Gas Import Jetty and Pipeline Project

Environment Effects Statement
July 2020

EES Technical Report M
Social impact assessment
SOCIAL IMPACT ASSESSMENT

Gas Import Jetty and Pipeline Project

Prepared for AGL and APA

June 2020
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Executive summary

Introduction

This report assesses the potential impacts social impacts associated with the construction and operation of the Gas Import Jetty and Pipeline Project (the Project).

The Project would establish a gas import jetty and pipeline in Victoria comprising:

- a floating storage and regasification unit (FSRU) at Crib Point Jetty – the Gas Import Jetty Works
- a gas pipeline between Crib Point and Pakenham to connect to the Victorian Transmission System (VTS) east of Pakenham – the Pipeline Works.

The Project would provide an additional supply of natural gas into the south-eastern Australian gas market for industrial, commercial and residential customers.

Potential supply gaps in Victoria’s gas market are predicted from 2024. The Project would improve energy security for industrial, commercial and domestic customers and would increase competition in the market.

Methodology

This social impact assessment (SIA) was compiled in accordance with well-established procedural steps:

- Scoping – Define the scope of the study and develop an SIA methodology (Part 1, Sections 1 to 3).
- Profiling - Outline the existing social conditions and policy context. Identify the key social receptors and community resources (Part 2, Sections 4 to 6).
- Prediction and Evaluation - Assess likely social changes/effects associated with the proposal and evaluate the impact of the predicted changes for the key social receptors (Part 3, Section 7 to 10).
- Mitigation - Propose measures to mitigate identified impacts (Part 3, Section 7 to 10).

Scoping

The EES scoping requirements, a project-wide risk assessment undertaken by AECOM and stakeholder and community engagement undertaken by APA and AGL were reviewed. These sources were used to identify changes caused by the Project with the potential to result in social impacts, and the spatial range over which these changes may be experienced. The scoping phase also contributed to the identification of community resources and social receptors of relevance to the SIA and the selection of data collection tasks. Notwithstanding, the scope of the SIA remained open to review throughout the process, to ensure that no relevant potential impacts were omitted.

Data Collection

Data to support the social impact assessment were compiled using a number of primary and secondary sources, including: ABS statistics and other relevant secondary data sources; technical assessments prepared for the EES; site visits including to the Crib Point Jetty, Woolleys Beach, and Warringine Park, and a drive of the pipeline alignment; data generated through the stakeholder and community engagement conducted by APA and AGL during the
preparation of the EES; interviews with landholders and other interest groups; and attendance at four public information sessions (see Section 3.3).

**Assessing significance**

The significance of identified social impacts has been assessed by considering the magnitude of social effects likely to generate impacts and the sensitivity of social receptors to these effects (see Table 3-2 for more detail):

- **Magnitude** is an objective consideration. Magnitude is considered in terms of the: intensity of change (i.e. how large is the change relative to existing conditions); scale (spatial extent and/or number of social receptors affected); and duration of the change.

- **Sensitivity** - the subjective experience of social effects by particular receptors. This experience is influenced by how desirable or undesirable a change is from the perspective of the receptor and the ability of the receptors to cope with (or without) the change.

**Impact assessment**

Table E-1 identifies social impacts of greatest significance (rating of moderate or greater) from the construction and operation of the Project. These impacts should be the focus of mitigation efforts.

Table E-1: Summary of potential impacts (adverse and beneficial)

<table>
<thead>
<tr>
<th>Phase</th>
<th>Potential impact</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gas Import Jetty Works</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>Changes to amenity may temporarily displace social and recreational users from Woolleys Beach and nearby areas.</td>
<td>Moderate</td>
</tr>
<tr>
<td></td>
<td>Changes to amenity may interfere with the use and enjoyment of the Victorian Maritime Centre at times during the construction period.</td>
<td>Negative</td>
</tr>
<tr>
<td>Operation</td>
<td>Residual concerns about the potential of the Project to impact negatively on Western Port’s ecosystem may cause worry and stress and/or motivate active opposition to the Project.</td>
<td>Minor – Moderate</td>
</tr>
<tr>
<td></td>
<td>The works would introduce a permanent light source into a mainly dark setting. The light would be clearly noticeable from a small number of dwellings (one dwelling in particular). Current occupants may consider that their residential amenity has been reduced.</td>
<td>Negative</td>
</tr>
<tr>
<td></td>
<td>Changes to amenity may permanently alter the pattern of use of the Woolleys Beach Reserve for some users during the life of the Project. Some existing activity may migrate southward to Woolleys Beach South and/or be displaced to other locations</td>
<td></td>
</tr>
<tr>
<td><strong>Pipeline Works</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>The occupation of private land would place a burden on the time and energies of affected owner/occupiers and may be a source of stress for some.</td>
<td>Moderate</td>
</tr>
<tr>
<td></td>
<td>Residential amenity would be reduced at times during the construction period for a large number of people. Construction noise may cause short periods of nuisance for some residents. In limited cases, unavoidable nighttime works may potentially disturb sleep for some receptors.</td>
<td>Negative</td>
</tr>
<tr>
<td></td>
<td>During construction, residents within the Hastings Cove Retirement Village and the Bays Aged Care Facility would be exposed to construction noise, which approaches the Project noise criteria identified for the Pipeline Works, for short</td>
<td></td>
</tr>
</tbody>
</table>
### Mitigation

Table E-2 outlines recommended mitigation measures for the Project.

**Table E-2: Recommended Mitigation Measures**

<table>
<thead>
<tr>
<th>Mitigation measure</th>
<th>Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gas Import Jetty Works</strong></td>
<td></td>
</tr>
<tr>
<td>Consult with operators and/or users of community facilities and open spaces to determine the most appropriate timing of construction activities to minimise disturbances.</td>
<td>Construction</td>
</tr>
<tr>
<td>Make the results of environmental monitoring available to the community.</td>
<td>Operation</td>
</tr>
<tr>
<td>In consultation with Crib Point Stony Point Committee of Management Inc. and the community, identify a suitable foreshore location to accommodate activity displaced from Woolleys Beach North. Develop comparable recreational infrastructure to that found at Woolleys Beach North at the replacement site, as required.</td>
<td>Operation</td>
</tr>
<tr>
<td><strong>Pipeline Works</strong></td>
<td></td>
</tr>
<tr>
<td>Consult with directly affected landholders to ensure impacts associated with the construction phase of the Pipeline Works are minimised and/or that compensation is appropriate considering site-specific impacts.</td>
<td>Construction</td>
</tr>
<tr>
<td>Consult with aged care and community facility operators and/or users to determine the timing of construction activities to minimise disturbances. Minimising noise at nearby schools during schools hours should be a particular focus.</td>
<td></td>
</tr>
<tr>
<td>Provide mechanisms for residents (such as potentially a dedicated project point of contact, a hotline or email) to make enquiries, lodge complaints, etc. during construction.</td>
<td></td>
</tr>
<tr>
<td>Mitigation measure</td>
<td>Stage</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Consult with directly affected landholders to ensure impacts associated with the operational phase of the Project are minimised and/or that compensation is appropriate considering site-specific impacts.</td>
<td></td>
</tr>
</tbody>
</table>

### Gas Import Jetty Works & Pipeline Works

<table>
<thead>
<tr>
<th>Mitigation measure</th>
<th>Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make information relating to potential risks to human health and safety available to the public as required.</td>
<td>Construction &amp; Operation</td>
</tr>
<tr>
<td>Source workers during construction and operation from the local area where appropriate.</td>
<td></td>
</tr>
<tr>
<td>Resolve detailed arrangements for the community fund in partnership with relevant community stakeholders. In particular there should be community led involvement in how the fund is set-up, managed and spent.</td>
<td></td>
</tr>
</tbody>
</table>
### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AECOM</td>
<td>AECOM Australia Pty Ltd</td>
</tr>
<tr>
<td>AEDI</td>
<td>Australian Early Development Index</td>
</tr>
<tr>
<td>AGL</td>
<td>AGL Wholesale Gas Limited</td>
</tr>
<tr>
<td>APA</td>
<td>APA Transmission Pty Limited</td>
</tr>
<tr>
<td>DELWP</td>
<td>Department of Environment, Land, Water and Planning</td>
</tr>
<tr>
<td>EES</td>
<td>Environment Effects Statement</td>
</tr>
<tr>
<td>EMF</td>
<td>Environmental Management Framework</td>
</tr>
<tr>
<td>EOLSS</td>
<td>End of Line Scraper Station</td>
</tr>
<tr>
<td>FSRU</td>
<td>Floating storage and regasification unit</td>
</tr>
<tr>
<td>LDZ</td>
<td>Low Density Residential Zone</td>
</tr>
<tr>
<td>LNG</td>
<td>Liquefied natural gas</td>
</tr>
<tr>
<td>LPG</td>
<td>Liquid petroleum gas</td>
</tr>
<tr>
<td>MLA</td>
<td>Marine loading arm</td>
</tr>
<tr>
<td>MLV</td>
<td>Mainline valve</td>
</tr>
<tr>
<td>PoHDA</td>
<td>Port of Hastings Development Authority</td>
</tr>
<tr>
<td>ROW</td>
<td>Right of way</td>
</tr>
<tr>
<td>SA1</td>
<td>Statistical Area level 1</td>
</tr>
<tr>
<td>SA2</td>
<td>Statistical Area level 2</td>
</tr>
<tr>
<td>SEIFA</td>
<td>Socio-Economic Indexes for Areas</td>
</tr>
<tr>
<td>SIA</td>
<td>Social impact assessment</td>
</tr>
<tr>
<td>VTS</td>
<td>Victorian Transmission System</td>
</tr>
<tr>
<td>WAG</td>
<td>Western Port Altona Geelong Pipeline</td>
</tr>
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PART 1 – INTRODUCTION

Part 1 of the social impact assessment (SIA) provides an overview of the study scope and methods employed. Part 1 comprises three sections:

- Introduction
- Scoping requirements
- Methodology.
1 Introduction

This report assesses the potential social impacts associated with the construction and operation of the Gas Import Jetty and Pipeline Project (the Project).

The Project would provide an additional supply of natural gas into the south-eastern Australian gas market for industrial, commercial and residential customers.

The Australian Energy Market Operator has predicted potential supply gaps in Victoria's gas market from 2024 (AEMO, 2020). The Project would improve energy security for industrial, commercial and domestic customers and would increase competition in the market.

The joint proponents of the Project are AGL Wholesale Gas Limited (AGL) and APA Transmission Pty Limited (APA).

The Project would establish a gas import jetty and pipeline comprising:

- a floating storage and regasification unit (FSRU) at Crib Point Jetty – the Gas Import Jetty Works
- a gas pipeline between Crib Point and Pakenham to connect to the Victorian Transmission System (VTS) east of Pakenham – the Pipeline Works.

The Project was referred by AGL and APA to the Victorian Government under the Environment Effects Act 1978 (Vic) on 13 September 2018 as two separate projects consisting of the Gas Import Jetty Works and Pipeline Works.

On 8 October 2018 the Minister for Planning issued a decision determining that an Environment Effects Statement (EES) was required for the Project due to the potential for a range of significant environmental effects.

The Gas Import Jetty Works and the Pipeline Works were also referred to the Commonwealth Government under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) as separate projects.

Each project was designated as a controlled action requiring impact assessment under the EPBC Act. The EES process is the accredited environmental assessment for the controlled action decisions under the EPBC Act in accordance with the bilateral agreement between the Commonwealth and Victorian governments.

1.1 Purpose

The purpose of this report is to identify and assess social impacts likely to be associated with the Project for individuals and groups who use land and community resources near the Project. This report also seeks to identify potential and proposed design responses and/or other mitigation measures to avoid, reduce and/or manage any significant effects for sensitive receptors. Section 2 of this report sets out the scope of this SIA in further detail.
1.2 Project description

The Project comprises two sets of works: the Gas Import Jetty Works and the Pipeline Works.

AGL would undertake the Gas Import Jetty Works. APA would undertake the Pipeline Works.

Gas Import Jetty Works

The Gas Import Jetty Works would consist of a liquefied natural gas (LNG) import facility comprising:

- continuous mooring of an FSRU at Berth 2 of the existing Crib Point Jetty to store LNG and regasify LNG into natural gas
- Jetty Infrastructure on the Crib Point Jetty including marine loading arms (MLAs) and gas piping to transfer the gas from the FSRU to the Crib Point Receiving Facility
- Crib Point Receiving Facility, including metering, odorant injection and nitrogen injection, which would be located on land adjacent to the Crib Point Jetty.

The FSRU vessel for the Project would be approximately 300 metres long and 50 metres wide. It would have capacity to store 170,000 cubic metres ($m^3$) of LNG. Visiting vessels carrying LNG (LNG carriers) would berth alongside the FSRU to transfer their LNG to the FSRU, which could take up to 36 hours.

The FSRU would store the LNG as a liquid and when required, return LNG back into a gaseous state by heating the LNG using either seawater or gas-fired boilers (a process known as regasification).

Following regasification, the natural gas would be transferred through gas piping along the jetty from the FSRU to the Crib Point Receiving Facility.

The Crib Point Receiving Facility would include treatment facilities to inject odorant and nitrogen (as required) into the natural gas to meet VTS gas quality specifications.

Pipeline Works

The Pipeline Works would comprise a bi-directional gas transmission pipeline to transport gas from the Crib Point Receiving Facility to the VTS east of Pakenham.

The pipeline would be approximately 57 kilometres long with a nominal diameter of 600 millimetres. The pipeline would be buried at a depth of generally 1.2 metres below ground (to the top of the pipe).

- The Pipeline Works would also comprise the following facilities:
  - the pigging facility at the Crib Point Receiving Facility to enable in-line inspections of the pipeline with a pipeline inspection gauge (pig)
  - the above-ground Pakenham Delivery Facility situated adjacent to the Pakenham East rail depot to monitor and regulate the gas
  - the below-ground End of Line Scraper Station (EOLSS) located at the connection point to the VTS, north of the Princes Highway in Pakenham
  - two above-ground mainline valves (MLVs) located at different points along the pipeline alignment to enable isolation of the pipeline in an emergency.
1.2.1 Construction

The key construction activities for the Gas Import Jetty Works would include:

- establishment of construction sites including laydown areas
- installation of Jetty Infrastructure on the Crib Point Jetty, including MLAs, gas piping mounted to the jetty, electrical and instrumentation equipment and a firefighting system
- construction of the Crib Point Receiving Facility.

Construction for the Gas Import Jetty Works would take approximately 18 to 27 months, depending on weather conditions.

The key construction activities for the Pipeline Works would include:

- establishment of laydown areas
- construction of the pigging facility at Crib Point Receiving Facility, Pakenham Delivery Facility, two MLVs and the EOLSS
- pipeline construction using construction techniques such as trenching, horizontal directional drilling (HDD) or boring, typically within a 30-metre-wide pipeline construction right of way (ROW).

Construction for the Pipeline Works would take approximately 18 to 24 months, depending on weather conditions. Pipeline construction would progress in a linear manner.

Subject to the staging of the works outlined above, construction for the entire Project is expected to take approximately 18 to 27 months.

Construction Workforce

The construction workforce for the Gas Import Jetty Works would be around 90 people. The construction workforce for the Pipeline Works would be around 400 people.

The construction workforce would travel to site from pre-existing accommodation in towns and suburbs including but not limited to: Somerville, Hastings, Stony Point, Frankston, Cranbourne, Pakenham, Beaconsfield, Dromana, Rosebud, Safety Beach and Mornington. Workers at the Crib Point Jetty would likely park their vehicles in the designated carpark located at the site. The pipeline welding crew may travel to site daily by bus.

1.2.2 Operation and maintenance

When commissioned, the FSRU would be operated by an experienced third-party operator. The Crib Point Receiving Facility and associated Jetty Infrastructure would be owned and operated by AGL or an experienced third-party operator. The Pipeline Works would be owned and operated by APA.

The FSRU may leave Western Port during the Project lifetime for activities such as scheduled maintenance and extreme weather events.

The gas import jetty would initially receive approximately 12 LNG carriers per year with capacity to increase to approximately 40 LNG carriers per year. The number and frequency of LNG carriers arriving each year would depend on their storage capacity and gas demand.

The Crib Point Receiving Facility is designed to be automated and may be operated unmanned under normal operating conditions.
An operational easement of generally 15 metres wide would apply to the pipeline alignment. The pipeline easement would be routinely inspected for any operational or maintenance issues in accordance with APA procedures.

The pipeline would also be designed and constructed so that pigging could be undertaken to inspect the integrity of the pipeline as required. Pigging would be undertaken around 10 years after construction and then at a frequency determined by the first inspection.

In Hastings, the alignment largely follows the VicTrack rail corridor. The alignment within the rail corridor has been agreed with VicTrack, and selected to ensure that the Project would not preclude the potential future duplication of the rail line.

The Pakenham Delivery Facility is also designed to be automated and operate unmanned under normal operating conditions.

The EOLSS would be buried with valves contained within concrete pits. The connection to the VTS would operate unmanned. Excavation of the site to access the EOLSS would be required for the pigging activities.

1.2.3 Decommissioning

The FSRU is proposed to operate for 20 years, although this may be shortened or extended to address security and stability of gas supply to south-eastern Australia. When the Project was no longer required, the FSRU would leave Western Port.

The Jetty Infrastructure installed on the Crib Point Jetty and the Crib Point Receiving Facility would be decommissioned and removed when no longer required. The Crib Point Jetty would remain as an operational jetty under the management of the Port of Hastings Development Authority (PoHDA).

The pipeline would have a design life of 60 years. If the Pipeline Works were no longer required, they would be decommissioned in accordance with Australian Standard AS2885 Pipelines – gas and liquid petroleum and relevant legislative and approval requirements at the time of decommissioning.

