrations and distrust in the government and the applicant and could build community opposition to the proposal. The following comments provide an indication of the negative comments received regarding decision making and governance[43]:

- *"I am still worried that despite the community objection to the facility, that this facility will still go ahead and will be built…"*
- *"On face value it's a great thing, but I don't trust the government"*
- *"Sounds like a great idea. I like the engagement that is happening."*

However, comments also indicate a sense of appreciation of the community engagement efforts for the proposal, therefore this impact is expected to be minor. This is expressed through comments such as:

- *"I thank you for the invaluable knowledge on this, I feel I have gone from somebody truly against it to a supporter"*
- *"These presentations have been very informative and have allayed many reservations regarding the approval process for this facility. If the results from these processes pass muster then there should not be an issue for the project going ahead. The caveat is that the Public and media will not have the clear understanding of the processes outlined in these presentations"*
- *"Each session has been informative & educational. I look forward to being able to follow its progress"*
- *"It has been an enjoyable and invaluable to be able to understand something and instead of presuming actually get factual information and not just hearsay. I am not as negative about the incinerator as I was prior to the sessions. I feel I have a much greater understanding of the project and having access to factual information. Is imperative to make a non-bias decision."*

5.1.8 Fears and aspirations

The construction of the facility has the potential to generate some possible negative impact upon community values, however, it is considered these impacts would be minor. While construction of the facility could lead to a sense of loss of community values particularly those associated key views and the broader rural

[43] as documented in the Community and Stakeholder Engagement Report provided in Appendix F (EIS Volume 1)

character of the local study area, the proposal does not represent a significant change from the current character of the proposal site, therefore the immediate loss is expected to be minimal.

In addition, there may be some small impacts associated with increased noise, and other potential environmental impacts, and the anticipation of negative (known, unknown or perceived) impacts, which could cause stress in local residents. However, these are expected to be short-term and localised in nature and are anticipated to be managed through the WSERRC communications and engagement approach (documented in the Community and Stakeholder Engagement Report provided in Appendix F).

Engagement activities to date indicated that the community concerns are largely related to the operation of the facility. Fears and aspirations related to the operation of the facility are addressed in section 5.2.8.

5.2 Operation and maintenance

This section provides a summary of the expected social impacts during operation of the proposal.

5.2.1 Way of life

Liveability

Operation of the proposal is likely to have sustained, minor positive social impacts throughout its life. In particular, reduced waste disposal, combined with reduced emissions associated with traditional electricity generation and landfill may increase the appeal of living in the Western Sydney region. This is discussed further in section 1.1 of this report. Comments such as the following, made during community engagement activities, indicate that community members recognise the positive impacts the proposal would have on way of life:

- *"We need to reduce our landfill. Sounds like a great idea. Just make sure it's Western Sydney waste"*
- *"This can create a better environment and help to manage the waste … and reuse the remaining waste"*

However, there are perceptions regarding the impact of living near a waste facility, and the community engagement activities identified the following comments which highlight people's concerns about living near the proposal:

- *"Shouldn't be this close to homes."*
- *"There's already smells from the tip in the region."*

- *"What guarantees are there that it won't affect resident allergies?"*
- *"Too close to residence – there will be contamination and issues with steam/smoke emissions."*
- *"How close are international examples to residents/built up areas?"*
- *"Isn't something that children should have to be around."*

This may result in a likely perceived negative impact on way of life. However, while Section 5.2.5 notes some actual minimal negative social impacts associated with changes in noise and visual amenity, it is considered unlikely that these would not cause any substantial impacts to way of life, noting they are only minor in nature. Impacts to amenity and health and wellbeing are addressed further in other parts of this report.

Employment

The proposal is expected to generate a likely, if minor employment benefit and will directly employ 50 people in an ongoing capacity to operate the EfW. This would provide job opportunities for the existing and projected population. This is expected to positively impact employment and businesses within the local study area and broader region, and therefore the GRP within Western Sydney. Related developments will also have social benefits, including potential for job creation. Impacts associated with related developments are discussed in Chapter 22 Related Development of the EIS.

Traffic and congestion

Overall, the proposal is anticipated to create possible, minor negative social impacts associated with traffic and movement. Operation of the proposal is expected to slightly increase the levels of traffic on the existing road network, generating a small net increase of two-way trips per day. Some of these trips are associated with servicing vehicles, which will introduce slow moving and higher mass vehicles to the road network. Vehicles travelling to and from the site in construction and operation will originate from a variety of locations. A large proportion of operational traffic is expected to access the facility via Wallgrove Road. Where waste feedstock is being provided from a processing facility, this is likely to come from Cleanaway's Erskine Park facility via the Erskine Park Link Road and Old Wallgrove Road.

However, it is estimated that the proposal would only add a small amount onto journey times during operation. In addition, the Level of Service for key interchanges along this route would remain the same. Therefore, while operation traffic is likely to increase, there are unlikely to be any significant negative impacts associated with stress and anxiety, or reduced productivity, leisure or travel time.

Mode of travel

Technical report K: Traffic and transport assessment sets out the assumption that up to 50% of staff may choose to cycle to work, and the proposal provides 15 cycle parks. Noting this small scale of cycling, it is not anticipated that the proposal will alter the mode of travel trends set out in section 3.

The proposal will seek to promote sustainable travel where possible. Prior to operation, a Green Travel Plan will be produced providing workers information on sustainable travel modes and will include measures to support the initiative. A member of the FTE staff will be appointed the Green Travel Plan co-ordinator tasked with implementing and updating the plan. This will have a possible, if minor positive impact in encouraging sustainable travel on-site.

