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Executive Summary

Introduction
Asphalt Suppliers Pty Ltd (Asphalt Suppliers) propose to construct an Asphalt Plant and associated infrastructure at 30 and 34 Industrial Drive, Ulverstone. The plant will supply asphalt to Hardings Hotmix Pty Ltd as well as other users of the product.

This Development Proposal and Environmental Management Plan (DPEMP) was originally submitted in July 2008 and has subsequently been updated to address a change in operating hours from a 6:00 am start to a 7:00 am start.

Proposal Description
The key components of the development will include:

- Hardstand areas for truck movement and parking;
- Area for storage of aggregate of various grades;
- Storage tanks for bitumen binder;
- Hopper and mill (or similar) for asphalt production; and
- Small office control room.

On site activities will involve delivery of bitumen and aggregate to the site via trucks, internal transport of materials to the hopper, collection of asphalt from the plant for off site use and storage of raw materials.

The plant is anticipated to produce in the order of twelve thousand tonnes of asphalt during the first year of production and could then increase to approximately twenty thousand tonnes of asphalt per annum in subsequent years.

The Existing Environment
The proposed Asphalt Plant is to be located just north of the Bass Highway at 30 and 34 Industrial Drive, Ulverstone, within an industrial area.

Potential Effects and Their Management
A sustainability risk assessment (presented in Appendix I and summarised in Section 4.15) was undertaken in order to quantify the risks associated with the proposal. Some of the key potential environmental impacts and mitigation measures associated with the proposal are outlined below.

- Principal air emissions will relate to particulates as a result of construction and operational vehicular movements and general plant operation and odour, primarily related to asphalt loading into trucks.

  As discussed in Section 4 these emissions will be effectively managed through appropriate engineering design incorporating a primary cyclone and secondary fabric filter system to control process emissions and the implementation of operating procedures within an Operational Environmental Management Plan to reduce the time between truck filling and ‘tarping’.

- There is a very low risk of contaminated runoff leaving the site and/or entering the groundwater. The entire site will be hardstand area and will be surrounded by stormwater capture drains that direct stormwater through a triple interceptor trap or gross pollutant trap for staged treatment, prior to
discharge into the existing stormwater system. Contaminated water from within bunded areas will be captured and removed by a licensed contractor. There are no underground storage tanks proposed.

- There will be noise generated during construction, however impacts to local residents will be minimised by limiting construction times to between 7:00 am and 6:00 pm Monday – Friday and 8:00am and 1:00 pm on Saturdays.

A project specific Noise Impact Assessment was undertaken (Appendix D) which found that project specific noise goals should be met for day-time general operations at both of the nearest sensitive residential receivers.

- The visual impact of the development is not anticipated to have a significant effect on the local area. As discussed in Section 4, the proposed Asphalt Plant is sited and designed to minimise the visual appearance as viewed from the site and surrounds. The proposal provides for adequate separation and attenuation distances to the nearest residential areas for the use proposed.

**Monitoring and Review**

Monitoring of the effectiveness of mitigation measures and potential impacts of the proposed Asphalt Plant is required to determine if the project is meeting obligations stated in the DPEMP, and subsequent permit conditions. The key aspects requiring monitoring are noise and air emissions as discussed in Section 5.

**Decommissioning and Rehabilitation**

There is no plan for the decommissioning of the proposed facility in the foreseeable future and as such it is not expected that a detailed decommissioning and rehabilitation plan will be required for some time. In the event that the facility becomes redundant a decommissioning and rehabilitation plan will be produced and provided to the Director, Environment Protection Authority at least three months prior to decommissioning.
1. Introduction

This Development Proposal and Environmental Management Plan (DPEMP) was originally submitted in July 2008 and has subsequently been updated to address a change in operating hours from a 6:00 am start to a 7:00 am start.

Key changes made in this DPEMP include:
- Change in proposed operating hours from 6:00 am to 7:00 am;
- Clarification that the application is concerning both 30 and 34 Industrial Drive; and
- Inclusion of minor additional information to bring the DPEMP up to date with current legislation, state government agency naming and project status.

1.1 Proposal Summary

Asphalt Suppliers Pty Ltd (Asphalt Suppliers) propose to construct an Asphalt Plant and associated infrastructure at 34 Industrial Drive, Ulverstone, with access arrangements over 30 Industrial Drive. The Asphalt Plant will become the supplier of asphalt to Hardings Hotmix Pty Ltd, situated at 30 Industrial Drive, and other users of the product.