1.2.4 Project Community Fund

If the AGL Gas Import Jetty Works proceeds, AGL would put in place a $7.5 million Community Fund which would be managed by a panel of local community members. The fund would be established by AGL as a mechanism for sharing some of the benefits of the Project with the local community. How the funds would be distributed, and which projects would be supported, has not yet been fully determined. AGL has, however, set up a local group of community leaders to discuss possible governance mechanisms. It is AGL’s intention that the fund would be run and led by the local community to address local concerns identified. There is initial agreement that at least half of the fund would be spent on Crib Point and Hastings to address local social disadvantage. Wider environmental causes in the Western Port area have also been supported by local community leaders as potential uses for the funds.
1.3 Project Area

The Project Area is situated between Crib Point and Pakenham East in Victoria within the local government areas of Mornington Peninsula Shire, the City of Casey and Cardinia Shire.

The Project Area includes the construction and operation footprints for the Gas Import Jetty Works and the Pipeline Works.

The Project Area is detailed in EES Attachment VII Map book. An overview of the Project Area showing the proposed pipeline alignment and current options is shown in Figure 1-1.

The Gas Import Jetty Works would be located at the existing Crib Point Jetty (Berth 2) and on land immediately adjacent. The Crib Point Jetty is located within the Port of Hastings and within an area designated as a wetland of international significance under the Ramsar Convention on Wetlands of International Importance (the Western Port Ramsar site).

The Pipeline Works would be located on land between the Crib Point Receiving Facility and a connection point to the VTS east of Pakenham.

The pipeline alignment was selected to minimise impacts on sensitive land uses and where possible follows existing pipeline easements.

The pipeline would be located on land used for various purposes including rural residential living, road corridors, industry, conservation reserves, hobby farming, horse studs and agriculture. The pipeline would generally follow the Stony Point rail reserve through Hastings.

Towards Pakenham, the pipeline would cross the Gippsland rail line before reaching the proposed Pakenham Delivery Facility adjacent to the Pakenham East rail depot and connecting to the VTS north of the Princes Highway.
Figure 1-1 Project Area overview
2 Scoping requirements

The EES scoping requirements for the Project were issued by the Victorian Minister for Planning in February 2019, and augment the key matters listed in the Minister's decision to require an EES.

The scoping requirements set out the specific matters to be investigated and documented in the EES in the context of the *Ministerial guidelines for assessment of environmental effects under the Environment Effects Act 1978*.

The EES is an accredited assessment process for the purposes of the assessment of the Project under the EPBC Act, and the EES scoping requirements also include matters to be assessed under the EPBC Act.

2.1 Draft evaluation objectives

The following draft evaluation objective is relevant to social impact and identifies the desired outcomes in the context of potential Project effects.

The draft evaluation objectives, as set out in the final scoping requirements, provide a framework to guide integrated assessment of the environmental effects of the Project. These draft evaluation objectives are to be used in the context of the relevant legislative requirements set out in Section 3.

### Draft evaluation objective for social impact assessment

*Social, economic, amenity and land use* – To minimise potential adverse social, economic, amenity and land use effects at local and regional scales.

2.2 Assessment of specific environmental effects

The following extracts from the scoping requirements issued by the Minister for Planning are relevant to the evaluation objective listed above.

Table 2-1 - Scoping requirements relevant to the SIA

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Scoping requirement</th>
<th>Relevant section</th>
</tr>
</thead>
</table>
| Key issues    | • Potential for project works and operations to affect business (including farming and tourism) operations or other existing or approved facilities or land uses.  
                 • Potential for increases in noise and vibration levels during project construction or operation to affect amenity adversely in adjacent residential and parkland areas.  
                 • Potential for temporary or permanent changes to use of or access to existing infrastructure in the project area and in its vicinity.  
                 • Potential for impacts on reasonably foreseeable upgrades to public infrastructure.  
                 • Potential for impacts on recreational boating and other recreational activities from the project.                                                                 | • Section 7 to 10 (Impact assessment)                                           
                 • EES Technical Report O: *Agriculture impact assessment*                   
                 • EES Technical Report N: *Business impact assessment*                      
                 • EES Technical Report L: *Land use impact assessment*                     
                 • EES Technical Report H: *Noise and vibration impact assessment*          |
### Priorities for characterising the existing environment

- Describe the demographic and social character of residential communities near the project.
- Identify dwellings and any other potentially sensitive receptors (e.g. community centres, open spaces, etc.) that could be affected by the project’s potential effects on air quality, noise or vibration levels, especially vulnerable receptors including children and the elderly.
- Identify existing levels of recreational boating and other recreational activities in the vicinity of the Crib Point jetty and the channels used by commercial shipping to move to and from the jetty.

### Assessment of likely effects

- Identify implications for communities, current land uses and businesses and immediately foreseeable changes in land use.
- Describe potential impacts on recreational activities resulting from the project.

### Design and mitigation measures

- Identify potential and proposed design responses and/or other mitigation measures to avoid, reduce and/or manage any significant effects for sensitive receptors during project construction and operation arising from specified air pollution indicators, noise, vibration, traffic and lighting, in the context of applicable policy and standards and the anticipated increase in shipping traffic in Western Port resulting from the project.
- Identify options for mitigating impacts from project construction or operation on potentially affected community facilities including open space.

### Relevant section

- Section 5 (Population and settlement) and 6 (Community resources)
- Section 7 to 10 (Impact assessment)
- EES Technical Report L: Land use impact assessment
- EES Technical Report G: Air quality impact assessment
- EES Technical Report I: Landscape and visual impact assessment

In the context of this report, ‘effects’ includes all potential direct, indirect, on-site and off-site environmental impacts resulting from the Project.

The description and assessment of effects is not confined to the immediate area of the Project – it also considers the potential of the Project to impact on adjacent or other areas that could be affected, in the context of a systems-based approach.
3 Methodology

A systematic risk-based approach has been applied to understand the existing environment, the potential impacts of the Project and how to avoid, minimise or manage the risk of impact.

The following sections outline the method for the social impact assessment, including the assessment framework employed and primary research tasks completed.

The impact assessment employed a framework to allow for the evaluation of the likely social effects and impacts (positive and negative) of the construction and operation of the Project.

3.1 Introduction to social impact assessment

Social impact assessment (SIA) is a social research process to identify the potential social effects of planned interventions such as infrastructure developments and assess the likely impact of these effects for individuals and social groups. In SIA, a distinction is drawn between effects and impacts as follows:

- A social effect: an objectively verifiable change to the social profile of a community or the resources it relies on, which results from the Project.
- Social impacts: the experience (positive or negative) of a social effect by individuals or groups (the social receptors).
- Social impacts are distinct from social effects as different individuals and groups experience change differently depending on their circumstances (Van Schooten et al., 2003).
- This SIA was compiled following the well-established procedural steps of SIA. It makes use of data collected using a variety of research methods to establish existing conditions and assess potential effects and impacts. The report is structured to present the information in a number of parts as indicated:
- Scoping – Define the scope of the study and develop an SIA methodology (Part 1, Sections 1 to 3).
- Profiling - Outline the existing social conditions and policy context. Identify the key social receptors and community resources (Part 2, Sections 4 to 6).
- Prediction and Evaluation - Assess likely social changes/effects associated with the proposal and evaluate the impact of the predicted changes for the key social receptors (Part 3, Section 7 to 10).
- Mitigation - Propose measures to mitigate identified impacts (Part 3, Section 7 to 10).

3.2 Scoping

3.2.1 Focussing for the SIA

In the scoping phase of the SIA, the scope of the study was determined and data collection tasks chosen. The scope of the SIA was determined having regard to:

- The scoping requirements for the Project were reviewed to determine the issues of greatest interest to the Minster for Planning.
• Risk Assessment\(^1\) - Prior to commencement of the SIA, a risk assessment process was undertaken by AECOM, the lead author of the EES. The risk assessment identified potential physical changes associated with the Project, which have potential to generate social impacts.

• Stakeholder and community engagement – prior to commencement of the SIA, APA and AGL conducted community forums and targeted consultation with various land holders and other community groups\(^2\). The stakeholder and community engagement process identified potential physical changes associated with the Project of concern to different individuals and social groups.

The scoping requirements, risk assessment and stakeholder and community engagement were used to identify potential change mechanisms, the spatial range over which social effects may be experienced (see Table 3-1) and in turn a study area for the SIA. The scoping phase also contributed to the identification of community resources and social receptors of relevance to the SIA. Notwithstanding, the scope of the SIA remained open to review throughout the process, to ensure that no relevant potential impacts were omitted.

Table 3-1: Scoping the SIA

<table>
<thead>
<tr>
<th>Social Effect</th>
<th>Project Stage</th>
<th>Spatial Range</th>
<th>Receptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Import Jetty Works</td>
<td>Altered bio-physical processes in Western Port.</td>
<td>Operation Western Port</td>
<td>▪ Communities of Mornington Peninsula, Western Port &amp; beyond.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>▪ Fishing Participants</td>
</tr>
<tr>
<td>Altered access and amenity.</td>
<td>Construction &amp; Operation</td>
<td>Private and public land, waters and facilities within 500m to 1km of works</td>
<td>▪ Nearby Dwellings</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>▪ Users of public land, waters and facilities including:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Boating Participants</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Users of Woolleys Beach</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Users of the Victorian Maritime Centre</td>
</tr>
<tr>
<td>Pipeline Works</td>
<td>Occupation of private land.</td>
<td>Land traversed by the pipeline works</td>
<td>▪ Owners and occupiers of directly affected land.</td>
</tr>
<tr>
<td>Altered access and amenity.</td>
<td>Private and public land and facilities within 500m to 1km of works</td>
<td></td>
<td>▪ Owners and occupiers of private land near the alignment.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>▪ Users of public land and facilities including:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Warringine Park</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Various facilities located in Hastings</td>
</tr>
</tbody>
</table>

\(^1\) With the agreement of DELWP, a standalone social impact risk assessment was not undertaken. This course was suggested and agreed as changes with potential to generate social impacts (some of which were assessed and quantified by other specialists, such as construction noise) were deemed to be planned changes for the purpose of the SIA. That is, the likelihood that these changes would occur was assumed to be certain in the SIA, making the risk assessment process unnecessary.

\(^2\) The findings are documented in Gas Import Jetty Pipeline Project EES Stakeholder Consultation Report.
### 3.2.2 Study area

The social effects of the Project would be concentrated in areas near the Project, including the urban settlements of Crib Point and Hastings, rural and rural residential areas located from Crib Point to near the proposed Pakenham Delivery Facility and the waters of Western Port (particularly those near Crib Point). These areas comprise the primary study area for the SIA (see Figure 5-1) and are the focus of the existing conditions section of the SIA (see Part 2, Sections 4 to 6).

However, a number of community resources affected by the Project are used by people who live beyond the primary study area and the impacts for affected individuals and social groups are also assessed as part of the SIA.

### 3.3 Data collection

Data to support the social impact assessment was compiled using a number of primary and secondary sources, including:

- ABS statistics and other relevant secondary data sources (referenced as required throughout the report).
- Technical assessments prepared for the EES including assessment of potential noise and vibration impacts, visual impacts, agricultural impacts, etc.
- Site visits including to the Crib Point Jetty and Woolleys Beach (March 2019), Warrine Park, and a drive of the pipeline alignment (January 2019).
- Data provided by APA regarding the number and type of properties that would be directly affected by the Pipeline Works, current land use of these properties and the concerns of owners and occupiers.
- Data generated through the stakeholder and community engagement conducted by APA and AGL during the preparation of the EES.
- Interviews with directly affected landholders who expressed a desire to contribute to the SIA (February to March 2019) (all directly affected landholders were invited to contribute to the SIA by letter sent in December 2018. A total of three landholders agreed to participate).
- Attendance at four public information sessions delivered by AGL and APA (Cowes, Hastings, Crib Point, Pearcedale) in February and March 2019. Consultation outcomes from these sessions are discussed in EES Attachment V Community engagement reports.
- Interviews (conducted between January 2019 and May 2019) with representatives of:
  - Mornington Peninsula Shire
  - Westernport Yacht Club
  - VRFish
  - Crib Point Stony Point Committee of Management Inc.
### 3.4 Assessing significance

The significance of identified social impacts has been assessed considering the magnitude of social effects likely to generate impacts and the sensitivity of social receptors to these effects. Following Rowan (2009):

- **Magnitude** - an objective consideration. Magnitude is considered in terms of the: intensity of change (i.e., how large is the change relative to existing conditions); scale (spatial extent and/or number of social receptors affected); and duration of the change.

- **Sensitivity** - the subjective experience of social effects by particular receptors. This experience is influenced by how desirable or undesirable a change is from the perspective of the receptor and the ability of the receptors to cope with (or without) the change.

The SIA uses Table 3-2 to guide the description and rating of impacts. It should be noted that the magnitude of a particular change and the sensitivity of receptors to this change may vary with respect to the factors set out in Table 3-2 (for example, a very large change may only affect a small number of individuals). Notwithstanding, while the SIA literature identifies the factors set out in Table 3-2 as relevant to the consideration of significance, the relative importance of each factor varies depending on the nature of particular effects and impacts and the characteristics of the community in which it is located. As a result, the attribution of significance is ultimately a matter of judgement.

Further to the above, significance ratings provided in the SIA reflect the overall level of disruption caused by different aspects of the Project. However, the way that different individuals experience change varies and the ratings do not imply that the experience of all affected individuals will be equivalent. In this context, the ratings are provided to give the reader a sense of the relative importance of impacts and draw attention to the impacts which should be given greatest weight in the net-community benefit assessment.

#### Table 3-2 Assessing the significance of social impacts

<table>
<thead>
<tr>
<th>Significance</th>
<th>Experience of change</th>
<th>Intensity</th>
<th>Duration</th>
<th>Extent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sensitivity</td>
<td>Adaptive Capacity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extremely Negative/Positive</td>
<td>Change is considered unacceptable/necessary.</td>
<td>Receptors have little to no capacity and means to cope with/without changes.</td>
<td>Very large change relative to baseline conditions.</td>
<td>Greater than 10 years</td>
</tr>
<tr>
<td>Negative/Positive</td>
<td>Change is considered detrimental/highly beneficial.</td>
<td>Receptors have limited capacity and means to cope with/without changes.</td>
<td>Large change relative to baseline conditions.</td>
<td>3-10 years</td>
</tr>
<tr>
<td>Moderate Negative/Positive</td>
<td>Change is considered undesirable/beneficial.</td>
<td>Receptors have some capacity and means to cope with/without changes.</td>
<td>Considerable change relative to baseline conditions.</td>
<td>1 to 3 years</td>
</tr>
<tr>
<td>Minor Negative/Positive</td>
<td>Change is considered somewhat acceptable/desirable.</td>
<td>Receptors have capacity and means to cope with/without changes.</td>
<td>Noticeable change relative to baseline conditions.</td>
<td>3 months to 1 year</td>
</tr>
<tr>
<td>Negligible</td>
<td>Change is neither desired or resisted by social receptors.</td>
<td>Receptors are unaffected.</td>
<td>Little to no change relative to baseline conditions.</td>
<td>Less than 3 months</td>
</tr>
</tbody>
</table>

*Source: Adapted from Rowan (2009)*
3.5 **Linkage to other technical reports**

The SIA should be read in conjunction with other relevant technical reports forming part of the EES:

- EES Technical Report G: *Air quality impact assessment*
- EES Technical Report H: *Noise and vibration impact assessment*
- EES Technical Report I: *Landscape and visual impact assessment*
- EES Technical Report K: *Safety, hazard and risk assessments*
- EES Technical Report O: *Agriculture impact assessment*
- EES Technical Report L: *Land use impact assessment*
PART 2 -EXISTING CONDITIONS

Part 2 of the SIA provides an overview of existing conditions within the primary study area. Part 2 comprises three sections:

- Policy context
- Population and settlement
- Community resources.
Policy context

Introduction

A detailed overview of the legislative and policy context as it applies to the Project is provided in EES Attachment II Legislation and policy report and is not reported here. This section provides an overview of a number of broader social policies and plans with potential relevance to the SIA.

International

A large portion of Western Port is designated as a wetland of international importance under the Convention on Wetlands of International Importance (Ramsar Convention). The high environmental value of Western Port is recognised further through the inclusion of Western Port in the UNESCO Mornington Peninsula and Western Port Biosphere Reserve, and the presence of several Marine National Parks within the Western Port Ramsar site (Churchill Island, French Island and Yaringa).

State government plans and polices

A Fairer Victoria

A Fairer Victoria - Real Support, Real Gains (May 2010) is a current iteration of the policy statement ‘A Fairer Victoria’, which was released by the State Government in 2004. A Fairer Victoria is the highest-level social policy adopted by the Victorian Government. The policy indicates that the Government aims to reduce disadvantage and ensure more Victorians have the opportunity, capability, and support to lead active, fulfilling lives. A Fairer Victoria outlines a number of objectives including:

- Increasing access to universal services - Access to universal services – maternal and child health, kindergarten, education and health – provides the basis for reducing disadvantage and improving health and wellbeing.
- Reducing barriers to opportunity - To take advantage of the opportunities around them, people need a range of personal capabilities (skills, health, social networks), mobility, and access to facilities and services.
- Support for disadvantaged groups - We are creating targeted programs and building stronger partnerships with people who need extra help to fulfil their potential – people with a disability, people experiencing mental illness, Indigenous Victorians, refugees and vulnerable young people.
- Supporting high needs places - Some places in Victoria have experienced deep disadvantage over a long period due to the compounding effects of unemployment, poor services and infrastructure, low education levels and poor health.