5.2.2 Community

Demographic composition and vulnerable groups

As discussed in section 5.2.1, the project will create 50 new highly skilled jobs locally, supporting the development of new skill sets and employment opportunities in the Western Sydney region.

This is considered unlikely to impact on the demographic composition of the area given the existing working profile in the area.

Whilst the project does not involve any property acquisition, some people could feel strongly about living near an EfW facility and could choose to relocate. However, any occurrence of this would be minor, noting there is no substantial residential community in the immediate vicinity of the proposal, and would therefore not shift the demographic profile of the area. Dispelling misconceptions and fears associated with EfW facilities will be a key objective of community engagement. Fears and aspirations are discussed further in section 5.2.8.

Business community

The proposal would align with other businesses in the area, which are predominantly industrial in focus, resulting in a likely, if minor, positive impact. It would provide a supportive environment for existing local businesses and the creation of new businesses – in reinforcing the local study area's character as an area for sustainable industry. It would also provide essential infrastructure to support local, regional and State-wide business activities.

During operation, there are no anticipated direct impacts of the proposal on businesses within the local study area. Businesses may also experience possible traffic and amenity impacts from operation, as summarised in section 5.2.1 and 5.2.5. These may impact on business operations, worker productivity and or wellbeing of staff and other users. However, these impacts are expected to be

minimal noting the presence of other amenity impact generating users in the local study area, and the separation of the site from the key business areas by the M7.

5.2.3 Access to and use of infrastructure, services and facilities

Social infrastructure and facilities

During operation, there are no anticipated direct impacts of the proposal on social infrastructure within the local study area. Amenity impacts from operation, are also expected to minimal as summarised in section 5.2.5.

The proposal will provide an EfW facility that will play a regional and State-wide role in waste management. It will help support the achievement of landfill diversion targets, preserve the limited landfill capacity available for the disposal of materials with no other management option and delay the need to establish new landfill sites, which has proven highly challenging for the Sydney region. This results in a likely moderate positive impact.

Utilities infrastructure

Once operational, there would be no on-going impact on public utilities and services. There may be occasional instances where public utilities may be impacted through future upgrades or maintenance work, although these are expected to be rare and minimal in consequence.

5.2.4 Health and wellbeing

Human health risk

No significant social impacts are expected as a result of health impacts of the proposal. A Health Risk Assessment (Technical report B) was undertaken for the proposal. This concludes that, based on available data and information, there are no unacceptable health risks for criteria associated with pollutant levels (NOx, SOx, CO, PM2.5, PM10) due to the facility alone or in changing the background / existing levels. The assessment also finds no unacceptable risks associated with air quality from: short-term exposures from the proposed facility at off-site areas with the highest ground level concentrations; the relevant assessed exposure scenarios considering long term exposures receptor locations with the highest ground level concentrations; or with the relevant assessed exposure scenarios associated with rainwater tanks or Prospect Reservoir.

Finally, the assessment finds that traffic impacts due to transport of waste to the site would result in minimal changes to the existing situation along the proposed route, and therefore no change in health impacts is expected.

Overall, therefore, health risks are anticipated to be rare, and minimal. Mitigation measures introduced to ensure these low levels are maintained include monitoring of emissions and use of technology and operational procedures. Further detail on the health risk assessment are in Technical report B.

Air quality impacts

The proposal is unlikely to have any significant social impacts associated with air quality during operation. The Air Quality Impact Assessment (Technical Report A) for the proposal found that that the proposal can operate without causing any significant air quality impact to the sensitive receivers at or beyond the proposal boundary. All of the air pollutant results show levels below the applicable criteria, apart from cumulative ground level $PM_{2.5}$ and PM_{10} concentrations, due to the existing background levels which already exceed the criteria (as occurs across much of NSW). However, the predicted proposal contribution to concentrations is small and would not result in any discernible or measurable impact.

The assessment results also indicate that deposited dust levels in the vicinity of prospect Reservoir would be too low to discern or measure, and that the odour emissions from the proposal would be below the applicable odour impact assessment criteria. The proposal uses proven best-practice technology for the combustion of commonly utilised wastes and would apply a range of contemporary Best Practice and Best Available Techniques (BAT) design and management measures to minimise emissions further. The health impacts of these air quality conclusions are summarised earlier in this report and can be read in more detail in Technical Report B, Health Risk Assessment.

Perceived air quality and health impacts

It is recognised that the community have concerns regarding the impacts on air quality that may result from operation of the facility. In anticipation and in response to these concerns, an air quality panel was formed. The following comments were obtained during the engagement activities to date, including during the air quality panel:

- *"What systems are in place to filter fine particles in the facility and ensure they don't get out?"*
- *"What happens if you burn a toxic material?"*
- *"I came into this with little understanding and lots of rumour and speculation. I now feel I am informed and have a better understanding of the project its impacts the effects on health and air quality as well as the monitoring and assessment of said issues"*

While actual impacts are expected to be low, the impacts of air pollution on health as a result of the proposal are still a key concern of the community (as

summarised in section 3.2.6). While various studies have demonstrated that EfW does not have negative impacts on human health, there is a misconception that EfW can result in air quality and subsequent health impacts and scepticism about the long-term impacts. This was clear through comments made during the engagement activities such as:

- *"Can we have comparative health reports that compare the rate of health problems around current energy-from-waste plants as approved, to other local areas in same country but much further away?"*
- *"Is there any facility in the world that has been in operation for 35 years or shut down and has studies of health impacts?"*
- *"What effects will the air quality have on an asthmatic in the area?"*
- *"I need medical percentages proving after installing a plant like this that cancer rate etc have not increased"*

There is potential, therefore, for perceived impacts associated with the proposal and perceived health impacts, which have the potential to cause stress or anxiety to community members. While there are no significant vulnerable communities in the local study area, there may be individuals and groups within the wider region, therefore this impact is expected to be likely, and moderate in nature. Further, there may be people within the community who consider themselves to be vulnerable to the perceived impacts of the proposal. For example, the following comment in relation to the proposal was made on social media:

- *"Please continue to fight this proposal these fumes will harm my family especially my kids one of whom already has asthma, should this go ahead we would need to move out of Minchinbury for their sake."*

Targeted engagement activities to address these perceived impacts is recommended (see Section 6 for more detail), which could reduce impacts.

Hazard and risk

There is potential for social impacts associated with hazards from the proposal. However, the likelihood of such impacts is expected to be extremely rare.

The community engagement activities found that people had concerns around the safety and hazards of the proposal. The following comments were made:

- *Hydrated lime is known chemical used to reduce the odour from ammonia. Has serious effects on skin, eye, breathing and digestion. Could also increase PH level of water. How will the safety measures apply to the facility before, during, and post use?*
- *What is the capacity of this hazardous landfill facility – how long will it last?*

A preliminary hazard analysis (Technical report J) has been undertaken for the proposal during operation. This considered the potential risks to sensitive

receivers around the construction footprint posed by the facility. A range of potential risks were identified, including fire in the waste bunker, release of calcium hydroxide and activated carbon dust explosion. Five hazards were identified where the consequences have the potential to pose significant offsite risks:

- Fire in the waste bunker
- Formation and release of hydrogen in the incinerator bottom ash
- Activated carbon dust explosion
- Diesel spill and bund fire
- Ammonium hydroxide dispersion.

From a social perspective, these present a risk to the health and wellbeing of both employees on site, and those in the immediate vicinity of the site.

It is noted in the technical report that EfW is a proven technology with well-defined risks. This allows for the hazards posed by the facilities to be readily identified and mitigated against, typically by simply complying with the relevant standards of design for individual systems, goods, and processes. A number of additional mitigation measures are recommended to respond particularly to the risks identified. As such, the likelihood of such an impact is expected to be very low.

5.2.5 Surroundings

Visual amenity

The proposal is likely to have some possible minor social impacts associated with changes to visual amenity.

The engagement activities to date found that there were people who were concerned about the visual appearance of the facility. A workshop held in November 2019, found that the visual appearance of the facility was not a strong concern in the younger or older age groups, however the middle aged group indicated they preferred the facility to be out of sight and expected it to be sited further away from residential areas.

The greatest change to the existing environment will be the permanent addition of the facilty, the buildings, stack and plume to the landscape. The proposal has incorporated design measures to mitigate its visual impact through planting of native vegetation along the site boundaries, reducing the bulk mass of the building, and incorporating a green rood and green walls. However, the stack (two separated flues) and the plumes would be visible above vegetation and would be a noticeable feature particularly from adjoining areas and viewpoints in the broader area. The visual impact of the stack will be mitigated through the use of low-

reflective cladding which would help with blending into the background. The plume is dynamic in its nature and will be perceived differently based on differing micro-climatic factors. The plume is anticipated to be visible for the majority of the year with an exception on days where the air is very hot and dry.

While the proposal is generally considered to be consistent with the industrial character of its immediate surrounds, the rural residential character of Horsley Park and its views would be impacted. The landscape and visual impact assessment conducted by Arup in April 2020, indicated that the Horsley Park would be particularly exposed to the removal of existing vegetation over the site and the introduction of the facility which would become a dominant feature of the landscape and the visibility of plume would contrast with its rural setting. This change in rural landscape may impact on residents' values and appreciation of the area, their views, and potentially impact on the value of their property.

Though outside of the local study area, views from Moonrise Lookout, a lookout from a recreation trail from within the WSP would also be impacted by the facility and the plumes. The lookout currently provides expansive and panoramic view towards the Blue Mountains which was an influence on the design used to mitigate the visual impact, however, industrial warehouse and powerlines can also be seen more immediately. This may impact on the recreational and scenic qualities of the trail and the lookout and is could impact on the community's enjoyment of the area and the values they place on this community asset.

The proposal would also be highly visible from the shared cycle path adjacent to the WestLink M7 highway. This would impact on the visual amenity of cyclists, where the proposal would become the dominant view, replacing the disused chicken shed. While clearing of vegetation may impact on views in this area, the project includes rehabilitation of vegetation which, once established would improve the visual amenity for those cycling past the facility.

Vegetation screening around the perimeter of the site, proposed trees and two green walls (north and south faces of the building) embedded as part of the landscape strategy, will assist in the mitigation of visual impact, however the volume and height of the stack and plume will continue to be prominent features above the existing and proposed vegetation. Therefore, social impacts will continue to be moderate, but may reduce to possible with regard to likelihood. These landscape character and visual changes are documented in Technical report L: Landscape and visual assessment report.