The proposed location for the Asphalt Plant itself is on land owned by Asphalt Suppliers. The proposed Asphalt Plant will be entirely located on this parcel of land, on the northwestern portion of the site. It is anticipated that the chosen plant will be Speco Model TSAP – 1000FFW – 80TPH.

The key components of the development will include:
- Concrete hardstand areas for truck movement and parking;
- Area for storage of aggregate of various grades;
- Storage tanks for bitumen binder;
- Hopper and mill (or similar) for asphalt production; and
- Small office control room.

On site activities will involve delivery of bitumen and aggregate to the site via trucks, internal transport of materials to the hopper, collection of asphalt from the plant for off site use and storage of raw materials. This movement of raw materials and the final asphalt product will result in approximately 20 trucks to and from the site on a daily basis.

The plant is anticipated to produce in the order of twenty thousand tonnes of asphalt per annum during operation, which will consume a similar quantity of raw materials.

1.2 Proponent

The proponent for this proposal is Asphalt Suppliers Pty Ltd.

Asphalt Suppliers Pty Ltd
ABN: 18 127 352 032
P.O. Box 709
Asphalt Suppliers Pty Ltd is a new company. There are no known proceedings against the proponent and they are considered capable of meeting the financial and resource implications of the proposed development.

1.3 Proposal Status
A Notice of Intent for the proposed Asphalt Plant was submitted to DTAE (now EPA) in October 2007 and was deemed to be a Level 2 activity under EMPCA 1994. The original DPEMP was submitted to Central Coast Council along with the Application for Planning Permit in July 2008. The original permit was approved by the EPA and Council. Council’s decision was latter appealed by a third party and the Tribunal. The Tribunal upheld the appeal on a jurisdictional matter finding that Council’s decision was invalid on technical grounds. As such, this DPEMP has been re-issued. This document has also been amended to address a reduction in proposed operating hours.

1.4 Public and Stakeholder Consultation
Asphalt Suppliers have had communications with the Central Coast Council whom have expressed support for the proposal.

As part of the previous application process, the proposal, including an earlier version of this DPEMP, was advertised for public comment for a four week period as required for a Level 2 development. Following completion of this DPEMP the documents will be again presented for public comment, allowing another 4 week representation period.

1.5 Legislative Context
As a Level 2 activity the proposed development requires approval from the Board of the Environment Protection Authority (EPA). Approval is also required from Central Coast Council under the Land Use Planning and Approvals Act 1993 (LUPAA). These two tiers of assessment and approval are undertaken concurrently and relate to different aspects of the project. The Board assessment is in accordance with the Environmental Impact Assessment Principles under EMPCA, while the Council’s assessment is in accordance with the land use planning considerations under the Central Coast Planning Scheme 2005. Council is not required to assess any matter addressed in the Board’s assessment.

No matters of National Environmental Significance have been identified as relevant to this project and hence approval under the Commonwealth’s Environment Protection and Biodiversity Conservation Act 1999 is not considered to be required.

In addition to the standard approval process the proposed development will also have to comply with a broad range of environmental and planning legislation, guidelines, standards and policies. The details of such documents are outlined through the relevant sections of this DPEMP.

There are no known site specific management plans for the Ulverstone development site.
2. Proposal Description

2.1 Proposal Overview

The proposed development involves the construction of an Asphalt Plant at 34 Industrial Drive, Ulverstone, with access arrangements over 30 Industrial Drive. For the purposes of this application, Asphalt Suppliers (the proponent) have selected a SPECO LTD model TSAP-1000FFW Korean fully computerised control and direct drive asphalt mixing plant, associated materials storage, small office and staff amenities. Whilst this is the preferred plant, the final decision on supplier and purchase will be made closer to the construction date. Hence, if an alternative plant is chosen Asphalt Suppliers will submit a supplement to this application seeking approval for any items significantly different from the specifications for the preferred SPECO model. The capacity of the plant is 80 tonnes per hour (TPH).

The proposed development involves the following key components:

- Leveling of site and establishment of a concrete hard stand area for the Asphalt Plant, associated infrastructure, and materials storage;
- Establishment of vehicular access routes, with the main vehicular movement to and from 30 Industrial Drive, also under ownership of the directors of the proponent;
- Installation of package plant including the following key components:
  a. Raw materials storage bays;
  b. Cold bin aggregate feeder;
  c. Belt conveyor for transfer of aggregates;
  d. Rotary dryer;
  e. Bucket elevators;
  f. Vibrating screen;
  g. Hot bin;
  h. Pug mill mixer;
  i. Primary collector from rotary dryer to bag house filter
  j. Baghouse and stack;
  k. Tank bunded area; and
  l. Control cabin housing operating and process controls; and
- Construction of associated office and amenities.