Victorian public health and wellbeing plan (2019–2023)

This Plan is the primary mechanism through which the Victorian Government works to achieve the vision of all Victorians enjoying the highest attainable standards of health, wellbeing and participation at every age. The plan sets 10 priorities for public health and wellbeing, namely: tackling climate change and its impact on health; reducing injury; preventing all forms of violence; increasing healthy eating; decreasing the risk of drug resistant infections in the community; increasing active living; improving mental wellbeing; Improving sexual and reproductive health; reducing tobacco-related harm; reducing harmful alcohol and drug use.
4.4 Local government plans and polices

**Mornington Peninsula Shire Plan (2017-2021)**

The vision set out in the Mornington Peninsula Shire Plan is to *value, protect and improve the unique characteristics and way of life on our peninsula*. In this context the Plan identifies the Mornington Peninsula as one of Melbourne’s greatest assets, characterised by unique townships, highly valued green wedge land, areas of national and international conservation significance and encompassing around 10 per cent of Victoria’s coastline. Strategies set out in the plan of relevance to this SIA include:

- In conjunction with the community and our partners protect, enhance and promote the conservation values of the Peninsula including protection of natural environment, wetlands and estuaries, native vegetation and habitat, threatened species, ecological communities and bio-links.
- Design and deliver well-planned townships with adequate capacity for housing, infrastructure, employment, business activity and recreational areas.
- Address issues of social isolation, poverty, housing stress, food insecurity and sense of community security.
- Promote the Mornington Peninsula as a premier location for visitors to enjoy a diverse range of high-quality passive and active experiences.

**Our Health and Wellbeing 2021: A Plan for the Mornington Peninsula 2017-21**

Through the Plan, Mornington Peninsula Shire will work towards improving health and wellbeing of its residents. The Plan includes strategic action presented under four themes, namely:

- **Our Place** – Protect and enhance unique natural and built characteristics; inclusive functional and accessible places; and resilience and adaptation to climate change.
- **Our Connectivity** – A connected and mobile community.
- **Our Prosperity** – Employment, education and training opportunities; sustainable, diverse and successful economy; and a year-round visitor economy dispersed across the municipality.
- **Our Wellbeing** – A healthy, happy, inclusive and active community.

**Mornington Peninsula: Western Port Coastal Villages and Surrounding Settlements Strategy.**

The Plan sets out the following Vision for Western Port:

*The design and character of towns and villages will continue to make a crucial contribution to the sense of place for Western Port communities. The townships will retain and reflect their unique landscape and environmental setting.*

*The varied and special characteristics of all commercial, industrial, foreshore and residential areas will be retained and enhanced through the scale and siting of built form, landscaping and vegetation, harnessing existing views and exemplar design practices in both the public and private realm.*

In relation to Crib Point specifically, the Plan states that Crib Point will preserve its small ‘country town on the coast’ character, being predominantly low-scale with a mix of historic and newer buildings set against canopied streetscapes and further that its coastal location will be reinforced through improved pedestrian access to the foreshore and enhanced coastal vegetation.
In relation to Hastings specifically, the Plan states that Hastings will retain its ‘country town on the coast’ character, reflected in its low-scale built form and high-quality landscaped public spaces and streetscapes. The town centre will present an attractive pedestrian and public space environment that provides a focal point for community integration and activity, with visual and physical connections to the foreshore.

**Mornington Peninsula Council Open Space Strategy**

The Open Space Strategy outlines the following vision for open space in Mornington Peninsula Shire: a unique, well planned and integrated open space environment that is highly valued and offers a range of opportunities. The Strategy divides the Shire into a number of small areas. Of greatest relevance to the SIA, in Area 2 (Bittern, Crib Point) the strategy recognises that beaches and foreshores are an important component of the open space network, for recreation and conservation purposes. In addition the strategy specially recognises the importance of Warringine Park and the Bittern Coastal Wetlands Boardwalk as these contribute to the significant environmental values and diversity of the foreshore reserves.

**Hastings South Coastal Management Plan (2015)**

The Plan recognises that the Hastings South foreshore is an important boating precinct and is highly valued for this role — by local residents and visitors. The Plan also states that the foreshore also has significant value in terms of the natural environment, cultural heritage and recreation.

**Cardinia Shire Plan (2019)**

The vision set out the Cardinia Shire Plan is to develop Cardinia Shire in a manner to enable present and future generations to live healthy and productive lives and to enjoy the richness of the diverse and distinctive characteristics of the Shire. The Plan explains that Cardinia Shire is comprised of three distinct zones, a rapidly urbanising west within the urban growth boundary, a rural south and the hills area to the north. The Plan indicates that Council's major challenge is to balance the need for services, facilities and other infrastructure for the growth area with the needs of existing rural/low density communities.

**City of Casey Plan (2017-2021)**

The vision set out in the City of Casey Plan is for Casey to be:

- A city where everyone can work locally, travel conveniently, and access all the services they need.
- A city with state-of-the-art facilities for the arts, education, sports and leisure.
- A city where everyone belongs to a vibrant, safe and connected community, based on mutual respect and understanding.
- A city where the built and natural environments are complementary, clean and enjoyable.

### 4.5 Implications for the SIA

The Project traverses areas with varying physical and ecological values and offers varying lifestyle benefits for residents. The policies outlined above suggest a need to balance objectives such as delivery of physical environments conducive to health and well-being and adequate access to services and employment with a desire to retain and enhance the unique physical and ecological characteristics of the study area, not least of all the environmental values of Western Port.
5 Population and settlement

5.1 Project location

The Project is situated between Crib Point and Pakenham East, Victoria within the Local Government areas of Mornington Peninsula Shire, City of Casey and the Shire of Cardinia (see Figure 5-1).

The Gas Import Jetty Works would be situated at the existing Crib Point Jetty, located at Crib Point within the Hastings-Somerville District. The water body to the east of Crib Point is Western Port, a large tidal bay opening into Bass Strait. A large portion of Western Port is designated as a wetland of international importance under the Convention on Wetlands of International Importance (Ramsar Convention) and the bay encompasses three Marine National Parks (Churchill Island, French Island and Yaringa). The bay features two large islands; French Island and Phillip Island. French Island is predominantly agricultural and low density residential, whilst Phillip Island accommodates conventional urban settlements as well as low density residential areas and is known for its tourism industry. The Crib Point Jetty is situated within the declared port waters of the Port of Hastings, which are located between Phillip Island, French Island and the Mornington Peninsula (see Figure 6-2). The Gas Import Jetty Works are located on Port of Hastings declared land.

The Pipeline Works traverse land between coastal Crown land at Crib Point Jetty and a connection point to the VTS east of Pakenham, spanning a distance of approximately 57 kilometres. The pipeline passes through a mix of rural residential, road corridors, industrial land, conservation reserves, hobby farms, horse studs and agricultural areas, as well as the Hastings urban area.

5.2 Urban settlements

Two urban settlements are located near or traversed by the Project, Crib Point and Hastings. Elsewhere the pipeline traverses predominantly rural land used for agricultural purposes.

Crib Point

The historic coastal township of Crib Point is located approximately one kilometre south of the Crib Point Jetty (see Figure 6-6 and Figure 6-7). The township is largely residential in character with small dispersed pockets of local commercial, educational, community and recreational facilities. According to the Crib Point Township Plan (2011), the low profile of development in Crib Point combined with its environmental features and the area’s unassuming atmosphere, are features of the township which are highly valued by residents. Crib Point is classified as a Local Activity Centre in the hierarchy of activity centres as set out in the Mornington Peninsula Planning Scheme.

There are a number of community facilities in the Crib Point township, including the Crib Point Community House, two primary schools and the Crib Point RSL. There is also a cluster of sporting fields and associated pavilions, as well as the Crib Point outdoor swimming pool. The closest facility to the Crib Point Jetty is the Crib Point Recreation Reserve, which is located approximately 1.4 kilometres from the Crib Point Jetty. The Crib Point train station is located toward the southern extent of the township (see Figure 6-6 and Figure 6-7).
The township of Hastings is one of three Major Activity Centres located within the Mornington Peninsula Shire and identified in the Mornington Peninsula Planning Scheme. It acts as the principal service centre for communities located on the eastern side of the Mornington Peninsula. The Frankston-Flinders Road and Stony Point rail line run north-south through the Hastings urban area. Commercial areas are located primarily along High Street between the rail line and the Hastings foreshore.

At the eastern extent of the main commercial strip there are a number of community facilities, including the Hastings Library, Hastings Kindergarten, Hastings Community Hall and Shed 11 Youth Centre. Also, at this location is Fred Smith Reserve, a large passive open space area which provides picnic tables, children’s play equipment, an outdoor gym and a skate park, along with walking trails and an off-leash dog area. Embedded within the reserve are the Pelican Park Indoor Recreation Centre (Council aquatic centre and gym) and the Hastings Lawn Bowls Club.

Residential areas are located to the north and south of High Street and to the east and west of the rail line. There are numerous other community facilities scattered throughout the Hastings urban area including the Peninsula Health Complex and Bays Hospital as well as schools, parks and sporting fields. To the south of the Hastings urban area is Warringine Park, a large conservation area with formal walking tracks and boardwalks (see Section 6.2.1).
Non-urban areas

Between Crib Point and Hastings, the pipeline traverses road corridors and lifestyle properties facing Western Port. To the north of Hastings, the pipeline passes through a mix of rural residential properties, industrial land, hobby farms, horse studs and agricultural areas. Towards Pakenham, the pipeline crosses the disused Gippsland rail line prior to reaching the proposed Pakenham Delivery Facility adjacent to the Pakenham East rail depot.

There are a small number of community facilities located near the pipeline alignment (within 500 metres) within the non-urban areas, namely the Bembridge Golf Course at Somerville and the Pearcedale Conservation Park and Moonlit Sanctuary Wildlife Conservation Park at Pearcedale.

5.3 Socio-economic conditions

5.3.1 Population size and growth

Table 5-1 shows projected population levels for Crib Point (including Bittern), Hastings, the rural areas traversed by the pipeline alignment and the Hastings-Somerville District (see Figure 5-1). As of 2016 the population of Crib Point (including Bittern) was 7,135 people (approximately 3,200 of these lived in the Crib Point township), a figure which is expected to grow incrementally to 8,308 people by 2031 (an average annual growth rate of one per cent).

A similar rate of population growth is projected for Hastings and the Hastings-Somerville District as a whole. Population growth projected for the eastern side of the Mornington Peninsula is higher than that expected in the ‘rural areas’ traversed by the Project, but still lower than projected for Greater Melbourne (see Table 5-1).

Table 5-1: Existing and projected population – selected areas

<table>
<thead>
<tr>
<th>Area</th>
<th>2016</th>
<th>2021</th>
<th>2026</th>
<th>2031</th>
<th>Average annual growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crib Point (including Bittern)</td>
<td>7,135</td>
<td>7,575</td>
<td>7,946</td>
<td>8,308</td>
<td>1.0%</td>
</tr>
<tr>
<td>Hastings</td>
<td>9,946</td>
<td>10,801</td>
<td>11,086</td>
<td>11,340</td>
<td>0.9%</td>
</tr>
<tr>
<td>Hastings-Somerville District</td>
<td>39,836</td>
<td>41,882</td>
<td>44,303</td>
<td>47,030</td>
<td>1.1%</td>
</tr>
<tr>
<td>‘Rural Areas’</td>
<td>4,064</td>
<td>4,151</td>
<td>4,221</td>
<td>4,314</td>
<td>0.4%</td>
</tr>
<tr>
<td>Greater Melbourne</td>
<td>4,628,199</td>
<td>5,106,681</td>
<td>5,585,860</td>
<td>6,058,786</td>
<td>1.8%</td>
</tr>
</tbody>
</table>

Source: i.d. Consulting (2019); VIF (2018); Public Place (2019)

5.3.2 Demography

The Mornington Peninsula is a well-known tourist destination boasting a wide variety of attractions, such as beaches, wineries, and golf courses, and the area is home to numerous holiday homes. In contrast, the urban settlements of Crib Point and Hastings accommodate largely permanent populations with a relatively ‘low’ socio-economic status compared to the Hastings-Somerville District, nearby rural areas and Greater Melbourne. To illustrate, selected demographic indicators are presented in

Table 5-2 for Crib Point, Hastings, the Hastings-Somerville District, as well as the ‘Rural Areas’ intersected by the Pipeline Works (within City of Casey and Cardinia Shire).
Table 5-2: Selected demographic indicators

<table>
<thead>
<tr>
<th></th>
<th>Crib Point</th>
<th>Hastings</th>
<th>District</th>
<th>Rural</th>
<th>Greater Melbourne</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AGE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 to 4</td>
<td>6.3%</td>
<td>6.8%</td>
<td>5.3%</td>
<td>3.2%</td>
<td>6.4%</td>
</tr>
<tr>
<td>5 to 11</td>
<td>10.6%</td>
<td>8.9%</td>
<td>8.5%</td>
<td>9.1%</td>
<td>8.5%</td>
</tr>
<tr>
<td>12 to 17</td>
<td>7.8%</td>
<td>6.5%</td>
<td>7.6%</td>
<td>7.9%</td>
<td>6.7%</td>
</tr>
<tr>
<td>18 to 24</td>
<td>7.7%</td>
<td>8.4%</td>
<td>10.5%</td>
<td>9.6%</td>
<td>10.0%</td>
</tr>
<tr>
<td>25 to 34</td>
<td>13.5%</td>
<td>12.6%</td>
<td>11.5%</td>
<td>7.2%</td>
<td>16.3%</td>
</tr>
<tr>
<td>35 to 49</td>
<td>19.5%</td>
<td>17.5%</td>
<td>18.5%</td>
<td>19.7%</td>
<td>21.1%</td>
</tr>
<tr>
<td>50 to 69</td>
<td>26.7%</td>
<td>24.7%</td>
<td>27.4%</td>
<td>31.7%</td>
<td>21.3%</td>
</tr>
<tr>
<td>70+</td>
<td>8.0%</td>
<td>14.7%</td>
<td>10.8%</td>
<td>11.5%</td>
<td>9.6%</td>
</tr>
<tr>
<td><strong>Median Age</strong></td>
<td>38</td>
<td>41</td>
<td>41</td>
<td>46</td>
<td>36</td>
</tr>
<tr>
<td><strong>HOUSEHOLDS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Household Size</td>
<td>2.5</td>
<td>2.3</td>
<td>2.6</td>
<td>2.9</td>
<td>2.7</td>
</tr>
<tr>
<td>Lone Person Household</td>
<td>25.7%</td>
<td>32.3%</td>
<td>21.3%</td>
<td>14.9%</td>
<td>23.2%</td>
</tr>
<tr>
<td>Group Household</td>
<td>3.0%</td>
<td>2.9%</td>
<td>1.7%</td>
<td>2.7%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Family Household</td>
<td>71.3%</td>
<td>64.8%</td>
<td>77.0%</td>
<td>82.5%</td>
<td>71.7%</td>
</tr>
<tr>
<td><strong>FAMILIES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Couple family no children</td>
<td>25.5%</td>
<td>24.6%</td>
<td>29.8%</td>
<td>35.1%</td>
<td>24.7%</td>
</tr>
<tr>
<td>Couple family with children</td>
<td>29.7%</td>
<td>23.6%</td>
<td>34.7%</td>
<td>37.9%</td>
<td>34.8%</td>
</tr>
<tr>
<td>One parent family</td>
<td>15.0%</td>
<td>15.7%</td>
<td>11.7%</td>
<td>9.3%</td>
<td>10.8%</td>
</tr>
<tr>
<td>Other family</td>
<td>1.2%</td>
<td>0.9%</td>
<td>0.7%</td>
<td>0.2%</td>
<td>1.4%</td>
</tr>
<tr>
<td><strong>EMPLOYMENT AND TRAINING</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>7.2%</td>
<td>8.0%</td>
<td>4.3%</td>
<td>3.2%</td>
<td>6.8%</td>
</tr>
<tr>
<td>Labour Force Participation</td>
<td>60.8%</td>
<td>50.8%</td>
<td>69.0%</td>
<td>68.0%</td>
<td>61.9%</td>
</tr>
<tr>
<td>White Collar</td>
<td>20.6%</td>
<td>19.9%</td>
<td>28.0%</td>
<td>29.8%</td>
<td>38.9%</td>
</tr>
<tr>
<td>Ag, Forestry and Fishing</td>
<td>1.2%</td>
<td>1.8%</td>
<td>2.6%</td>
<td>14.3%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Completed Year 12</td>
<td>38.5%</td>
<td>37.2%</td>
<td>49.1%</td>
<td>39.1%</td>
<td>64.2%</td>
</tr>
<tr>
<td>Bachelor Degree or Higher</td>
<td>7.8%</td>
<td>7.2%</td>
<td>14.3%</td>
<td>9.1%</td>
<td>27.5%</td>
</tr>
<tr>
<td><strong>WEEKLY INCOME</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median Personal Income</td>
<td>$575</td>
<td>$524</td>
<td>$694</td>
<td>$633</td>
<td>$673</td>
</tr>
<tr>
<td>Personal Income &lt;$400</td>
<td>34.1%</td>
<td>34.8%</td>
<td>28.3%</td>
<td>31.9%</td>
<td>33.2%</td>
</tr>
<tr>
<td>Median Household Income</td>
<td>$1,167</td>
<td>$958</td>
<td>$1,479</td>
<td>$1,505</td>
<td>$1,542</td>
</tr>
<tr>
<td>Household Income &lt;$650</td>
<td>22.6%</td>
<td>30.5%</td>
<td>16.7%</td>
<td>16.5%</td>
<td>18.4%</td>
</tr>
<tr>
<td><strong>DWELLINGS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Separate house</td>
<td>81.7%</td>
<td>76.1%</td>
<td>89.0%</td>
<td>99.7%</td>
<td>68.0%</td>
</tr>
<tr>
<td>Semi-detached, townhouse</td>
<td>16.8%</td>
<td>22.5%</td>
<td>10.5%</td>
<td>0.3%</td>
<td>16.8%</td>
</tr>
<tr>
<td>Flat, unit or apartment</td>
<td>1.1%</td>
<td>0.5%</td>
<td>0.1%</td>
<td>0.0%</td>
<td>14.7%</td>
</tr>
<tr>
<td><strong>TENURE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fully owned</td>
<td>28.9%</td>
<td>30.2%</td>
<td>35.1%</td>
<td>42.9%</td>
<td>31.3%</td>
</tr>
<tr>
<td>Being purchased</td>
<td>46.8%</td>
<td>30.2%</td>
<td>46.7%</td>
<td>41.0%</td>
<td>37.0%</td>
</tr>
<tr>
<td>Rented</td>
<td>24.0%</td>
<td>38.7%</td>
<td>17.0%</td>
<td>15.6%</td>
<td>30.8%</td>
</tr>
<tr>
<td>Public/Social Housing</td>
<td>1.6%</td>
<td>7.4%</td>
<td>0.7%</td>
<td>0.0%</td>
<td>2.8%</td>
</tr>
<tr>
<td><strong>ETHNICITY</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Born Overseas</td>
<td>12.3%</td>
<td>17.7%</td>
<td>14.8%</td>
<td>14.4%</td>
<td>36.2%</td>
</tr>
<tr>
<td>Speaks other language</td>
<td>2.7%</td>
<td>4.6%</td>
<td>7.1%</td>
<td>15.0%</td>
<td>34.3%</td>
</tr>
<tr>
<td>Poor or no English</td>
<td>0.4%</td>
<td>0.6%</td>
<td>0.3%</td>
<td>0.8%</td>
<td>5.9%</td>
</tr>
<tr>
<td><strong>CARS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Household Owns a Car</td>
<td>97.9%</td>
<td>91.7%</td>
<td>97.4%</td>
<td>99.4%</td>
<td>91.0%</td>
</tr>
<tr>
<td><strong>INTERNET</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internet accessed @ dwelling</td>
<td>86.0%</td>
<td>79.0%</td>
<td>89.6%</td>
<td>83.6%</td>
<td>87.9%</td>
</tr>
<tr>
<td><strong>SAME ADDRESS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Years Ago</td>
<td>59.9%</td>
<td>53.1%</td>
<td>61.7%</td>
<td>72.0%</td>
<td>57.2%</td>
</tr>
</tbody>
</table>