Noise impacts

The proposal is expected to have some possible, but minor social impacts associated with noise during operation. The primary operational noise sources are associated with plant and equipment and vehicular traffic (trucks

delivering/picking up waste/residues, buses and regular traffic of staff and visitors) and plant and equipment. The noise and vibration assessment (Technical Report I) indicates that the site is predicted to comply with noise criteria at all nearby receivers during standard meteorological conditions. However, when assessed with enhanced meteorological conditions, a minor exceedance is predicted at night at the residential receiver located directly to the south of the site.

While increased traffic associated with the proposal could slightly increase the traffic noise on the surrounding public road network, the noise assessment indicates that the predicted increase in noise levels is below screening criteria and no further assessment was warranted. The predicted increase is negligible and would not be perceived as a noticeable increase in noise. No significant vibration intensive activities are anticipated as part of the operation of the proposal, therefore, operational vibration impacts at surrounding receivers and sensitive structures are expected to be negligible.

While minor in nature, the proposal's operational noise has the potential to cause slight annoyance and sleep disturbances and may result in people changing their habits at home, including keeping doors and windows closed and not using outdoor areas as much. However, there may be opportunity for the proposal to comply with the noise criteria through a review of the design of the building envelope and plant and equipment during detailed design and further mitigation of specific noise sources. Noise and vibration impacts are further discussed in Technical report I: Noise and vibration assessment report.

Land use and zoning

The proposed development is consistent with the surrounding land uses, which are characterised by industrial and transport infrastructure. It will have a likely, if minor positive impact in reinforcing the area's character as a waste and recycling precinct. No additional direct land use or zoning impacts are expected during operation, other than those set out in the construction impact assessment (section 5.1.5). Community members have acknowledged that the proposal is consistent with the surrounding land use and zoning intent, with the following comment made during engagement:

- *"Good concept, good location, great for the environment."*
- *"wow, a lot of research has gone into finding the right place – it makes sense to me! The site is sitting there empty anyway and everyone knows its industrial so why are they complaining?"*

There are no reported groundwater or biodiversity impacts to Prospect Reservoir. Therefore, the proposal is also not expected to impact on its role as a designated

nature reserve and conservation area, which provides a water storage and supply infrastructure role.

When operational, the proposal will not directly impact on any of the identified residential properties within the local study area. These properties may experience amenity impacts, as summarised previously.

Future development

The proposal has been planned and designed to align with the planned development and strategic aspirations for the local study area. It is not considered that the proposal would have a substantial operational impact with regard to the identified future developments within the local study area. There is, however, some potential for indirect amenity and access impacts associated with operations of the proposal, similar to those outlined previously.

The proposal will also intersect with the Gazcorp Industrial Estate proposals to realign the Wallgrove Road/Austral Bricks Road intersection, but this will not result in any significant impacts to the development, or to traffic congestion and movement (see Technical report K: Traffic and transport assessment for more details).

Chapter 23 of the EIS summarises the cumulative impacts of the proposal.

5.2.6 Personal and property rights

As discussed in section 5.1.6, there are no anticipated impacts to personal and property right, however, residents and property owners in the areas surrounding the site may perceive that the establishment of a waste facility in their suburb/region may impact on liveability and in turn reduce property values.

However, community engagement activities found that the landowners had some interest in financial benefits once the facility is operational, as made through the following comments:

- *"Will it bring rates down?"*
- *"Will there be a financial benefit to landowners?"*
- *"Will rate payers get a discount?"*

Overall, therefore any perceived impacts are expected to be minor, and only possible in likelihood.

5.2.7 Decision-making systems

There would be no impact on decision-making systems once the proposal is operational. It is noted that the community has expressed concerns around regulating the operations of the facility and accountability:

- *"How is incoming waste policed and what governance in place to manage the red bin waste – removal of dangerous items?"*
- *"Who monitors the monitors? How will we know if there has been a breach?"*
- *"What measures are in place to protect breach processes?"*
- *"Will there be 24-hour monitoring?"*

As with construction impacts, there is potential therefore for a possible, if minor, perceived negative social impact of the proposal.

5.2.8 Fears and aspirations

No significant negative impacts are anticipated to community values as a result of the proposal. However, perceived impacts are important and it is recognised that there are general community concerns about living near a EfW facility. Concerns relate to impacts on air quality, traffic, the environment, and the safety of the facility, as evident through the following comments[44] obtained from the community as part of the engagement activities:

- *"The air and smoke will be hard to live near"*
- *"Too much change out here, why not in Campbelltown or Eastern Suburbs?"*
- *"How much traffic will be generated by the proposal? Will there be more trucks?"*

Efforts have been made throughout the planning stage and through engagement activities to reduce perceived impacts and address community concerns over perceived impacts. However, there may be some possible perceived minor negative impacts.

A number of potential likely positive impacts are anticipated, which could have moderate consequence for the local study area and wider region. The community values associated with the proposal (as described in section 3.3.2) indicated that the community cares about what happens to waste, that there were generally positive opinions about EfW facilities as a solution to waste, and that the proposal would bring reduced electricity costs and local employment opportunities. Feedback from community engagement activities to date, such as the following, indicated that some were supportive of the facility and recognised the positive aspects of the proposal:

[44] as documented in the Community and Stakeholder Engagement Report provided in Appendix F (EIS Volume 1)

- *"What took so long? Was here 30 years ago and waiting for something like this to come along. Love that it will create jobs and think about our kids' future"*
- *"If countries in Europe can do this and convert it to energy without the toxic emissions...why can't Australia?"*
- *"If it is done correctly and air pollution does not occur, then getting rid of waste and producing clean energy is a good idea."*
- *"Sydney, Western Sydney as the first? Great!"*
- *"I feel it will make a big impact to reducing waste and our carbon footprint and creating a cleaner and more sustainable future which is essential to protect our planet"*