Source ABS Census 2016
The data show:

- Families with children comprise a large proportion of all households in Crib Point and Hastings, as they do in the comparison areas. However, single parent families and lone person households were more common in Crib Point and Hastings.
- Individual and household incomes in Crib Point and Hastings were substantially lower than observed for the Hastings-Somerville District and Melbourne as a whole, unemployment was higher, educational attainment lower and fewer people worked in ‘managerial or professional’ (white collar) occupations.
- The proportion of households who rent their dwelling is higher in Crib Point and much higher in Hastings, when compared with the Hastings-Somerville District, and public or social housing comprised a significant proportion of all housing in Hastings.
- The populations of Crib Point and Hastings are relatively ethnically homogenous, and there are few residents who either speak English ‘not well’ or ‘not at all’.
- The population of rural areas traversed by the Project is older and comprised of a greater proportion of family households than Crib Point and Hastings. Incomes in this area are higher, unemployment lower and a relatively large proportion of the resident workforce find employment in agriculture related occupations. Notwithstanding, many residents work in ‘white collar’ occupations, suggesting that ‘off farm’ income is an important source of income for many residents of the ‘rural areas’.

Consistent with the impression provided by the Census data outlined in Table 5-2, Socio-Economic Indexes for Areas (SEIFA) scores for Statistical Area level 1s (SA1s) within the Hastings-Somerville District and the rural areas traversed by the Project show that there is a notable concentration of socio-economic disadvantage in the Hastings urban area and to a lesser extent, Crib Point (see Figure 5-2).

### 5.3.3 Indicators of well-being

Data on health and well-being are available for the Hastings-Somers Statistical Area level 2 (SA2) area (incorporating Hastings and Crib Point). The data are consistent with the discussion above which characterises the Crib Point and in particular the Hastings community as being relatively disadvantaged. As Table 5-3 shows, entrenched unemployment is more common in the Hastings-Somers SA2, and a relatively large proportion of children living in this area grow up in households which depend on welfare.

Developmental vulnerability as measured through the Australian Early Development Index (AEDI)\(^3\) is much more common in the Hastings-Somers SA2 area than observed across the Melbourne metropolitan area. However, not ignoring the existing notable socio-economic and

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\(^3\) The Australian Early Development Index (AEDI) is a population based measure of how children have developed by the time they start school. It measures five areas of early childhood development; physical health and wellbeing, social competence, emotional maturity, language and cognitive skills, and communication skills.
developmental challenges in Hastings and to a lesser extent Crib Point, measures of social-wellbeing for these areas, such as rates of volunteering and the ability of people to obtain assistance in a time of crisis, are consistent with a well-connected and cohesive community. In other areas traversed by the Project, socio-economic and developmental conditions are comparable with the Melbourne metropolitan average.

Table 5-3: Indicators of health and wellbeing

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Hastings-Somers</th>
<th>Greater Melbourne</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receiving unemployment benefit (longer than 6 months)</td>
<td>5.0%</td>
<td>3.3%</td>
</tr>
<tr>
<td>Children in low income, welfare-dependent families</td>
<td>27.7%</td>
<td>17.5%</td>
</tr>
<tr>
<td>AEDI Developmental Vulnerable (at least 2 domains)</td>
<td>21.3%</td>
<td>9.5%</td>
</tr>
<tr>
<td>AEDI Developmental Vulnerable (language &amp; cognitive)</td>
<td>13.5%</td>
<td>5.9%</td>
</tr>
<tr>
<td>Performs voluntary work for an organisation or group</td>
<td>19.9%</td>
<td>17.6%</td>
</tr>
<tr>
<td>Can get support in times of crisis from persons outside the household</td>
<td>95.8%</td>
<td>95.3%</td>
</tr>
</tbody>
</table>

Source: PHIDU (2018)

Neighbourhood renewal

Consistent with the data presented in Table 5-3, issues relating to social disadvantage in Hastings have been the focus of government attention for some time. To illustrate, in 2006 Hastings was identified as a ‘neighbourhood renewal’ area by the Victorian Government. Areas identified for neighbourhood renewal are relatively small, clearly defined geographic areas, characterised by a concentration of public housing and selected on the basis of multiple indicators of disadvantage. The government at the time allocated $2.5 million to support Neighbourhood Renewal in Hastings to improve housing and increase local employment and recreational opportunities.

One of the most significant achievements made during the Hastings Neighbourhood Renewal Project was the development of the Hastings Community Hub, which was funded by Commonwealth, State and Local governments, and redevelopment of the old Hastings Leisure Centre into a multipurpose community facility to meet a range of local needs.
Figure 5-2 SEIFA Index of Disadvantage
6 Community resources

This section describes the community resources relied on or enjoyed by individuals and groups who live and visit locations potentially affected by the Project.

6.1 Western Port

6.1.1 Environmental values

The natural environment of Western Port, including its wetlands and estuaries, native vegetation and habitats, threatened species and ecological communities, is of intrinsic value and interest to many in the community. The value attached to Western Port by members of the local community is consistent with and informed by the designation of Western Port as a wetland of international importance and inclusion of Western Port in the UNESCO Mornington Peninsula and Western Port Biosphere Reserve. The importance of Western Port’s environmental values to the community has been highlighted during the community consultation process, to illustrate:

- Since January 2017, the Project proponent has held more than 30 open public community meetings which have attracted more than 1,500 attendees. The Project’s potential impact on the environment of Western Port has been the most commonly raised concern at the sessions.
- Within the communities of Crib Point and Hastings (and the broader Western Port region) there is a network of community led environmental groups which have taken an active interest in and/or oppose the Project due to its potential environmental impacts. One of the larger and more active of these groups is Save Westernport. The Facebook page of this group had more than 3,000 followers at the time of preparing this report. Other community groups which have expressed an interest in the Project include:
  - Save Westernport
  - Port Phillip Conservation Council
  - Western Port and Peninsula Protection Council
  - Phillip Island Nature Parks
  - French Island Community Association
  - Western Port Warrior Women
  - Westernport Seagrass Partnership
  - Preserve Western Port Action Group
  - Phillip Island Conservation Society
  - Western Port Biosphere
  - Dolphin Research Institute

During the consultation phase of the SIA, many of those consulted expressed a preference for commercial and industrial activity in Western Port to be gradually phased out to ensure preservation of the area’s significant environmental and aesthetic values. However, there were also attendees who expressed support for projects which have the potential to generate employment.

6.1.2 Port of Hastings

The Port of Hastings, including port waters, facilities and commercial shipping channels are located within Western Port between Phillip Island, French Island and the Mornington Peninsula. The Port of Hastings is one of four major working commercial trading ports operating in Victoria. The Port of Hastings’ main trade groups include import/export of oil, liquid petroleum gas (LPG), steel and unleaded petrol. The port supports refining/fractionation plants, gas and oil storage and load-out facilities. The port is also the southern terminal for several pipelines carrying gas and oil
to coastal markets, and through the Western Port Altona Geelong (WAG) Pipeline to Mobil and Shell refineries in Melbourne and Geelong. The main facilities operated by Port of Hastings are set out in Table 6-1 below (see Figure 6-2).

Table 6-1: Port of Hastings – Key facilities.

<table>
<thead>
<tr>
<th>Facility</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stony Point Jetty and depot</td>
<td>The facilities at Stony Point are used by Harbour service craft, Harbour tugs, passenger ferries, fishing industry vessels and small commercial vessels. A passenger ferry service is provided out of Stony Point to Phillip Island, French Island or Seal Rocks.</td>
</tr>
<tr>
<td>Crib Point Jetty</td>
<td>Crib Point Jetty Berth 1 is utilised by United Petroleum for the discharge of motor spirit and automotive diesel to their terminal in Hastings. Berth 2 (the proposed location for the FSRU) is decommissioned awaiting development opportunities.</td>
</tr>
<tr>
<td>Long Island Point liquid berth</td>
<td>The berth is utilised by Esso Australia Ltd for export of Gippsland Crude Oil and LPG on tankers of up to 100,000 DWT.</td>
</tr>
<tr>
<td>BlueScope Steel Wharves</td>
<td>The berths are owned by BlueScope Steel. Vessels wanting to berth at the BlueScope steel wharves must get permission from BlueScope Steel to use these wharves in addition to all other Port entry requirements.</td>
</tr>
</tbody>
</table>

Source: https://www.portofhastings.com/

Since 2000, the number of ships entering Western Port each financial year has varied from 262 ships in the 2002-2003 financial year to 100 ships in the 2012-2013 financial year (see Figure 6-1). Ships entering the port range in gross tonnage up to around 100,000 tonnes. In recent years, approximately 150 ships per year are received in the Port of Hastings.

![Figure 6-1: Commercial ships entering Western Port by financial year](image)

Commercial vessels using the Port of Hastings' waters share Western Port with a variety of recreational boats and vessels. Commercial vessels refer to export/import ships, cruise vessels and other non-cargo carrying vessels (such as navy vessels, oil rigs in anchorage, service vessels etc). Ferry movements from and to Stony Point Jetty are not included in these numbers. Recreational vessels are mostly free to travel within the Port’s waters in accordance with standard right of way procedures. However, recreational vessels are not permitted within waterside restricted zones comprising a 100 metre buffer from Long Island Point and Crib Point.
jetties. Also, recreational vessels are not permitted to anchor within the commercial shipping channels located within the Port waters, or to tie up to channel markers.\(^4\)

The Port of Hastings website recognises the potential for conflict between commercial and recreational vessels, noting that the combination of commercial shipping and recreational boating activities requires users to exercise care and respect when accessing Western Port waters. The ‘Keep Clear of Big Ships’ campaign is currently being rolled out to encourage safe boating practices among recreational boaters in Western Port and Victoria’s other commercial ports and improve safety for all water users.\(^5\) Notwithstanding, Port of Hastings reports that no collisions are known to have occurred. A weekly shipping list is available to all clubs and organisations with an interest in recreational boating in Western Port to assist in ensuring that recreational boats and commercial vessels can share the water safely.

6.1.3 Recreational boating

Within Western Port, there are various public boat ramps and jetties which allow for berthing, two marinas and several private yacht clubs which facilitate recreational boating and yachting. Hastings is the main boat landing in Western Port. There are also boat launching ramps at Blind Bight, Corinella, Coronet Bay, Cowes, Flinders, Hastings, Newhaven, Rhyll, Stony Point, Tooradin and Warneet. Table 6-2 provides a summary of the recreational boating facilities in Western Port. These facilities are also shown in Figure 6-2.

Table 6-2: Recreational boating facilities in Western Port

<table>
<thead>
<tr>
<th>Location</th>
<th>Boat ramp</th>
<th>Jetty</th>
<th>Marina</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blind Bight</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corinella</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Coronet Bay</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cowes</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flinders</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Grantville</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hastings</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Newhaven</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Rhyll</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stony Point</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Tankerton</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Tooradin</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Warneet</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Yaringa</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>


A survey of boating behaviour undertaken by Ipsos Research on behalf of Transport Safety Victoria indicates that around 200,000 recreational vessels are launched in Western Port per annum, with approximately 40,000 being launched from Hastings.\(^6\) On average, there are about

\(^4\) [https://www.portofhastings.com/]


550 vessels on the water per day in Western Port (over 100 originating from Hastings). This number increases during peak periods. Western Port is close to Melbourne’s south-eastern growth corridor and therefore the location is likely to become increasingly popular for boating activity in the future.

Fishing is the most common reason for boating in Western Port and fishing trips represent a high proportion of all trips initiated from Hastings and Stony Point (see Table 6-3).

Table 6-3: Main purpose for boat use on Western Port

<table>
<thead>
<tr>
<th></th>
<th>Fishing</th>
<th>Water skiing, etc.</th>
<th>Touring/cruising</th>
<th>Organised club activity</th>
<th>Sailing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hastings</td>
<td>83%</td>
<td>0%</td>
<td>15%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Stony Point</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Western Port Total</td>
<td>71%</td>
<td>4%</td>
<td>22%</td>
<td>2%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Source: Ipsos Research 2015

A survey of recreational fishers in Victoria undertaken by VRFish (2017) shows that recreational fishers are keen to ensure the quality of Victoria’s fisheries are preserved and maintained with increasing fish numbers and restoring fish habitat ranked as the highest priority for improving recreational fishing in Victoria by the respondents. The survey also shows that the motivations underpinning recreational fishing trips are broader than simply catching fish, with to be outdoors, to relax and to be with friends and family the most cited motivations for pursuing recreational fishing.

**Club based activity**

An exception to this is formal yacht races run by the Westernport Yacht Club, which occur on alternating weekends, and which make use of waters within the Port of Hasting’s commercial shipping channels (most commonly between Channel Marker 35 and 12, and occasionally as far as the Fairway Maker, see Figure 6-2). Depending on sailing conditions, racing boats can pass close to the Crib Point Jetty during the races and members (racing and cruising) occasionally use the breakwater structures at the Crib Point Jetty as a place of refuge in bad weather. The Westernport Yacht Club currently works around commercial shipping in the channel, and to date, the frequency and timing of movements and the waterside restriction zone at the Crib Point Jetty have not materially affected the club’s activities. A summary of the activities conducted by the Westernport Yacht Club is provided in Table 6-4. In addition to the above, other boating clubs hold annual events such as races around French Island, which also make use of Port waters.
Kayaking is a popular activity in Western Port. Woolleys Beach is used as a launching/landing place by kayakers, some of whom make their way from Hastings to Crib Point. While there is no publicly available data on kayaking participation in Western Port, anecdotal information suggests the activity is common.

Kayakers entering and exiting the water at Woolleys Beach are reported to sometimes travel under the Crib Point Jetty on their way to and from Hastings. This activity is in conflict with the existing 100m waterside restriction zone around the jetty which is regulated under the *Maritime Transport and Offshore Facilities Security Act 2003* (Cth). The waterside restriction zone would be maintained and extended slightly if the Project proceeds (see Figure 6-5).

### 6.1.4 Summary

The environmental, commercial, and recreational values of Western Port currently coexist in relative harmony. However, there is a clear tension between the aspirations of different sections of the community with regard to Western Port and in particular the balance that is struck between preserving and enhancing the bay’s environmental values and natural landscape setting, and the utilisation of existing port infrastructure for industrial purposes.
Figure 6-2: Commercial and recreational boating facilities – Western Port
6.2 Community facilities and open space

This section describes in more detail the community facilities and open spaces that are in close proximity to or would be traversed by the Project.

6.2.1 Warringine Park

Warringine Park is marine and coastal Crown land managed by Mornington Peninsula Shire. The park is a remnant bushland reserve located south of the Hastings urban area and consists of three distinct areas, the ‘creek’, the ‘woodlands’ and the ‘coastal’ sections and is home to several plants and animal species recognised as being of State significance. Visitors primarily experience the park from one of two walking tracks (see Figure 6-3 and Figure 6-4):

- Bittern Coastal Wetlands Walk: starts from the small carpark opposite 40 Salmon Street, Hastings and follows a boardwalk south through the park to Jacks Beach, Crib Point. This walk forms part of the much longer Westernport Bay Trail. The Bittern Coastal Wetlands Walk is one of the most popular ways for visitors to the area to connect with the Ramsar wetland areas within Western Port.
- Ted Harris Walk: starts at 2230 Frankston-Flinders Road and winds along the creek section of Warringine Park finishing at Kinases Lane or Hendersons Road.

Anecdotal feedback provided by Mornington Peninsula Shire indicates that approximately 60 to 100 casual users walk along the Bittern Coastal Wetlands Walk per day, and that usage has been increasing in recent years, especially among cyclists. In addition to this casual use, Mornington Peninsula Shire reported that local schools use the park informally and the nearby Dolphin Research Institute runs guided tours along the route (about 10 school groups per annum).

Warringine Park is currently traversed by existing underground pipelines which run through the coastal section of the park on a north-south alignment, approximately 220 metres from the Park’s western boundary (see Figure 6-4). The Stony Point rail line, which also follows a north-south alignment, runs along the park’s western boundary and there are maintenance tracks within the park which connect the boardwalk with the pipeline easement and rail line.
Figure 6-3: The Bittern Coastal Wetlands Walk - Warringine Park (Source: www.mornpen.vic.gov.au)
Figure 6-4: Warringine Park – Coastal Section
6.2.2 Woolleys Beach

Woolleys Beach is marine and coastal Crown land that forms part of the Crib Point Stony Point Foreshore and is managed by Crib Point Stony Point Committee of Management. Woolleys Beach is located immediately to the south of the Crib Point Jetty (see Figure 6-5). The Woolleys Beach section of the foreshore includes two cleared areas (Woolleys Beach North and South) linked by a walking track. Each cleared area is fitted with picnic tables and a public barbeque, and Woolleys Beach North also provides a public toilet. From the clearings, there are views of the Crib Point Jetty and French Island to the north and Stony Point to the south. The reserve is a popular place for walking, swimming and kayaking, as well as a location to gather and socialise. The area is used primarily by the local population of Crib Point, but also attracts school groups and visitors from further afield who are interested in the flora and fauna within the reserve. The local community enjoy the vista and tranquillity the area provides and commonly visit the location at sunset.

A boat landing is located at the southern clearing of Woolleys Beach and is used to launch smaller boats (up to 16 feet), while kayaks are commonly launched from both the north and south clearings.

To the north of the Crib Point Jetty in close proximity to Woolleys Beach there are two existing groynes, which are popular locations for fishing. The groynes are typically accessed via a track which passes through land in the ownership of the Port of Hastings (the land is poorly fenced and can be accessed by the public). The beach area to the immediate north of the groynes is also used by the local community for walking and to view the HMAS Otama, a decommissioned Australian submarine which is moored in Western Port.

Crib Point Stony Point Committee of Management Inc. manages the foreshore reserve. The Committee is made up of community volunteers appointed under the Crown Land (Reserves) Act 1978 (Vic) for three-year terms, via an expression of interest process conducted by the Department of Environment, Land, Water and Planning (DELWP).

Woolleys Beach typically offers a quiet and tranquil setting for visitors. However, United Petroleum vessels berth and unload at the Crib Point Jetty fortnightly and make use of facilities at Crib Point which are in close proximity to Woolleys Beach North. These activities generate noise, and representatives of Crib Point Stony Point Committee of Management Inc. reported that at these times, visitors avoid Woolleys Beach (Woolleys Beach North in particular).
Figure 6-5: Woolleys Beach, Crib Point
6.2.3 Other facilities and open spaces

There are a variety of other community facilities and open spaces located in Crib Point, Hastings and other areas near the Project (see Figure 6-6 and Figure 6-7). Facilities located in areas that would be subject to notable changes to acoustic and/or visual amenity during construction or operation of the Project are listed below:

▪ Victorian Maritime Centre (Figure 6-6, label C2) is a community-run maritime museum that is currently housed in the Crib Point Terminal building with support from Shell Australia. The museum exhibits and displays maritime memorabilia and is open to the public on Saturday and Sunday from 10.00am until 3.00pm.

▪ The Bays Aged Care Facility, Hastings (Figure 6-6, label A2) is a 75-bed residential aged care facility co-located with the Bays Hospital. The facility provides accommodation and care service for older people who are unable to continue living independently at home.

▪ The Hastings Community Hub (Figure 6-6, label C11) is located just north of the Hastings township. The community hub includes meeting rooms and a recreational area. Pipeline construction in this area would be by Horizontal Directional Drilling (HDD), beneath Kings Creek that passes beneath the Frankton-Flinders Road. HDD entry and exit sites would be located approximately 200-300 metres from the Community Hub.

▪ Hastings Park (Figure 6-6, label R9) comprises Thomas Barclay Oval and Tyabb North Sport’s Ground and associated pavilions and facilities, including the Hastings Sports Club. The Hastings Club social facility is used by the Hastings football, netball, and cricket club, along with a number of community support organisations and sporting groups. The facility provides a bistro sports bar, TAB outlets and gaming facilities.

▪ Hastings Primary School (Figure 6-6, label S6) is a public primary school established in 1854. As at February 2018, the school accommodated 250 students and the school’s grounds include landscaped gardens, playground equipment, a synthetic turf playing field, netball/basketball courts, etc.

▪ Toogoolawa School (Figure 6-6, label S8), in Hastings, is an independent special school located 200 metres from the proposed pipeline alignment near the intersection of Frankston-Flinders Road and Cool Store Road. The school caters for a maximum of 15 Year 7 and 8 boys who have exhibited severe behaviour problems in a mainstream school setting.
Figure 6-6: Community facilities in Crib Point and Hastings.
Figure 6-7: Community facilities in Crib Point and Hastings (Crib Point left, Hasting right)
6.3 **Housing and land**

Private land and housing is a key community resource and a substantial asset for owners. Housing and land provide shelter and supports lifestyle aspirations and commercial enterprise. The housing and land potentially affected by the Project is described below.

6.3.1 **Gas Import Jetty Works**

There are a small number of residential properties in close proximity to the Crib Point Jetty and potentially subject to amenity impacts during construction and operation of the Project (see Figure 6-6 and Figure 6-7). Specifically:

- There is a small cluster of five dwellings within the low-density residential zone located approximately 650 to 800 metres to the north-west of the Crib Point Receiving Facility (located on The Esplanade) and more than 1.4 kilometres from the proposed FSRU. These properties currently enjoy views of Western Port to the north and east which are valued by the occupants (see EES Technical Report I: *Landscape and visual impact assessment*).

- The north east edge of the Crib Point township is located approximately one kilometre to the south west of the Gas Import Jetty Works.

6.3.2 **Pipeline Works**

*Directly affected land*

The pipeline alignment traverses 156 separate land holdings of which 114 are held in private ownership or leased by a private individual or business for a business-related purpose. The BlueScope site to the north of Hastings accounts for 27 separate holdings. Table 6-5 provides summary data for the remainder of the holdings (87). The land affected by the pipeline alignment is used in variety of ways, including lifestyle residential, intensive agriculture, high value equine enterprises, grazing, horse agistment and cropping. One property is being developed as a bandicoot sanctuary. Approximately half the land holdings accommodate a dwelling. Some property owners have previously experienced one or more negotiations regarding use of their land for pipeline easements. Almost all land holders continue to engage with the proponent regarding the purchase of an easement for the pipeline and appropriate compensation.

Due to the proximity of the pipeline alignment to Melbourne’s Urban Growth Boundary, some land holdings traversed by the pipeline are being held for the purpose of investment, with the current land use being in place as a mechanism to generate income and maintain the property only, while investors wait for opportunities to subdivide the land if and when it is incorporated within the metropolitan area (known as ‘land-bankers’).
The issues raised by landholders in their dealings with APA, and during the landholder interviews conducted as part of the SIA, are as varied as the land uses that exist in the affected area. Notwithstanding, some common concerns have emerged:

- An ideological objection to the Project reflecting a preference for use of renewal resources, and/or an opposition to private companies undertaking works on private land.
- Potential interference of the construction area and/or easement with existing assets and infrastructure such as sheds, roads, etc. that would not be adequately addressed via compensation.
- Lack of faith in the quality of restorative works (in some cases in light of previously poor experiences with pipeline works on the property).
- Visual blight associated with easement markers (this concern was common among lifestyle property owners in particular).
- Potential for the pipeline easement to detract from property values and/or future development potential (this concern was common among ‘land bankers’ in particular).
- Safety risks associated with the operation of the pipeline.
- Reduced amenity during the construction phase.

Table 6-5: Private property traversed by the pipeline alignment

<table>
<thead>
<tr>
<th>Category</th>
<th>No.</th>
<th>Dwelling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lifestyle residential</td>
<td>15</td>
<td>100.0%</td>
</tr>
<tr>
<td>Market garden</td>
<td>3</td>
<td>33.3%</td>
</tr>
<tr>
<td>Intensive equine</td>
<td>8</td>
<td>87.5%</td>
</tr>
<tr>
<td>Equine agistment</td>
<td>5</td>
<td>40.0%</td>
</tr>
<tr>
<td>Grazing</td>
<td>49</td>
<td>28.6%</td>
</tr>
<tr>
<td>Fodder cropping</td>
<td>6</td>
<td>16.7%</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>100.0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>87</strong></td>
<td><strong>47.1%</strong></td>
</tr>
</tbody>
</table>

Source: APA 2019

**Nearby land**

There are many other private dwellings within Hastings and in rural areas located near the pipeline alignment. The amenity of these dwellings may be temporarily affected by construction works. The Hastings Cove Retirement Village is located in close proximity to one of the proposed HDD drilling entry/exit points (see Figure 6-6 and Figure 6-7, label A3). The village is aimed at the needs of retirees aged 50 years or over who wish to live in a fully maintained village offering opportunities for social contact within a village community. Residents live independently within the village and do not have complex medical or care needs. Car ownership among residents is comparable with the general population, indicative of a high level of independence among residents.
PART 3 – ASSESSMENT

Part 3 of the SIA provides an assessment of the impacts associated with the Project. Part 3 comprises of:

▪ Impact assessment (Sections 7 to 10).
▪ Summary and conclusion. (Section 11).
Impact assessment

This section provides an evaluation of the likely social effects and impacts (positive and negative) of the construction and operation of the Project, using the methodology discussed in Section 3.

The Project comprises two related yet discrete elements, the Gas Import Jetty Works and the Pipeline Works. Each set of works would result in physical changes in the vicinity of the works which have potential implications for a range of individuals and groups. Associated impacts are identified below under the following headings:

- Gas Import Jetty Works - social impacts arising from:
  - Potential changes to bio-physical processes in Western Port.
  - Alterations to access and amenity.
- Pipeline Works - social impacts arising from:
  - Occupation of private land.
  - Alterations to access and amenity.
- All Works - social impacts arising from:
  - Alterations to socio-economic conditions.

As the list above indicates, some changes and impacts can be clearly associated with the Gas Import Jetty Works (Section 9) or the Pipeline Works (Section 10). However, some changes and impacts cannot be clearly attributed to either Project element and are therefore discussed separately in the final section of the assessment (Section 11).

7.1 Potential impacts during Project development

Social impacts can occur during the planning and development phase of a project, and in the case of this Project, it has elicited concern and opposition within sections of the community. A full summary of the outcomes of the consultation process is provided in Chapter 26 of the EES. In the context of the subsequent sections of the SIA, it is noted that some of the individuals who have been consulted by AGL and APA and/or who were engaged as part of the preparation of this SIA, have expressed concern about the Project's potential effects. Impacts on private property, public safety and the environment of Western Port were the most commonly raised.

The issues raised by individuals and groups during the Project planning and development phase has informed the assessment of the likely social effects and impacts associated with construction and operation of the Project outlined in the following sections.
8 Gas Import Jetty Works

8.1 Bio-physical processes in Western Port

8.1.1 Construction

Construction activity associated with the Gas Import Jetty Works would not produce a significant, ongoing risk to bio-physical processes in Western Port and the concerns of the community are focused primarily on the operational phase.

8.1.2 Operation

Changes

Operation of the Gas Import Jetty Works has potential to influence bio-physical processes within Western Port. For this reason, the Project’s potential influence on the environment of Western Port has been assessed in detail. EES Technical Report A: Marine biodiversity impact assessment indicates that the Project would:

- Discharge of residual chlorine and seawater which differs in temperature to the ambient water. The region where water temperatures and/or chlorine concentrations would be affected is near the FSRU and within the existing port area, including areas previously subject to dredging. The strong tidal currents around Crib Point would facilitate mixing of wastewater discharge to below relevant guideline values within a contained area. There would be no exceedances of guideline values beyond the contained area and would not impact negatively on more sensitive ‘environmental segments’ (i.e. mangroves, saltmarsh, seagrasses, water birds, fish, etc.).

- Entrain plankton and other small biota in seawater taken into the FSRU. However, the risk of adverse impacts from entrainment would be low and entrainment is unlikely to have significant implications for Western Port’s ecosystem, including fish stocks.

Impacts

Residents of communities located near Western Port (and across a broader area) have expressed concern about the Project’s potential impact on Western Port’s environmental values. These concerns have already motivated individuals and groups to engage with the planning process, including by attending community meetings and making submissions during the EES process. Material changes to the area’s environment and ecology are commonly thought to be unacceptable.

The technical assessment of potential impacts of the Project on Western Port’s marine ecology concludes that changes to the marine environment would be localised and would not have significant implications for Western Port’s ecosystem. This assessment may assist some in the community to become more comfortable with the Project.

However, the studies which have been undertaken may not satisfy all who have expressed concerns, particularly those who have questioned the proponent’s capacity to accurately model and understand the effects of the Project. As a result, if the Project proceeds, it can be expected that the community’s interest in the Project and its potential environmental effects would persist for an extended period. Notwithstanding, the ongoing safe operation and maintenance of the Works would gradually alleviate community concerns, and this would be assisted by communicating the results of environmental monitoring to the community.
In the above context, it is noted that a monitoring program would be developed to ensure that the assumptions used in the EES investigations are justified, the actual environmental impacts are not greater than was predicted and that unexpected circumstances are detected and responded to appropriately. This would include monitoring the rates and characteristics of discharges and plankton sampling at the inlet and discharge to confirm the rate of entrainment of zooplankton and fish larvae.

Table 8-1: Operation impacts, bio-physical processes - Gas Import Jetty Works

<table>
<thead>
<tr>
<th>Receptor</th>
<th>Potential impacts</th>
<th>Magnitude</th>
<th>Importance</th>
<th>Rating</th>
</tr>
</thead>
</table>
| Communities of the Mornington Peninsula and Western Port | Some in the community may continue to hold concerns regarding the Project and its potential environmental impacts, until such time that the Project can demonstrate a safe and effective operational history. These concerns may cause worry and stress and for some may motivate active opposition to the Project. | • Little to no change  
• Greater than 10 years  
• Parties across a wider area | • Ranging from somewhat acceptable to unacceptable  
• Receptors have capacity to cope. | • Minor-Moderate Negative |
| Recreational Fishing Participants | Technical studies indicate that the Project would not affect fish stocks. It is not anticipated that there would be significant changes to fishing conditions in Western Port as a result of the Project. | • Negligible Change  
• 3 months to 1 year  
• Parties across a wider area | • Somewhat acceptable  
• Receptors have capacity to cope. | • Negligible |

**Mitigation**

- Make the results of environmental monitoring available to the community.
8.2 Access, amenity and safety

8.2.1 Construction

Changes

The Gas Import Jetty Works involve construction activity which has potential to temporarily influence the accessibility and amenity of nearby areas. The magnitude and distribution of these changes are expected to be as follows:

- **Noise** - Construction activity associated with the Gas Import Jetty Works would generate noise. At times during the anticipated 12-18 month construction period, locations within approximately 800 metres of the proposed Crib Point Receiving Facility are predicted to experience noise levels of up to 65 dB LAeq (15min), and locations within 100 metres are predicted to experience noise levels of up to 74 dB LAeq (15min). These types of noisy events would be intermittent and predicted noise levels are based on the assumption that all noisy plant would be operating at the same time. Generally, noise levels from construction at Crib Point would be substantially less than the predicted worst-case noise levels described above.

Noise would also be generated by PoHDA works to upgrade the Crib Point Jetty, and these works may occur at the same time as the works associated with the Project. Significant cumulative noise levels would be generally limited to areas within approximately 200 metres of the Jetty. As above, noise levels would typically be lower than the worst-case predictions presented in EES Technical Report H: Noise and vibration impact assessment (see noise contours provided as part of EES Technical Report H: Noise and vibration impact assessment).

- **Visual** – Construction activity would be visible from a limited number of locations with a clear line of sight to the Crib Point Jetty and the proposed Crib Point Receiving Facility. Existing screening vegetation would be retained as far as reasonably practicable (see EES Technical Report I: Landscape and visual impact assessment).

- **Traffic** – There would be temporary increases in traffic on nearby roads such as the Esplanade and Woolleys Road associated with construction vehicles travelling to and from Crib Point Jetty and associated landside area (see EES Technical Report J: Transport impact assessment). Traffic levels on all affected roads including the Esplanade would remain well below the capacity of affected roads (that is, uncongested flow conditions would exist even during construction). A Traffic Management Plan would be prepared and implemented for construction and would include specific measures for discrete components or stages of the works having the potential to impact on roads, shared use paths, bicycle paths, footpaths or public transport infrastructure.

- **Access** - The waterside restriction zone around the Crib Point Jetty would be actively enforced. In addition, PoHDA land would be fenced and an informal track currently used to access fishing groynes to the north of the Crib Point Jetty would be severed. However, the groynes could be accessed by tracks on public land approximately 100m to the north.

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7 To provide context, it is noted that Project Noise Outdoor Objectives range from 60 dB(A) to 75 dB(A), for different receivers.
**Impacts**

Disruptions to existing lifestyles and activities resulting from altered amenity during construction would be temporary (12 to 18 months) and are minimised by the absence of residential dwellings in close proximity to the Works, and the ‘industrial’ visual character of Crib Point. Notwithstanding, the changes may have implications for the residents of a small number of dwellings as well as several existing social and recreational activities (see Table 8-2 below). In the majority of cases, affected social and recreational activities (such as recreational boating) would be able to continue in their current form and/or participants have the option of undertaking their activities in other locations, with little inconvenience. Of some note however are the following:

- **Woolleys Beach** – the use and enjoyment of Woolleys Beach, and in particular, Woolleys Beach North, would be affected by construction noise and visual changes. As outlined in EES Technical Report H: *Noise and vibration impact assessment* there may be periods where the noise level is up to 20 dB above the existing ambient noise levels, which could intermittently reduce acoustic amenity. Some activities that occur within the reserve, particularly those which rely on access to a quiet setting, may be displaced.