An economic assessment conducted for the proposal has identified a range of positive impacts that the proposal would bring.[45] It suggests that the proposal would benefit the people and environment across the Western Sydney region and beyond through reduced energy sector emissions, reduced electricity costs, reduced waste disposal costs for households and businesses by avoiding the NSW landfill levy, and the avoidance of externalities associated with landfill (i.e. greenhouses gas emissions, other air pollutants, groundwater leachate, transport congestion, amenity loss).[46] This would respond to a number of the community values identified in Sections 3.3.1 and 3.3.2. Without the proposal, it is estimated that by 2040 NSW would generate 7.1 million tonnes of waste per person (based on a projected population of 10.4 million, each generating 674 kilograms of waste per year), with almost 40% of waste sent to landfill[47]. The proposal, assumed to be operational by 2025, would take 500,000 tonnes of putrescible waste per annum, that was previously sent to landfill.

In addition to financial savings, the reduced emissions and other pollutants, provides for better environmental outcomes for Western Sydney, improving the region's long-term sustainability and liveability and the health outcomes of its communities. While the proposal would result in some visual and landscape character impacts in the local area (refer to section 5.2.5 of this report), this is considered to be less than the amenity impacts associated with landfills.

The proposal would also provide for education opportunities through a world-class Visitor and Education Centre experience and facility tour. This would benefit local and regional schools and education facilities by providing a local

[45] Deloitte, 2020. Economic assessment of proposed Western Sydney energy-from-waste (EfW) facility

[46] Deloitte, 2020. Economic assessment of proposed Western Sydney energy-from-waste (EfW) facility

learning destination. The Visitor and Education Centre would also act as a means to educate the broader region on waste management, presenting the opportunity to shift negative perceptions of EfW facilities, including concerns regarding air quality and health impacts. The proposal could set a benchmark and lead the development of EfW facilities in Australia.

5.3 Summary and Evaluation of impacts

This SIA has identified a range of social impacts throughout the construction and operation and maintenance of the proposal. Table 10 provides a summary and evaluates the negative social impacts associated to the construction and operation and maintenance of the proposal. Table 11 summarises the potential positive impacts. It is noted that some of the impacts outlined may differ from the impacts set out in the relevant technical reports as this SIA focusses on social impacts, and may use a different impact evaluation methodology to those technical reports.

Table 10: Evaluation of **negative** impacts

Impact	Extent of impact	Initial Impact		
		Likelihood	Consequence	Impact Rating
Construction				
Potential impact on liveability due to construction dust, noise, and vibration as described in section 5.1.1	Local study area and regional	Unlikely	Minimal	Low
Potential impact on way of life due to increase in traffic and congestion as described in section 5.1.1	Residents and communities within the local study area, commuters from the regional area.	Likely	Minimal	Moderate
Potential impact on way of life related to changes to mode of travel as described in section 5.1.1	Residents and communities within the local study area, commuters from the regional area.	Rare	Minimal	Low
Potential impact on demographic composition and vulnerable groups as described in section 5.1.2	Local study area and regional	Unlikely	Minimal	Low
Potential social impact to local businesses and business environment associated with amenity and traffic impacts as described in section 5.1.2	Local study area	Possible	Minimal	Low
Potential social impact due to changes to access and use of social infrastructure and community facilities as described in section 5.1.3	Residents and communities within the local study area	Rare	Minimal	Low
Potential social impact due to changes to utilities infrastructure and provision as described in section 5.1.3	Local study area	Possible	Minor	Moderate
Potential impact on health and wellbeing from construction dust, noise, and vibrations as described in section 5.1.4	Local study area and regional	Unlikely	Minimal	Low
Potential social impact due to increased air emissions as described in section 5.1.5	Local study area	Unlikely	Minimal	Low
Potential social impact due to landscape and visual changes as described in section 5.1.5	Local study area	Possible	Minor	Moderate

Impact	Extent of impact	Initial Impact		
		Likelihood	Consequence	Impact Rating
Potential social impact due to increased noise emissions as described in section 5.1.5	Local study area	Possible	Minor	Moderate
Potential impact to current land uses and operations as described in section 5.1.5	Local study area	Unlikely	Minimal	Low
Potential social impact to other known future development as described in section 5.1.5	Identified future developments	Rare	Minimal	Low
Potential social impact associated with overlap of construction activities across developments as described in section 5.1.5 and 5.1.6	Local study area	Possible	Minor	Moderate
Potential social impact related to personal and property rights as described in section 5.1.6	Local study area	Unlikely	Minor	Low
Potential social impact related to **perceived** impacts to personal and property rights as described in section 5.1.6	Local study area	Possible	Minor	Moderate
Potential social impact related to decision making processes of the project as described in section 5.1.7	Local study area	Rare	Minimal	Low
Potential social impact related to **perceived** decision making processes of the project as described in section 5.1.7	Local study area	Possible	Minor	Moderate
Potential social impact on community values, fears and aspirations as described in section 5.2.8	Local study area	Possible	Minor	Moderate
Operation and maintenance				
Potential impact on liveability due to changes in amenity as described in section 5.2.1	Local study area and regional	Unlikely	Minimal	Low
Potential **perceived** reduction in liveability due to changes in amenity changes as described in section 5.2.1	Local study area and regional	Likely	Minor	Moderate
Potential impact to way of life due to increase in traffic and congestion as described in section 5.2.1	Residents and communities within the local study area,	Possible	Minor	Moderate