  Woolleys Beach is a locally significant foreshore area used for walking, swimming and kayaking, as well as a location to gather and socialise. The area is used primarily by the local population of Crib Point, but also attracts school groups and visitors from further afield who are interested in the flora and fauna within the reserve. The local community enjoy the vista and tranquillity the area provides and commonly visit the location at sunset.

  Recreational activities (such as walking and fishing) and social activities (such as barbecues) which occur at Woolleys Beach could occur at alternate locations. However, there are no other foreshore reserve locations in the local area which offer comparable amenity. Local residents who use and value the area are very keen to see the useability of Woolleys Beach maintained.

- **Victorian Maritime Centre** - At times during the construction period, noise levels may have the potential to lower internal amenity at the Centre. The facility is open to the public on Saturdays and Sundays only (10am to 3pm), limiting exposure. However, assuming construction is limited to normal working hours, construction noise may interfere with the use and enjoyment of the Centre between 10am and 1pm on Saturdays. Without mitigation, the Centre may need to adjust its operating hours to ensure adequate amenity for visitors.

  Some visitors to the Maritime Centre also visit the HMAS Otama Lookout Beach, which is located immediately to the east. The beach offers views of the HMAS Otama, which is moored in Western Port. The lookout would also be affected by construction noise which may reduce the appeal of the location.

**Mitigation**

- Consult with operators and/or users of community facilities and open spaces to determine the most appropriate timing of construction activities to minimise disturbances.

- Minimise noise emissions during construction of the Project, in accordance with the mitigation measures for noise impacts as set out in EES Technical Report H: *Noise and vibration impact assessment*. 
Table 8-2: Construction impacts, access, amenity and safety - Gas Import Jetty Works

<table>
<thead>
<tr>
<th>Receptor</th>
<th>Potential impacts</th>
<th>Magnitude</th>
<th>Sensitivity</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boating Participants (general)</td>
<td>▪ Access to recreational boating facilities would not be affected by the Project and therefore any disruptions to existing boating activity would result from changes to amenity only. ▪ At times during construction, noise levels would be sufficiently high near Crib Point within 200 metres of the Crib Point Jetty (noting that the existing waterside restriction zone is 100 metres and the proposed extended restriction zone would be 200 metres) to reduce the attractiveness of the location for recreational boating. During these periods of noisy works, casual boating activity may move elsewhere within Western Port.</td>
<td>▪ Moderate Change  ▪ 12-18 months ▪ Parties across a wider area</td>
<td>▪ Somewhat acceptable ▪ Receptors have capacity to cope.</td>
<td>▪ Minor Negative</td>
</tr>
<tr>
<td>Boating Participants (fishing)</td>
<td>▪ In the past, some fishing has occurred within the Crib Point Jetty’s waterside restriction zone which have not been actively enforced. Enforcement of the waterside restriction zone may frustrate those who enjoy fishing in the affected waters. Notwithstanding the area affected is relatively small and fishing could continue in waters near Crib Point. ▪ The attractiveness of waters near Crib Point may be reduced at times. Participants motivated primarily by catching particular target species could continue to access the ‘premium’ fishing grounds in the immediate surrounds. Others may choose to fish at other locations within Western Port.</td>
<td>▪ Slight Change  ▪ 12-18 months ▪ Discrete section of local community</td>
<td>▪ Somewhat acceptable ▪ Receptors have capacity to cope.</td>
<td>Negligible</td>
</tr>
<tr>
<td>Boating Participants (Yachting)</td>
<td>▪ Formal yachting races which occur in Western Port near the Crib Point Jetty could continue during the construction activities. Organisers and participants may choose to avoid locations in close proximity to the Crib Point Jetty.</td>
<td>▪</td>
<td>▪</td>
<td></td>
</tr>
<tr>
<td>Receptor</td>
<td>Potential impacts</td>
<td>Magnitude</td>
<td>Sensitivity</td>
<td>Rating</td>
</tr>
<tr>
<td>----------</td>
<td>-------------------</td>
<td>-----------</td>
<td>-------------</td>
<td>--------</td>
</tr>
<tr>
<td><strong>Boating Participants</strong> (Kayaking)</td>
<td>▪ Kayakers may avoid the immediate vicinity of the Gas Import Jetty Works during periods of noisy works. ▪ Active enforcement of the existing waterside restriction zone during construction would mean that kayakers could not travel under the Crib Point Jetty between Crib Point and Hastings. The trip around the Crib Point Jetty may be perceived to be too long and dangerous, and the existing (unauthorised) route between Hastings and Woolleys Beach would be severed. Kayaking activity may migrate to other parts of Western Port and/or the nature and purpose of kayaking trips launched at Woolleys Beach may change (i.e. launched from Woolleys Beach South, local in nature, etc.). The same outcome would occur if the waterside restriction zone was actively enforced for other reasons.</td>
<td>Moderate Change</td>
<td>Undesirable</td>
<td>Minor Negative/Negligible</td>
</tr>
<tr>
<td><strong>Users of Woolleys Beach</strong></td>
<td>▪ Changes to amenity (acoustic amenity in particular) at Woolleys Beach North would be considerable and diminish the appeal of this location as a passive recreational area and gathering place. Recreational and social activity which occurs at the location may migrate elsewhere, including potentially to Woolleys Beach South. ▪ Changes to amenity at Woolleys Beach South would be less significant. Notwithstanding, at times noise levels at this location may be sufficient to reduce the appeal of the location and some existing usage may migrate elsewhere or cease during construction. ▪ An existing informal track on PoHDA land which is used to access groynes for fishing would be severed. However, the groynes could be accessed by tracks on public land approximately 100m to the north. An area within approximately one metre of the proposed boundary fence would be cleared of vegetation and fishers could also walk along this cleared line to access the groynes. Construction noise may discourage use of the groynes for fishing during the construction phase.</td>
<td>Very Large Change</td>
<td>Undesirable</td>
<td>Moderate Negative</td>
</tr>
<tr>
<td><strong>Users of Victorian Maritime Centre</strong></td>
<td>▪ If construction is limited to normal working hours, construction noise, traffic, etc. may potentially interfere with the use and enjoyment of the facility between 10am to 1pm on Saturdays (or up to 30% of the Centre’s public access hours) (work would be intermittent throughout the construction period). The Centre would potentially have to adjust its operating hours during the construction to ensure visitors can enjoy adequate amenity. ▪ Some visitors to the Maritime Centre often also visit the HMAS Otama Lookout Beach, which is located immediately to the east. The beach offers views of the HMAS Otama, which is moored in Western Port. The lookout would also be affected by construction noise which may reduce the appeal of the location.</td>
<td>Large change</td>
<td>Undesirable</td>
<td>Moderate Negative</td>
</tr>
</tbody>
</table>
There is a significant buffer between the Gas Import Jetty Works and the nearest residential dwellings (approximately 600 metres). As result, construction noise would not exceed Project noise criteria at any dwellings. However, construction noise would be audible at times at nearby dwellings. The nearest dwellings are to the north along the Esplanade, and within the Low Density Residential Zone (LDZ). These dwellings offer their inhabitants a high level of visual and acoustic amenity. At times during the construction period, construction noise may cause minor disturbance for these residents, particularly when using outdoor areas.

Construction of the Gas Import Jetty Works would result in a temporary change in the number of heavy and light vehicles using The Esplanade each day. Although the number of construction related vehicles using The Esplanade each day would vary, it is expected that noise from these additional vehicles would not materially alter noise levels at these dwellings.
8.2.2 Operation

Changes

- Noise – Project related noise emissions would occur as a result of the FSRU operations and intermittently during the arrival and departure of LNG carriers. Noise levels are expected to be greatest during the mooring of an LNG carrier while FSRU regasification is occurring. If mitigation is applied, the noise would have potential to result in a material reduction in amenity of users of land within approximately 600-800 metres of Berth 2 (noise contours are provided as part of EES Technical Report H: Noise and vibration impact assessment).

- Visual - The Gas Import Jetty Works would intensify the ‘industrial’ visual character of the immediate environs of the Crib Point Jetty. Lighting from the FSRU, LNG Carrier and Crib Point Receiving Facility would result in ‘highly detectable alterations’ to views from several vantage points near Crib Point (a detailed assessment is provided in EES Technical Report I: Landscape and visual impact assessment).

- Traffic – There would be a small increase in traffic (including heavy vehicle traffic) on local roads such as The Esplanade during operation (a detailed assessment is provided in EES Technical Report J: Transport impact assessment). As a worst case assumption, The Esplanade and Woolleys Road are expected to carry an additional 50-60 light vehicle movements and 10 to 12 heavy vehicle movements per day if the workforce commuted on a daily basis and continuous nitrogen and odorant deliveries were being made. Light vehicle movements would be significantly less if the workforce lived aboard the FSRU. Even at worst case assumptions, the projected increases are well within the carrying capacity of the affected roads.

- Access - The waterside restriction zone around the Crib Point Jetty is proposed to be extended by 100 metres to the east and south and actively enforced (see Figure 6-6) and the fencing of PoHDA land installed during construction would be retained. Shipping traffic in Western Port (see Figure 6-1) would increase by 12 to 40 movements per annum.

- Safety – The Jetty works would create a very small risk of injury or death in nearby areas due to an incident. To illustrate, the risk of a fatality at Woolleys Beach North as a result of the operation of the Project has be estimated to be approximately 3 fatalities per million years, notably lower than the relevant standard for open space areas (10 fatalities per million years) (see EES Technical Report K: Safety, hazard and risk assessments).

Impacts

The operational phase of the Gas Import Jetty Works would result in permanent changes to the amenity of areas in close proximity to the Works. As with construction, the absence of residential dwellings in close proximity to the Works reduces the potential for social impacts due to altered amenity, although there may be implications for some residents and social groups (see Table 8-3). Of note:

- Noise emissions combined with visual changes (including lighting), may alter the pattern of use of Woolleys Beach Reserve including the groynes to the north which are used for fishing, with activity potentially migrating south to Woolleys Beach South and/or displaced to other locations. The facilities available at Woolleys Beach South are comparable with Woolleys Beach North in most respects, although there are exceptions (for example, there are no public toilets at Woolleys Beach South). As a result, this location may not respond to the needs of all user groups displaced from Woolleys Beach North.
As discussed above, Woolleys Beach is a locally significant foreshore area and there are no other foreshore reserve locations in the local area which offer comparable amenity. Many people in the local community value Woolleys Beach and may view the proposed changes in a negative light.

- Residents who occupy dwellings located to the north of the Works along The Esplanade may experience reduced residential amenity. While operational noise levels can be mitigated such that a high level of acoustic amenity is maintained, lighting from the FSRU would be visible. Existing residents have expressed a high level of sensitivity to lighting associated with the United Petroleum vessel, which affects the dwellings in question intermittently. In this context, the presence of a permanent light source in the mainly dark setting may be an unwelcome change and it may adversely impact the amenity enjoyed by the occupants of affected dwellings.

**Mitigation**

- Manage noise emissions and lighting/glow during operation of the Project, in accordance with the recommendations set out in the Noise Impact Assessment and LVIA.

- In consultation with Crib Point Stony Point Committee of Management Inc. and the community, identify a suitable foreshore location to accommodate activity displaced from Woolleys Beach North. Develop comparable recreational infrastructure to that found at Woolleys Beach North at the replacement site, as required.

- Make information relating to potential risks to human health and safety available to the public as required.
### Table 8-3: Operation impacts, access, amenity and safety - Gas Import Jetty Works

<table>
<thead>
<tr>
<th>Receptor</th>
<th>Potential impacts</th>
<th>Magnitude</th>
<th>Importance</th>
<th>Rating</th>
</tr>
</thead>
</table>
| Boating Participants (general)        | ▪ Access to recreational boating facilities would not be affected by the Project, and the expected increase in commercial shipping movements would be minor (lower than the observed historical fluctuation in movements). That is, any disruptions to existing boating activity would result from changes to amenity only.  
▪ Waters near the Crib Point Jetty are used by boating participants motivated by a desire to relax and enjoy the natural beauty of the area. Visual changes and operational noise may alter the character of the immediate environs of the Crib Point Jetty and may reduce the attractiveness of the location for recreational boating. While operational noise would not prevent the use of waters near the Crib Point jetty, some boating activity may migrate to other locations. | Slight Change  
▪ >10 Years  
▪ Parties across a wider area | Somewhat acceptable  
▪ Receptors have capacity to cope. | Minor Negative |
| Boating Participants (fishing)        | ▪ Operational noise would not prevent the use of waters near the Crib Point Jetty, although the appeal of the location may be lowered for some. However, targeted fishing near Crib Point would likely continue by those motivated primarily by accessing the premium fishing grounds in this area. | Little to no change  
▪ >10 Years  
▪ Discrete section of local community | Neither desired or resisted  
▪ Receptors are unaffected. | Negligible |
| Boating Participants (yachting)       | ▪ Formal yachting races which rely on waters near the Crib Point Jetty could continue largely unaffected. Race organisers would, as is the current practice, need to take into account planned shipping movements in the commercial channels, including those associated with the Project. Participants would need to be aware of the extended waterside restriction zone to the east of the Crib Point Jetty. | | | |
| Boating Participants (Kayaking)       | ▪ At times, kayakers may avoid the immediate vicinity of the Gas Import Jetty due to noise emissions.  
▪ Active enforcement of the existing waterside restriction zone would continue and the waterside restriction zone would be extended, permanently severing the (unauthorised) route between Hastings and Woolleys Beach. The same outcome would occur if the waterside restriction zone was actively enforced for other reasons.  
▪ The nature and purpose of kayaking trips launched at Woolleys Beach may change (i.e. launched from Woolleys Beach South, local in nature, etc.). | Slight  
▪ >10 years  
▪ Discrete sections of local community | Undesirable  
▪ Receptors have capacity to cope. | Minor Negative |
<table>
<thead>
<tr>
<th>Receptor</th>
<th>Potential impacts</th>
<th>Magnitude</th>
<th>Importance</th>
<th>Rating</th>
</tr>
</thead>
</table>
| Users of Woolleys Beach                  | ▪ Noise emissions combined with visual changes may alter the character of Woolleys Beach North. Although there would be no detectable light spill from the FSRU, lighting from the FSRU may affect the amenity of Woolleys Beach for users who visit around dusk and into the early evening. Amenity changes may displace some existing activity.  
▪ The amenity of Woolleys Beach South would not be reduced to the same degree as Woolleys Beach North (noise levels would be lower and visual changes would be screened by intervening vegetation). The area may continue to be used for recreational and social purposes by some user groups. However, the facilities at Woolleys Beach South are not identical to those at Woolleys Beach North (for example there is no public toilet) and therefore the location may not be suitable to accommodate all activities displaced from Woolleys Beach North.  
▪ The pattern of use of the Woolleys Beach Reserve may be altered by the Project, with activity migrating southward to Woolleys Beach South and/or displaced to other locations. | Large Change >10 Years Many within a local community | Detrimental Receptors have capacity to cope | Negative       |
| Users of Victorian Maritime Centre       | ▪ Operational noise may be perceptible outside the Victorian Maritime Centre and may be perceived to negatively affect amenity in this location. However, the public could continue to access and enjoy the functions which the facility provides, with minimal interruption.  
▪ Views of Western Port from the Centre across the proposal site would be altered. However, these changes would not interfere with the use and enjoyment of the facility.  
▪ During LNG carrier mooring, operational noise would be audible along the track linking the Maritime Centre and the HMAS Otama Lookout Beach, and at the lookout site. Noise levels would be notably higher than existing. However, the existing activity is not particularly sensitive to noise, and would likely continue. | Slight Change >10 Years Parties across a wider area | Somewhat acceptable Receptors have capacity to cope | Minor Negative |
<table>
<thead>
<tr>
<th>Receptor</th>
<th>Potential impacts</th>
<th>Magnitude</th>
<th>Importance</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residents</td>
<td>Noise emissions and lighting from the FSRU may affect residential amenity for a small number of dwellings located to the north and within the Low-Density Residential Zone. While operational noise may be audible at the dwellings, noise mitigation strategies identified in Technical Report H: Noise and vibration impact assessment, would ensure that residents continue to enjoy a high level of acoustic amenity. Lighting from the FSRU would be visible at dwellings located to the north along the Esplanade and in particular the dwelling located at 103 the Esplanade. Night time views at these dwellings are largely characterised by darkness, a visual setting that is valued by the residents. The exception to this is when the United Petroleum vessel is docked. The lighting associated with United Petroleum vessel is reported to significantly detract from residential amenity at these dwelling locations, suggestive a high level of sensitivity to the changes that would result from the Works. Affected residents and in particular the resident of 103 the Esplanade may experience reduced satisfaction with their residential amenity if the Works proceed. Notwithstanding, the property would remain habitable.</td>
<td>Moderate Change</td>
<td>Undesirable</td>
<td>Minor-Moderate Negative</td>
</tr>
<tr>
<td>All Users of Land/waters in proximity to the Works</td>
<td>The Gas Import Jetty Works would result in a very small increase in the risk of injury or death as a result of an accident, in locations in close proximity to the Gas Import Jetty Works. Concerns regarding safety may be held. However, actual risks are very low and concerns would be alleviated during the ongoing safe operation and maintenance of the Works.</td>
<td>Little to no change</td>
<td>Somewhat acceptable</td>
<td>Negligible - Minor Negative</td>
</tr>
</tbody>
</table>
9 Pipeline Works

9.1 Occupation of private land

9.1.1 Construction

Changes

The Pipeline Works would involve the temporary occupation of numerous private land holdings along the pipeline alignment spanning 57 kilometres. Many of the properties traversed by the alignment are owned by individuals, families and/or small businesses (approximately 87) (see Table 6-5).

Where land is to be occupied, an approximately 30 metre wide pipeline construction right of way (ROW) would be established within which the pipeline would be constructed. The construction of the entire pipeline would take approximately 12 months. Work would occur at each affected property over a period of 3-4 months and land would be remediated immediately post construction of each section. The construction ROW may take up to two years to fully rehabilitate in some areas along the pipeline alignment, depending on ground conditions. Land occupation may result in temporary exclusion from occupied land, land severance and/or relocation of infrastructure (tracks, waterlines, fences, drains etc.) from the occupied area.

In many cases, the pipeline alignment runs along property boundaries/fence lines or follows the alignment of an existing pipeline easement. Various amendments to the pipeline alignment have been negotiated and agreed with landholders to ensure particular sensitivities are avoided or a less-impacting alignment is adopted where feasible. In addition, landholders would be compensated for the impact of the occupation of their land (both during construction and ongoing after the pipeline works are completed) in accordance with the Pipelines Act 2005 (Vic). Compensation may take the form of monetary payments and/or works to permanently or temporarily relocate infrastructure, structures, functions, etc.

Impacts

The land affected by the pipeline alignment is used in a variety of ways, including rural lifestyle accommodation, hobby farms, intensive agriculture, high value equine enterprises, as well as grazing, horse agistment and cropping. Likewise, there is substantial variation across the affected properties in terms of the percentage of total land holding to be occupied by the 30m ROW (i.e. depending upon the size of each property), the location of the occupied land within the affected property, and consequently the implications for the use and enjoyment of the property by the current owners. Notwithstanding, in most cases the implications of land occupation for landholders would be temporary and land owners would be compensated for any interference in the use and enjoyment of their land. Of some note however:

- All affected landholders would be required to continue their dealings with the Project proponent and its contractors during the construction process, placing an impost on personal time and energy. In some cases, affected landholders have grown tired of the consultation process and/or have recently dealt with negotiations relating to other pipeline easements, and may find the continued dealings stressful.

- In some cases, agreement may not be reached regarding compensation for land occupation. If this occurs, affected landholders may feel that the construction process is having an unreasonable impact on their commercial activity and/or lifestyle, and this may be a significant source of stress.
In a minority of cases, significant restructuring of commercial operations and/or temporary relocation of commercial functions may be required, placing a notable strain on the time and energies of those affected.

It is noted that many landholders live on their land and may experience temporary reductions to residential amenity in addition to impacts relating to land occupation and this may inflame frustrations associated with the above (see Section 9.2).

**Mitigation**

- Consult with directly affected landholders to ensure impacts associated with the construction phase of the Pipeline Works are minimised and/or that compensation reflects and takes into account the specific impacts on each landholder.

- Develop ‘Property Management Plans’ in consultation with Landholders and Occupiers of affected properties to work collaboratively to minimise the physical impacts during the construction and reinstatement works.

**Table 9-1: Construction impacts, occupation of private land – Pipeline Works**

<table>
<thead>
<tr>
<th>Receptor</th>
<th>Potential impacts</th>
<th>Magnitude</th>
<th>Importance</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>• Owner/occupiers of the affected land holdings would be required to continue their dealings with the proponent and its contractors during the construction process, placing a burden on personal time, and potentially being the source of irritation and stress. • Where agreements have not been reached voluntarily, affected landholders may feel that the construction process is having an unreasonable impact on their use and enjoyment of their land, and this may be a significant source of stress.</td>
<td>Moderate change 2 to 3 years Parties across a district</td>
<td>Undesirable Receptors have capacity to cope</td>
<td>Moderate Negative</td>
</tr>
<tr>
<td>Owners/ Occupiers of Lifestyle Properties</td>
<td>• Loss of access to land would be unlikely to disrupt lifestyle related uses of the land. However, the construction process in some cases may delay plans to develop a property.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Owners/ Occupiers of Commercial Properties</td>
<td>• In many cases, compensation received for disruptions to commercial activity would have been agreed voluntarily and construction would not necessitate fundamental restructuring or relocation of commercial functions. • In a small number of cases significant restructuring of commercial operations and/or temporary relocation of functions may be required, placing additional strain on the time and energies of those affected.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 9.1.2 Operation

#### Changes

At the completion of the construction period, the affected land would be remediated/re-instated as far as practicable in line with commitments made in each Property Management Plan and/or compensation would be paid to the property owner for the purchase of the easement interest.

During operation, restrictions would be placed on the use of land within the pipeline easement (no structures can be built and there are restrictions on deep digging) and marker posts would be placed on affected land to identify the pipeline easement at road crossings and other key locations. Operational access gates or crossings may also be installed within the easement along fencelines as required.

#### Impacts

In the majority of cases, the Pipeline Works would have little to no material implications for the ongoing use and enjoyment of the affected properties by existing landholders. If there are ongoing implications, (for example, if land can no longer be used in the way it is currently) landholders would be eligible for compensation to offset the impacts. However, if an affected landholder considers that the pipeline easement interferes with the use and enjoyment of their land and they are dissatisfied with the compensation they receive, this may lead to resentment and stress. Examples include:

- If intangible factors underpin landholder expectations regarding compensation (for example, if the landholder has an emotional attachment to the land, if the landholder believes easement markers reduce the aesthetic appeal of the land, etc.).
- If land is held for speculative purposes and the pipeline easement is considered to reduce the development potential of the land.

Several cases were identified where one or more of the above factors may apply.

#### Mitigation

- Consult with directly affected landholders to ensure impacts associated with the operational phase of the Project are minimised and/or that compensation reflects the specific impacts on each landholder.

Table 9-2: Operation impacts, occupation of private land – Pipeline Works

<table>
<thead>
<tr>
<th>Receptor</th>
<th>Potential impacts</th>
<th>Magnitude</th>
<th>Importance</th>
<th>Rating</th>
</tr>
</thead>
</table>
| All      | ▪ In most cases ongoing implications for use and enjoyment of affected properties would be minimal and/or compensation would be provided.  
▪ In a minority of cases landholders may be dissatisfied with the compensation process and hold an ongoing resentment towards the Project.  
▪ Concerns regarding safety may be held, particularly by those who live on the affected land. However, actual risks are very low and concerns would be alleviated during the ongoing safe operation and maintenance of the pipeline. | ▪ Slight change  
▪ >10 years  
▪ Parties across a district | ▪ Somewhat acceptable  
▪ Receptors have capacity to cope | Minor |
### 9.2 Access, amenity and safety

#### 9.2.1 Construction

**Changes**

The pipeline alignment would extend for approximately 57 kilometres and traverse land supporting a variety of land uses, including the urban area of Hastings. In Hastings, the alignment largely follows the VicTrack rail corridor, in order to reduce the potential of open cut trenching to affect local businesses and traffic.

Three main construction methodologies would be employed, open trenching, horizontal directional drilling (HDD) and thrust boring.

- Open trenching would be used for approximately 47 kilometres of the total pipeline alignment. Construction noise and dust associated with trenching has the potential to significantly affect the amenity of nearby areas:
  - Areas located within approximately 50 metres of the construction front would experience the highest noise levels (may exceed Project noise criteria) and substantially elevated noise levels (greater than 10 db(a) increase) may be experienced in areas within 200 to 250 metres. Construction noise may be audible across a wider area (see noise contours provided in EES Technical Report H: Noise and vibration impact assessment).
  - In rural areas open cut trenching would involve discrete stages. It would take approximately 12 months to construct the entire pipeline. Work associated with each stage would move along the pipeline alignment at a rate of approximately 800 metres per day. In rural areas, a receiver located in close proximity to the construction front may potentially experience reduced amenity for 1 to 3 days during each stage of construction over a period of 3 to 4 months. Vegetation clearing, stringing and bending, trenching and lowering in are the construction stages which are expected to result in the greatest reductions in amenity due to construction noise.

#### Table 9-3: Pipeline construction stages

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description of construction activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey, service locating and fencing</td>
<td>Survey the pipeline route, and existing services within the alignment, and install gates in fences to allow access during construction.</td>
</tr>
<tr>
<td>Vegetation clearing</td>
<td>Clearing of foliage within 30-metre right of way along pipeline route.</td>
</tr>
<tr>
<td>Clear &amp; grade</td>
<td>Graders, bulldozers and excavators clear and prepare the right-of-way</td>
</tr>
<tr>
<td>Stringing &amp; bending</td>
<td>Steel pipes are hauled by truck to the section of pipeline. The pipes are laid end to end and bent to match the terrain or direction of the pipeline route.</td>
</tr>
<tr>
<td>Mainline welding</td>
<td>Pipes are welded above ground.</td>
</tr>
<tr>
<td>Coating</td>
<td>Welds are grit blasted and covered with a protective coating to protect against any mechanical impacts.</td>
</tr>
<tr>
<td>Trenching</td>
<td>A trench is dug for the pipeline to be laid in.</td>
</tr>
<tr>
<td>Lowering in</td>
<td>Welded sections of pipeline are lowered in to the trench using sideboom machinery.</td>
</tr>
<tr>
<td>Backfill</td>
<td>The trench is backfilled. The soil is then compacted.</td>
</tr>
<tr>
<td>Fence reinstatement</td>
<td>Pre-existing fence lines and gates would be reinstated.</td>
</tr>
</tbody>
</table>
The easement would be restored to its original state where possible, leaving a 15m wide operational easement along the pipeline. Temporary fencing is removed in line with agreement.

- In built up areas such as Hastings, all construction stages would be completed simultaneously and as a result the construction front would move at a slower pace (24m to 55m per day). A receiver located in close proximity to the construction front may experience reduced amenity approximately 10 days (depending on weather conditions and other factors).

- Where open trenching crosses a road, this would require a temporary road closure, typically lasting up to 48 hours. In Hastings it is estimated that the Esplanade, Haddock Street and Whitney's Road (all local access) would be temporarily closed due to open trenching (access for property owners would be maintained, where possible). This may result in the temporary closure of 1 to 2 bus stops on Bus routes 782 and 783.

- There would also be short term changes to road conditions in rural areas, with disruptions to access tracks and driveways minimised.

- In the case of potential dust emissions, Technical Report G: *Air quality impact assessment* indicates that emissions can be appropriately managed through implementation of the recommended environmental management measures.

- Horizontal Directional Drilling (HDD) would be used for approximately 8 kilometres of the total pipeline alignment, including 2.6 kilometres within the Hastings urban area. This process would be utilised for 20 separate sections each with its own entry and exit point (five sections are located in Hastings). Construction noise associated with HDD has the potential to significantly affect the amenity of areas near the entry and exit points:

  - Areas located within approximately 300 metres of the HDD entry and points would be most affected by construction noise, and construction noise may be audible across a wider area. However, with implementation of site-specific screening, the range and intensity of noise emissions would be significantly reduced (see noise contours provided in EES Technical Report H: *Noise and vibration impact assessment*).

  - In relation to each HDD, high noise levels would occur intermittently over a period of approximately 6 weeks (subject to ground conditions and weather) and would potentially last for extended periods (i.e. 24 hours a day for one to three weeks).

- Thrust Boring would be used in selected sections of the pipeline alignment, where there is a need to cross roads, railways, and rivers and where open trenching methods are not suitable due to terrain, geotechnical conditions, environmental constraints, etc.

In addition to the above:

- Construction activity would generate additional traffic on roads in Hastings and surrounding areas. However, during the peak of construction activity (lasting several weeks), all roads expected to carry construction related traffic would operate well under their operational capacity.

- Construction compounds would be established at Crib Point, Woolleys Road, Koo Wee Rup and Denham Road. The compounds would be used to store plant machinery.

- Construction activity associated with the Pakenham Delivery Facility also has the potential to generate noise and dust which may affect nearby areas.
Impacts

Construction activity has the potential to interfere with the use and enjoyment of residential homes and neighbourhoods, as well as community facilities, open spaces and other places of congregation (see Table 9-4). However, the construction period would be relatively short (less than one year) and due to the linear nature of the Pipeline Works, particular receptors would experience changes to amenity and access for only part of this period (1-3 days for each construction activity in most cases). Notwithstanding, in some cases changes to amenity and access have the potential to result in notable social impacts:

- During construction, residential amenity may be affected for a large number of people living in Hastings, and smaller numbers elsewhere along the alignment. Noise generated by HDD drilling and open trenching activities have the potential to result in nuisance for residents and in a limited number of cases potentially disturb sleep.

- Residents who may experience construction noise include those living within the Hastings Cove Retirement Village and the Bays Aged Care Facility. The age profile and lifestyle patterns of the residents of these facilities is likely to result in higher sensitivity to construction noise than the general population. However, the use of site-specific screening of HDD entry points means that high noise levels would occur at these facilities during the day only.

- Warringine Park – at times during the construction period construction noise may discourage use of the Bittern Coastal Walk and Ted Harris Walk. Recreational walking activities may potentially migrate to other locations during this period. Warringine Park is a significant natural open space area and attracts visitors from communities located around Western Port, the Mornington Peninsula and beyond. The Park, and in particular the Bittern Coastal Wetlands Walk, offers one of the area’s best vantage points to connect with the Western Port Ramsar site. Notwithstanding, there are other open space areas along the Hastings foreshore such as the Fred Smith Reserve, which provide a suitable and accessible short term alternate location.

- Other community facilities – Open cut trenching and HDD drilling exit and entry points would be located in relatively close proximity to a number of community facilities and public open spaces. In the majority of cases, construction noise levels would not exceed Project noise criteria. However, exceedances are projected at the Hastings Primary School and the Toogoolawa School (occurring over a one to two-week period). High construction noise levels have the potential to interfere with teaching and student learning for a period of 7 to 14 days if scheduled during the school term.

- Hastings township – At times during the construction period (9 to 10 months) construction noise and altered traffic conditions may interfere with the use and enjoyment of the Hastings township. Residents and visitors may experience intermittent construction noise at homes and in places of congregation. Moreover, users of a selection of local access roads and bus route 782 would need to navigate temporary road closures and all road users may experience minor increases in traffic. Hastings is a Major Activity Centre populated by approximately 10,000 people. The town acts as the principal commercial and service centre for communities located on the eastern side of the Mornington Peninsula.
Mitigation

- Manage noise and air emissions during construction and operation of the Project in accordance with the mitigation measures for noise and air impacts in accordance with the recommendations in the Technical Reports.

- Employ noise management measures, including but not limited to temporary relocation of residents, as per MM-NV04.

- Minimise the implications of bus stop relocations and detours for users of bus route 782, through the Traffic Management Plan for the Project.

- Consult with aged care and community facility operators and/or users to determine the timing of construction activities to minimise disturbances. Minimising noise at nearby schools during schools hours should be a particular focus.

- Provide mechanisms for residents (such as potentially a dedicated project point of contact, hotline or email) to make enquiries, lodge complaints, etc. during construction.
Table 9-4: Construction impacts, access, amenity and safety – Pipeline Works

<table>
<thead>
<tr>
<th>Receptor</th>
<th>Potential impacts</th>
<th>Magnitude</th>
<th>Importance</th>
<th>Rating</th>
</tr>
</thead>
</table>
| Crib Point and Bittern                                                  | ▪ There are relatively few residences located in close proximity to the pipeline alignment in Crib Point and Bittern which minimises the potential of construction to reduce residential amenity.  
▪ However, up to five residences would be exposed to construction noise resulting from open trenching which exceed project noise criteria (up to 11 occasions of 1 to 3 days across a 3-4 month period). The residences in question are located along the Esplanade, and within the Low Density Residential Zone (LDRZ). Residents of these dwellings would also experience altered traffic conditions on The Esplanade.  
▪ HDD would also occur near these residences and result in exceedances of project noise criteria at night, potentially interfering with sleep for period of a few days (less than one week).  
▪ The dwellings in question currently offer their inhabitants a high level of visual and acoustic amenity which is valued. The construction period may be the source of some disturbance and inconvenience for the affected residents.                                                                 | ▪ Large change  
▪ 3 months to 1 year  
▪ Small number of individuals                                               | ▪ Detrimental  
▪ Receptors have some capacity to cope                                        | Moderate Negative |
| Other residents and visitors to Crib Point and Bittern                  | ▪ There are notable urban settlements at Crib Point and Bittern, which include residential dwellings, commercial areas, community facilities, open spaces, etc. However, the pipeline alignment is some distance from these urban areas.  
▪ Construction noise may be audible at times at locations in Crib Point and Bittern including dwellings, open space areas, etc. However, for the vast majority of residents and visitors, projected noise levels would not have major implications for amenity.  
▪ Residents of Crib Point and Bittern are not highly dependent on roads (such as The Esplanade) where there would be notable changes to traffic conditions.                                                                 | ▪ Slight change  
▪ 3 months to 1 year  
▪ Discrete sections of a local community                                      | ▪ Somewhat acceptable  
▪ Receptors have capacity to cope                                             | Minor Negative     |
| Users of Victorian Maritime Centre                                      | ▪ Open cut trenching work would occur within 80 metres of the facility and generate substantial noise. If construction is limited to normal working hours, construction noise, traffic, etc. associated with trenching has the potential to interfere with the use and enjoyment of the facility between 10am to 1pm on Saturdays (or approximately 30% of the Centre’s public access hours) on up to 11 occasions of 1 to 3 days across a 3 to 4 month period. | ▪ Large change  
▪ 3 months to 1 year  
▪ Parties across a district                                                     | ▪ Undesirable  
▪ Receptors have capacity to cope                                             | Moderate Negative |
<table>
<thead>
<tr>
<th>Receptor</th>
<th>Potential impacts</th>
<th>Magnitude</th>
<th>Importance</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hastings</td>
<td>The pipeline alignment passes through the centre of the Hastings Urban area and in close proximity to a large number of homes. As a result, approximately 200 residences would be exposed to construction noise which exceeds Project noise criteria. In most cases the exceedances would occur during daytime working hours and be associated with open trenching. High noise levels associated with open trenching would last for up to 10 days for any one particular receiver. Assuming site specific screening is employed there would be approximately 1 to 5 residences near HDD Section 3 and 5 respectively that may be exposed to noise levels which exceed Project objectives at night. The exceedances would result from unavoidable night works, which would occur 24 hours a day for one to three weeks at each HDD section. Residential amenity may be affected during open cut trenching and HDD works. The projected level of noise may interfere with the use of outdoor areas, lifestyle pursuits such as gardening, and potentially interfere with indoor activities, sleeping, etc. Some residences are located near HDD entry/exit points and the open trenching section of the pipeline alignment and may experience reduced amenity a result of different construction activities.</td>
<td>Very large change</td>
<td>Detrimental</td>
<td>Moderate Negative</td>
</tr>
<tr>
<td>Other residents and visitors to the Hastings Activity Centre</td>
<td>Construction activity may have minor implications for the majority of other residents and visitors, for example: - It is predicted that approximately 1,000 dwellings in Hastings would be intermittently exposed to elevated noise levels (greater than background noise + 10 dB) during the daytime and construction noise may be audible throughout the Hastings urban area, over a 9 to 10-month period. - Construction noise may be audible within the High Street Shopping Precinct and at the cluster of community facilities located towards the Hastings foreshore throughout the construction period. - Users of a selection of local access roads may need to navigate short term road closures and all road users may experience minor increases in traffic. - There would be short term isolated changes to public transport accessibility. - The construction period has the potential to cause minor irritation for residents as well as visitors to the Hastings Activity Centre as they go about their daily activities, such as shopping and accessing public transport or community facilities within Hastings.</td>
<td>Large change</td>
<td>Undesirable</td>
<td>Moderate Negative</td>
</tr>
</tbody>
</table>