Impact	Extent of impact	Initial Impact		
		Likelihood	Consequence	Impact Rating
	commuters from the regional area			
Potential impact on way of life related to changes to mode of travel as described in section 5.2.1.	Residents and communities within the local study area, commuters from the regional area.	Rare	Minimal	Low
Potential impact on community demographic composition and vulnerable groups as discussed in section 5.2.2	Local study area and regional	Unlikely	Minimal	Low
Potential social impact to local businesses and business environment associated with amenity and traffic impacts as described in section 5.2.2	Local study area	Possible	Minimal	Low
Potential social impact to social infrastructure and community facilities as described in section 5.2.3 and 5.2.4	Residents and communities within the local study area	Rare	Minimal	Low
Potential social impact to utilities infrastructure and provision as described in section 5.2.3	Local study area	Rare	Minimal	Low
Potential social impact to human health risk as described in section 5.2.4	Local study area	Rare	Minimal	Low
Potential social impact due to changes in local amenity associated with increased air emissions as described in section 5.2.4 and 5.2.5.	Local study area	Unlikely	Minor	Low
Potential **perceived** social impact related to perceived health impacts associated with air emissions as described in section 5.2.4 and 5.2.5	Local study area	Possible	Moderate	High
Social impact associated with hazard risks associated with fuel and chemicals stored on site as described in section 5.2.4	Local study area (immediate vicinity of the site)	Rare	Catastrophic	High
Potential social impact due to changes in landscape and visual changes as described in section 5.2.5.	Local study area	Possible	Minor	Moderate

Impact	Extent of impact	Initial Impact		
		Likelihood	Consequence	Impact Rating
Potential social impact due to increased noise emissions as described in section 5.2.5.	Local study area	Possible	Minor	Moderate
Potential impacts to current land use and land use zoning intent as described in section 5.2.5	Local study area	Unlikely	Minimal	Low
Potential social impact to other known future development as described in section 5.2.5	Identified future developments	Rare	Minor	Low
Potential **perceived** social impacts related to personal and property rights as discussed in section 5.2.6	Local study area	Possible	Minor	Moderate
Potential **perceived** social impact related to decision making processes of the proposal as discussed in section 5.2.7	Local study area	Possible	Minor	Moderate
Potential social impact on community fears and aspirations as described in section 5.2.8	Local study area	Possible	Minor	Moderate

Table 11: Potential **positive** impacts

Impact	Extent of impact	Initial Impact		
		Likelihood	Consequence	Impact Rating
Construction				
Potential employment and businesses opportunities for local and regional residents and businesses as described in section 5.1.1 and 5.1.2	Residents and businesses within the local study area, regional area	Likely	Moderate	High
Potential positive impact to local businesses and business environment associated with construction opportunities as described in section 5.1.55.2.2	Local study area, regional area, NSW State	Likely	Minor	High

Impact	Extent of impact	Initial Impact		
		Likelihood	Consequence	Impact Rating
Potential positive impact of new land use which aligns with broader strategic intent and zoning for the area as described in section 5.1.5.	Local study area	Likely	Minor	High
Operation and maintenance				
Improved way of life from reduced cost of waste for residents and businesses in the region as discussed in section 5.2.1	Residents and businesses within the local study area, regional area	Likely	Minor	High
Potential employment and businesses opportunities for local and regional residents and businesses as discussed in section 5.2.1 and 5.2.2.	Residents and businesses within the local study area, regional area	Likely	Minor	High
Potential social positive impact of shift towards more sustainable travel as discussed in section 5.2.1	Residents and communities within the local study area, commuters from the regional area.	Possible	Minor	Moderate
Potential positive impact to local businesses and business environment through support for industry as discussed in section 5.2.2	Local study area, regional area, NSW State	Likely	Minor	High
Potential positive impact of the proposal as a key piece of infrastructure for the community as discussed in section 5.2.3 and 5.2.8	Local study area, regional area, State	Likely	Moderate	High
Potential positive impact of new land use which aligns with broader strategic intent and zoning for the area as discussed in section 5.2.5	Local study area	Likely	Minor	High
Potential social positive impact with regard to sustainability and community aspirations as discussed in section 5.2.8	Residents within the local study area and regional area	Likely	Moderate	High

6 Mitigation and management measures

This section outlines proposed mitigation and management measures in relation to the potential social impacts of the proposal during construction and operation. This includes mitigation measures for any identified potential negative social impacts, and potential enhancement measures for possible positive impacts identified.

6.1 Construction

During construction, there are a number of potential impacts which could be reduced or managed through mitigation or management measures. In line with the methodology set out in Section 2, mitigation and management measures were particularly to be considered for high or very high-risk impacts on the evaluation matrix (see Section 2). However, noting no such impacts exist, it is considered that the potential construction social impacts, although low and moderate, can be managed appropriately.

Technical mitigation measures

It is noted that a number of the construction social impacts within this SIA relate to broader impacts associated with noise, air quality, visuals and traffic. In such instances, the relevant technical assessments have analysed the potential impacts and identified relevant mitigation and management measures. These include:

- Development of Construction Traffic Management Plan (as outlined in Technical report K: Traffic and transport assessment report) to ensure impacts on the road network are minimised and ensure safety for all other road users.
- Development of Construction Noise and Vibration Management Plan (CNVMP) (as outlined in Technical report I: Noise and vibration assessment report) setting out the mitigation and management strategy to minimise noise impacts as part of construction.
- Mitigation measures as listed in the preliminary hazard analysis (Technical report J).
- Architectural and landscape treatments applied to positively contribute to and integrate with existing and emerging local character of the area.
- Any construction air quality mitigation measures (as outlined in Technical report A: Air quality and odour assessment report).