19 June 2020
<table>
<thead>
<tr>
<th>Receptor</th>
<th>Potential impacts</th>
<th>Magnitude</th>
<th>Importance</th>
<th>Rating</th>
</tr>
</thead>
</table>
| Residents/Visitors, Hastings Cove RV & Bays Aged Care Facility | • Residents may be intermittently exposed to elevated noise levels over a nine to 10-month period. The most elevated noise levels would result from open trenching, which would last for approximately 10 days and be limited to daytime hours.  
• Noise levels would not exceed Project construction noise criteria. However, construction noise may interfere with the use of outdoor areas, lifestyle pursuits such as gardening, and potentially interfere with indoor activities.  
• The age profile of the residents is consistent with heightened sensitivity to construction noise, and residents may not have the options to leave the facility during the construction period. | Large change  
• 9-10 months  
• Parties across a district | Detrimental  
• Receptors have limited capacity to cope | Moderate - Negative |
| Hastings Community Hub | • Intermittent elevated noise levels are expected over a nine to 10-month period. Construction activity has the potential to reduce the enjoyment of the facility for operators and users, at times. | Moderate change  
• 9-10 months  
• Discrete sections of local community | Undesirable  
• Receptors have capacity to cope | Minor Negative |
| Hastings Park | • No public walking tracks lead through the section of Warringine Park that would be traversed by the pipeline and the vast majority of visitors experience the coastal section of the Park using the purpose-built boardwalk (the Bittern Coastal Walk).  
• The construction process would generate noise within Warringine Park. At times, noise generated by open trenching would exceed Project noise criteria at locations along the Bittern Coastal Walk, which are within 200 metres of construction. Parts of the walk within this distance are located in the southern and thinner section of Warringine Park, which runs approximately from Heritage Way to Jacks Beach. Noise generated by open trenching and HDD may also be audible at times along sections of the Coastal Walk and Ted Harris Walk to the north, closer to Hastings, although noise would not exceed Project noise criteria in these locations.  
• Construction noise has the potential to discourage use of the Bittern Coastal Walk and the Ted Harris Walk. Recreational walking activities may migrate to other locations at times during the construction period. There are other open space areas along the foreshore suitable for recreational walking such as the Fred Smith Reserve, which provide a suitable and accessible short-term replacement location.  
• There would be times during the construction period when construction activity ceases, and or when noise levels would be lower, and opportunistic usage of the Bittern Coastal Walk may occur during these periods. | Very Large  
• Affects parties across a district  
• 3-6 months | Undesirable  
• Receptors have capacity to cope | Moderate Negative |
<table>
<thead>
<tr>
<th>Receptor</th>
<th>Potential impacts</th>
<th>Magnitude</th>
<th>Importance</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hastings Primary School</td>
<td>▪ Very high noise levels which exceed Project construction noise criteria (associated with open trenching) are expected for approximately 10 days. Construction noise may be audible at the schools at other times during the construction period. Construction noise has the potential to interfere with teaching and student learning if carried out during school term time.</td>
<td>▪ Large change</td>
<td>▪ Detrimental</td>
<td>Moderate Negative - Negative</td>
</tr>
<tr>
<td>Toogoolawa School</td>
<td>▪ There are relatively few residences located in close proximity to the pipeline alignment in rural areas to the north of the Hastings township, which minimises the potential of construction to reduce residential amenity. ▪ However, fifty residences would be exposed to construction noise which exceeds Project noise criteria. ▪ In most cases the exceedances would occur during daytime working hours and be associated with open trenching. High noise levels associated with open trenching would last for 1 to 3 days during each construction stage, for any one particular receiver and would have to potential to interfere with the use of outdoor areas, lifestyle pursuits such as gardening, and potentially interfere with indoor activities. ▪ Unavoidable night works associated with HDD sections 9, 10, 11, 12 and 14 would result in exceedances of Project noise levels at night (1-5 dwellings each). The exceedances would last for 1 to 2 weeks and may have the potential to interfere with sleep.</td>
<td>▪ Very large change ▪ 3-6 months ▪ Discrete sections of a local community</td>
<td>▪ Detrimental</td>
<td>Moderate Negative</td>
</tr>
<tr>
<td>Rural North</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residences in close proximity</td>
<td>▪ Construction noise may be audible at other locations in throughout the rural area to the north of the Hastings township</td>
<td>▪ Moderate Change ▪ 3 months to 1 year ▪ Parties across a district</td>
<td>▪ Somewhat acceptable ▪ Receptors have capacity to cope</td>
<td>Minor Negative</td>
</tr>
<tr>
<td>Other residents of rural areas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9.2.2 Operation

During the operational phase of the Project, the Pipeline Works would have only very limited implications for access and amenity. Specifically:

- There is a potential risk (albeit very low) to human health and safety that would result from the Pipeline Works for users of private land and public areas near the pipeline alignment (see EES Technical Report K: Safety, hazard and risk assessments).

- Warringine Park - The proposed pipeline would run along the same north-south alignment as the existing pipelines which traverse Warringine Park. The existing cleared easement would be increased in width by a small amount in discrete sections (at the entry and exit points and open cut section).

- Pakenham Delivery Facility – This facility would generate some noise and result in a minor change to the landscape which would be visible from a small number of residential dwellings.

Impacts

The changes resulting from operation of the pipeline alignment are small, and as a result, would not generate significant impacts. For example, public visitors to Warringine Park would not be directly aware of the proposed slight increase in the width of the cleared easement and thus the change would have no influence of the visitor experience. Similarly, while the Pakenham Delivery Facility would emit some noise and change the visual appearance of the local landscape, noise levels would not exceed project objectives and adjacent land is being developed to accommodate major transport infrastructure, limiting the effect of the facility on local amenity.

In addition to the above, some members of the community may hold concerns about safety risks associated with potential explosions, or other extreme failures of the proposed pipeline infrastructure. However, the actual risks involved are very low and concerns would be alleviated over time during the ongoing safe operation and maintenance of the Works.

Mitigation

- Make information relating to potential risks to human health and safety available to the public, as required.
Table 9-5: Operation impacts, access, amenity and safety – Pipeline Works

<table>
<thead>
<tr>
<th>Receptor</th>
<th>Potential impacts</th>
<th>Magnitude</th>
<th>Importance</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>All locations</td>
<td>▪ There is a potential risk (albeit very low) to human health and safety that would result from the Pipeline Works for users of land near the pipeline alignment. ▪ Concerns regarding safety may be held. However, actual risks are very low and concerns would be alleviated during the ongoing safe operation and maintenance of the Pipeline Works.</td>
<td>▪ Little to no change  ▪ &gt; 10 years  ▪ Discrete sections of a local community</td>
<td>Undesirable Receptors have capacity to cope</td>
<td>Negligible - Minor Negative</td>
</tr>
<tr>
<td>Hastings</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Users of Warringine Park</td>
<td>▪ The proposed pipeline would run along the same north-south alignment as the existing pipelines which traverse Warringine Park. The cleared easement would be increased in width by a small amount. ▪ Public visitors to Warringine Park would not be directly aware of the proposed pipeline once it is operational. ▪ Existing pipeline easements are currently visible from the air (or using aerial photography). Changes to the appearance of the easement from these perspectives would be virtually imperceptible. That is, the proposed pipeline would not cause changes with the potential to generate social impacts.</td>
<td>▪ Little to no change ▪ &gt; 10 years ▪ Parties across a wider area</td>
<td>Neither desired or resisted Receptors unaffected</td>
<td>Negligible</td>
</tr>
<tr>
<td>Rural North</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residences in close proximity to Pakenham Delivery Facility</td>
<td>▪ No dwellings are predicted to experience an exceedance of Project recommended noise levels as a result of the operation of the Pakenham Delivery Facility. Ambient noise levels at dwellings nearest to the Pakenham Delivery Facility are expected to be consistent with the existing noise levels. ▪ The Pakenham Delivery Facility would result in a minor change to the landscape visible from a small number of residential dwellings. However, the area surrounding this facility is being developed to accommodate major transport infrastructure and in this context the changes are small, and would not be sufficient to generate negative impacts.</td>
<td>▪ Slight change ▪ &gt; 10 years ▪ Small number of individuals</td>
<td>Undesirable Receptors have capacity to cope</td>
<td>Negligible</td>
</tr>
</tbody>
</table>
10 Gas Import Jetty Works and Pipeline Works

10.1 Construction & operation

10.1.1 Socio-economic conditions

Changes

The Project as a whole has the potential to influence socio-economic conditions within the communities of the Mornington Peninsula and Western Port. The influence of the Project in this regard would commence during the construction phase and continue into the operational phase. Specifically, the Project would:

- Create employment - During construction and operation most positions would be filled by a specialised workforce, sourced from beyond the local area. However, there is some scope during construction for small civil packages to be conducted by local teams and visiting workers would utilise local accommodation and services.

- Establish a $7.5 million community fund that would focus spending in Hastings and Crib Point.

- Potentially create divergent views within the community regarding certain matters such as the balance between environmental risks and social and economic benefits and the appropriateness of accepting money from the Project proponent via the community fund.

Impacts

The Project’s potential to create employment for residents of communities located on the Mornington Peninsula and around Western Port is relatively small and therefore the resulting impact on the economic vitality of these areas would be minimal. Also, while the Project may create divergent views within the community and potentially place a strain on interpersonal dealings, associated impacts are likely to be minor and short-lived. Of some note however:

- The funds allocated to the proposed community fund would be significant (for example, they exceed the $2.5M fund allocated to neighbourhood renewal projects in Hastings, referred to in Section 5.3.3) and the level of socio-economic disadvantage is high in Hastings and to a lesser extent Crib Point. In the context of the existing sensitivities, the funds have the potential to generate significant positive impacts.

Mitigation

- Source workers during construction and operation from the local area where appropriate.

- Resolve detailed arrangements for the community fund in partnership with relevant community stakeholders. In particular there should be community led involvement in how the fund is set-up, managed and spent.
### Table 10-1 Construction and operation impacts, socio-economic conditions – all Works

<table>
<thead>
<tr>
<th>Receptor</th>
<th>Potential impacts</th>
<th>Magnitude</th>
<th>Importance</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communities of the Mornington Peninsula and Western Port</td>
<td>A small amount of local employment would be created, contributing to the economic vitality of Hastings and surrounding areas.</td>
<td>Slight change</td>
<td>Desirable</td>
<td>Negligible - Minor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 10 years</td>
<td>Receptors have capacity to cope without change</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Small number of individuals</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Divergent views about the Project may result in some interpersonal dealings being strained. For example, there may be incidences of minor conflict between friends and acquaintances. Existing social and political divisions within the community may be intensified for a time.</td>
<td>Slight change</td>
<td>Somewhat undesirable</td>
<td>Minor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Two to 10 years</td>
<td>Receptors have capacity to cope</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Parties across a district</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The resources allocated to the community fund are significant and there are notable existing social issues in Crib Point and Hastings. In this context, the funds have the potential to generate significant positive impacts.</td>
<td>Large Change</td>
<td>Highly beneficial</td>
<td>Positive</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Two to 10 years</td>
<td>Receptors have limited capacity to cope without the change</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Parties across a district</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## 11 Summary and conclusion

### 11.1 Significant impacts

Table 11-1 below reiterates impacts identified in previous sections which are of greatest significance (rating of moderate or greater). These impacts should be the focus of mitigation efforts.

Table 11-1: Assessment of significance

<table>
<thead>
<tr>
<th>Summary of potential impacts (adverse and beneficial)</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gas Import Jetty Works</strong></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>Changes to amenity may temporarily displace social and recreational uses from Woolleys Beach and nearby areas.</td>
</tr>
<tr>
<td></td>
<td>Changes to amenity may temporarily interfere with the use and enjoyment of the Victorian Maritime Centre.</td>
</tr>
<tr>
<td>Operation</td>
<td>Residual concerns about the potential of the Project to impact negatively on Western Port’s ecosystem may cause worry and stress and/or motivate active opposition to the Project.</td>
</tr>
<tr>
<td></td>
<td>The works would introduce a permanent light source into a mainly dark setting. The light would be clearly noticeable from a small number of dwellings (one dwelling in particular). Current occupants may consider that their residential amenity has been reduced.</td>
</tr>
<tr>
<td></td>
<td>Changes to amenity may alter the pattern of use of the Woolleys Beach Reserve. Some existing activity may migrate southward to Woolleys Beach South and/or be displaced to other locations.</td>
</tr>
<tr>
<td><strong>Pipeline Works</strong></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>The occupation of private land would place a burden on the time and energies of affected owner/occupiers and may be a significant source of stress for some.</td>
</tr>
<tr>
<td></td>
<td>Residential amenity may be reduced at times during the construction period for a large number of people. Construction noise may cause short periods of nuisance for some residents and in limited cases potentially disturb sleep.</td>
</tr>
<tr>
<td></td>
<td>During construction, residents living within the Hastings Cove Retirement Village and the Bays Aged Care Facility may be exposed to construction noise, which approaches the Project noise criteria identified for the Pipeline Works, for short periods. The residents of these facilities may be more sensitive to construction noise than the general population.</td>
</tr>
<tr>
<td></td>
<td>During construction, there may be short periods when construction noise discourages use of Warringine Park, temporarily displacing social and recreational uses.</td>
</tr>
<tr>
<td></td>
<td>Construction noise and altered traffic conditions may interfere with the use and enjoyment of the Hastings Activity Centre for nine to 10 months.</td>
</tr>
<tr>
<td></td>
<td>During construction, there may be short periods when changes to amenity temporarily interfere with the use and enjoyment of the Victorian Maritime Centre.</td>
</tr>
<tr>
<td></td>
<td>During construction, students and employees of the Hastings Primary School and the Toogoolawa School would be exposed to short periods of elevated construction noise which has the potential to interfere with teaching and student learning if carried out during Term time.</td>
</tr>
<tr>
<td><strong>Gas Import Jetty Works &amp; Pipeline Works</strong></td>
<td></td>
</tr>
<tr>
<td>Construction &amp; Operation</td>
<td>The proposed community fund is well resourced and designed to ensure appropriate targeting of resources, and therefore would facilitate delivery of significant beneficial social outcomes.</td>
</tr>
</tbody>
</table>
11.2 Conclusion

When considering whether changes caused by the Project would be acceptable, some community members consider that intensification of industrial activity and/or port related activity is inconsistent with preservation of the area’s significant environmental and aesthetic values. Moreover, the people who use and/or care about Western Port and its foreshore have become accustomed to a level of amenity which reflects a relatively low level of utilisation of existing port infrastructure and industrial land at Crib Point.

In the above context, it is noteworthy that many in the community fear that the Project may impact negatively on bio-physical processes in Western Port and consider such impacts to be unacceptable. However, the technical assessment of the Project’s effects on Western Port’s ecosystem indicates that significant impacts would not arise.

The Project would alter the acoustic and visual characteristics of Woolleys Beach and sections of Western Port near the Crib Point Jetty, and this may be unpopular among those who use these areas for social activities and active and passive recreation. In the operational phase, the Project would make use of the existing commercial shipping channel and marine infrastructure within the Port of Hastings to import LNG. While commercial shipping and other port related/industrial activities are an existing use of the Jetty, such uses are not necessarily compatible with the use of adjacent areas for social activity and active and passive recreation.

The construction phase of the Project would involve disturbance to residential amenity and the use and enjoyment of settled areas, in particular the Hastings urban area. The predicted intensity of amenity disturbances is noteworthy and all practicable strategies to minimise the level of disturbance should be employed, particularly in cases where facilities supporting the delivery of essential goods and services are affected (such as schools and housing for the aged).

In addition, a number of private landholdings would be traversed by the pipeline alignment. The impacts which arise for most of those affected landholders would last for a short-period and landholders would be compensated for the impacts. Nevertheless, some individual landholders are finding the negotiation process challenging, and may not be satisfied with the level of financial compensation offered. A residual number of those affected landholders may harbour an ongoing resentment towards the Project.

Finally, the proposed community fund would make a large contribution towards the funding of social programs, and therefore has the potential to be very beneficial for communities such as Hastings and Crib Point.
12 References


Ethos Urban (2019). Crib Point to Pakenham Landscape and Visual Impact Assessment


Gas Import Jetty and Pipeline Project

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