These broader mitigation and management measures will have the impact of reducing social impacts, associated with the relevant air quality, noise and traffic impacts. In addition, there will be the opportunity for the proposal to address

some of these impacts through a review of the design of the building envelope and plant and equipment during detailed design.

Approaches to management and monitoring of these mitigation measures is covered in the relevant technical reports.

Stakeholder and community engagement

More targeted to social impacts specifically (both actual and perceived), a stakeholder and community engagement strategy and program is proposed during construction to address and respond to potential social impacts and community concerns as identified in this report. This would link in with plans for ongoing community engagement set out in the Community and Stakeholder Engagement Report (Appendix F). This should consider:

- Providing regular proposal updates to the local community and businesses
- Ongoing liaison to neighbouring businesses and other sensitive receptors who may use the WSERRC, may be employed in waste management industries, or have concerns about the impact of the proposal at a regional level. Including targeted engagement with vulnerable groups, including families, young people and ageing populations, and in languages relevant to the community
- Providing information on the actual social impacts that can be expected as a result of the construction of the proposal and ways in which these will be mitigated.
- Liaison with the Council, service providers, developers, local community and businesses on the preparation of the Construction Traffic Management Plan, Noise and Vibration Management Plan and other technical management plans, alongside other construction activities to minimise impacts.
- Sharing a schedule of activities when there may be heavy vehicles accessing the proposal site or when noisy activities may occur or increase
- Establishment of a complaints handling procedure and a response protocol
- Preparation of regular proposal factsheets for distribution to the surrounding residents and business
- Schedule of ongoing engagement activities to discuss community and business concerns

This stakeholder and community engagement would commence pre-construction and run throughout the construction phase. It should be regularly reviewed and monitored to ensure activities are undertaken and adapted to respond to community needs and concerns.

Construction skills and employment strategy

The SIA has identified that the proposal has the potential to support employment of local people in construction, as well as boost the already strong construction business base within the local study area and wider region. In support of this opportunity, a construction skills and employment strategy is proposed. This

might consider training and upskilling opportunities for the local workforce, apprenticeships and/or local employment opportunities on site, and opportunities to provide career pathways for the construction workforce. It should also consider support for local employment particularly for people with a disability, Indigenous peoples, the unemployed and other vulnerable groups. The strategy should consider a target for local employment, and skills attainment which could be used to monitor success of implementation.

Voluntary Planning Agreement

Draft terms for a Voluntary Planning Agreement (VPA) to be entered into with Blacktown City Council (BCC) have been prepared under clause 7.4 of the *Environment Planning and Assessment Act 1979* and included within the EIS. Should Blacktown City Council wish to pursue the offer, this provides a means of mitigating some social, and broader impacts of the proposal. It also provides a medium through which mitigation and management measured proposed can be formalised and ensured.

6.2 Operational and maintenance

Overall, social impacts associated with the operation and maintenance of the proposal are predicted to be low. While the methodology introduced in Section 2 of the SIA, focused on mitigation and management measures for high or very high impacts, it is considered that the potential operational social impacts, although medium, low and very low, can still be managed.

Technical mitigation measures

It is noted that a number of the operational social impacts within this SIA relate to broader impacts associated with noise, air quality, visuals and traffic. In such instances, the relevant technical assessments have analysed the potential impacts and identified relevant mitigation and management measures. These include the development of a Green Travel Plan to encourage sustainable travel and reduce traffic impacts during the proposal. Vegetation screening around the perimeter of the site, proposed trees and two green walls embedded as part of the landscape strategy, will assist in the mitigation of visual impact.

In addition, there will be the opportunity for the proposal to address some of these impacts through a review of the design of the building envelope and plant and equipment during detailed design.

These broader mitigation and management measures will have the impact of reducing social impacts, associated with the relevant air quality, noise and traffic impacts.

Stakeholder and community engagement strategy

More targeted to social impacts specifically, a stakeholder and community engagement strategy and program is proposed during operation to address and respond to potential social impacts and community concerns as identified in this report. This would link in with plans for ongoing community engagement set out in the Community and Stakeholder Engagement Report (Appendix F). This should consider:

- Education and information sharing around perceived impacts of EfW with regard to air quality and human health to demonstrate low impacts, as well as positive impacts associated with diversion from landfill and reduced greenhouse gas emissions.
- Targeted engagement with vulnerable groups, including families, young and ageing populations to minimise real and perceived impacts, including in languages relevant to the local community
- Ongoing liaison to neighbouring businesses and other sensitive receptors who may use the WSERRC, may be employed in waste management industries, or have concerns about the impact of the proposal at a regional level.
- Operation of the Visitor and Education centre on-site to provide education and information to local residents, as well as visitors from the wider region around the negative and positive impacts of EfW. This could include a program of events and activities.
- Establishment of a complaints handling procedure and a response protocol.
- Publishing and display of findings from monitoring and management processes at the Visitor and Education Centre and through various forms of media.

6.3 Monitoring and management of mitigation

Should the project be approved, conditions of consent will require the implementation of mitigation measures and reporting on compliance. This will require the applicant to establish a system to monitor, verify and report on compliance with the conditions of consent. In the interim, a brief summary is provided of key mechanisms for enabling monitoring and management of the proposed mitigation measures. As noted previously, the VPA will also provide one mechanism to ensure delivery of some mitigation measures outlined.

Stakeholder involvement

The proposed stakeholder and community engagement mitigation will be supported by a plan which will set out the processes for engaging with the community. This will include processes for monitoring of implementation to ensure impact is minimised – including opportunities for community involvement in monitoring.

In support of the above, a Community Reference Group (CRG) will be established during construction and function across the life of the proposal. The purpose of the CRG will be to facilitate long-term relationships with the community, providing a forum for implementation of this strategy, and genuine discussion of construction and operation of the facility, community concerns, information requests, and local initiatives and partnerships. In addition to general CRG duties, it is anticipated that the CRG will also manage the allocation of the community funding package in accordance with an agreed governance framework. The CRG will be made up of community representatives, local stakeholders and council representatives, and meetings will be facilitated independently. It is likely that this group will be refreshed every two years to ensure that a variety of community and other stakeholders are given the opportunity to participate.

If the proposal is approved, a community funding package for Western Sydney is proposed, with the purpose of being to give back to the community. Funding contributions would total $150,000 per year and, subject to consultation and a decision by the community reference group (CRG), could be made towards community-based initiatives such as development of local sporting infrastructure, community facilities and environmental areas such as tree plantings.

Monitoring and data sharing

Monitoring of various technical aspects of the facility will also be conducted (including Continuous Emissions Monitoring System and to find leaks) to ensure that the plant is compliant with statutory emission limits. This aligns with statutory obligations on the applicant to report on the environmental performance of the facility, in line with EfW policy, conditions of consent and any Environmental Protection License (EPL). Data will be made available to the EPA in a real-time graphical publication. A regular summary of continuous monitoring data and compliance with emissions limits will be published on the Western Sydney Energy and Resource Recovery Centre website.

As well as meeting statutory obligations, this will help to address some of the community interest around the monitoring of the processes and outputs of the facility and their social and environmental impact (refer to section 5.2.7).

6.4 Residual impacts

Based on application of the social specific mitigation measures, and broader technical mitigation and management measures introduced in Section 6.2 and 6.3, it is considered that the overall impact of the proposal would alter, leaving a residual negative impact as summarised in Table 12. Residual benefits are summarised in Table 13.

Only those impacts that have altered are shown in the tables.

Table 12: Evaluation of residual **negative** impacts

Impact	**Extent of impact**	**Residual Impact**		
		Likelihood	**Consequence**	**Impact Rating**
Construction				
Potential impact on way of life due to increase in traffic and congestion	Residents and communities within the local study area, commuters from the regional area.	Possible	Minimal	Low
Potential social impact due to landscape and visual changes	Local study area	Possible	Minimal	Low
Potential social impact related to **perceived** impacts to personal and property rights	Local study area	Possible	Minimal	Low
Potential social impact related to **perceived** decision making processes of the project	Local study area	Possible	Minimal	Low
Potential social impact on community values, fears and aspirations	Local study area	Possible	Minimal	Low
Operation and maintenance				
Potential **perceived** reduction in liveability due to changes in amenity changes	Local study area and regional	Possible	Minimal	Low
Potential **perceived** social impact related to health impacts associated with air emissions	Local study area	Possible	Minor	Moderate
Potential social impact landscape and visual changes	Local study area	Possible	Minimal	Low
Potential **perceived** social impacts related to personal and property rights	Local study area	Possible	Minimal	Low
Potential **perceived** social impact related to decision making processes of the proposal	Local study area	Possible	Minimal	Low
Potential **perceived** social impact on community fears and aspirations	Local study area	Possible	Minimal	Low

Table 13: Evaluation of residual **positive** impacts

Impact	Extent of impact	Residual Impact		
		Likelihood	Consequence	Impact Rating
Construction				
Potential employment and businesses opportunities for local and regional residents and businesses	Residents and businesses within the local study area, regional area	Almost certain	Moderate	High

7 Conclusions

The proposal is likely to result in some social impacts, both during construction and operation. However, all negative impacts are assessed to be very low, low or medium with regard to impact, and a number of low, medium and high significance positive impacts have also been identified.

Key construction impacts associated with the proposal include:

- Short term negative impacts to the local amenity associated with increased noise emissions and visual impacts.
- Local employment positive impacts and support for the already strong construction industry.

During operation social impacts focus on:

- Visual amenity impacts of the new facility, and changes to community valued views.
- Anxiety or stress associated with perceived air quality and health impacts (although air quality assessment suggests no impacts in reality)
- Sustainability positive impacts that align with community values.
- Local employment positive impacts.

A range of management measures have been recommended to minimise impacts. A Stakeholder Consultation and Engagement Plan will be prepared to incorporate all required measures across construction and operation. A skills and employment strategy would ensure employment positive impacts are sufficiently maximised. These sit alongside mitigation measures proposed as part of the more detailed technical assessments for noise, air quality and transport (as summarised in Section 6.1 and 6.2).

The proposal is expected to benefit the local and State economy through direct employment, increased infrastructure that will continue to diversify the economic activity in the region, reduced waste disposal cost for households, reduced cost for electricity and reduced externalities associated with landfill.

Overall, it is considered that the proposal would have a net social positive impact and is compatible with the growing number of renewable energy activities that will help strengthen economy diversification and innovation.