The plant has a design capacity of 80 tonnes per hour (based on 4% moisture content) and is expected to produce up to 20,000 tonnes per annum; therefore it is classed as a Level 2 activity under the EMPCA, 1994. It is noted that the plant is anticipated to run well below the design capacity of 80 tpa throughout the hours of operation to meet this annual production capacity, as demand is not anticipated to require the plant to run continuously for all operating hours.
2.1.1 Water Management System

While there is no liquid waste stream associated with the plant, the need for a water management system to address issues such as potentially contaminated runoff and material spillages is acknowledged. The entire site will be concrete hardstand to prevent water infiltrating soils. The entire hardstand area will be surrounded by stormwater capture drains that direct stormwater through a triple interceptor trap (Ecosol or similar) or gross pollutant trap for removal of silt, grease and suspended solids, prior to discharge into the existing stormwater system. The outflow from the interceptor trap/gross pollutant trap is proposed to discharge to the Council stormwater system, via the existing reticulation system.

The plant will be located within a bunded contaminated drainage pad for any hazardous materials handling and for the spraying of trucks with release agent (Truck-slip). Trucks will be manually sprayed with a small quantity of release agent such that during normal operation, there will be no run off of material onto the pad. Hence, the pad is effectively a management measure to address any spills or over application. Runoff on the contaminated drainage pad will collect in a grated pit and subsequently, via a drainage network, into the triple interceptor trap or gross pollutant trap. The pit outlet pipe will be fitted with a manual shut off valve to contain and control any accidental spills that may occur.

Bunded areas will be established surrounding, the asphalt tanks and the hot oil heater. Bunds will be fitted with locked valves such that stormwater can be periodically drained and spills can be contained and removed.

Figures 1, 2 and 3 provide an overview of the site location, indicative site layout and plant components.
Figure 1  Site Locality
Graded Pit (Gravity drain to triple interceptor)

Safety Shower

Contaminated Drainage Pad

Triple interceptor trap

Asphalt Plant

Bunds

Storage Bins

Drain

Asphalt Suppliers Pty Ltd, Gyms, C T 4894/1

Bundalee Village Pty Ltd, White and Steel

Depicts direction of Traffic

DATE

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JUNE 08

rev no. A

SK001 approved

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11/12/2008

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GHD Drawing No: SK001

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2.1.2 Process

All raw materials, including crushed stone, sand and liquid bitumen will be delivered to the plant via road transport. Upon arrival to the site, aggregate and sand will be delivered into raw material storage bays. These will be constructed from concrete, and will maintain material separation until use. These bays will not be covered, but will be fitted with manually operated water sprays for dust-suppression as required.

The batch mixing process involves the following key steps:

- Aggregate is transported by front end loader from the storage bays to the cold bin;
- Aggregate leaves the cold bin via conveyor belt to a rotary dryer (run by natural gas) and into the burner;
- Hot aggregate leaves the burner via a hot elevator and is transferred to vibrating screens that sort aggregate into hot bins according to size;
- The aggregate from the hot bins is then mixed to achieve a desired aggregate size distribution and weight; and
- Liquid bitumen is pumped from heated storage and added to the aggregate to achieve the desired asphalt mix.

Prior to loading asphalt, truck decks will be sprayed with Truck-slip® (a biodegradable release agent) or equivalent to prevent asphalt adhesion. This material will be applied manually in a bay located over the hardstand area.

The final product of asphalt will be transported off site via trucks through 30 Industrial Drive.

Bitumen delivery pipes will not be cleaned on site.

An example of the basic process steps for a batch mix asphalt plant is presented in Figure 4. It is noted that asphalt recycling is not proposed as part of this development.
The working of the plant will be fully automatic, with provision for manual operation. All control units will be contained within an operation room, located adjacent to the plant.

Dust emissions from the dryer and the main tower will be captured and directed firstly to a cyclone to remove coarser particulates and then to a fabric filter (baghouse) to remove fine particulates. The bag filter operates on a vacuum principle with the exhauster at the end of the bag house filter drawing exhaust from the dryer drum, through the primary dust collection system and the bag house filter. This process keeps the system at sub-atmospheric pressure. The dust collected in the bag-house will be returned, via a filler silo to the production process and will be re-incorporated in the asphalt mix. The filter system will be regularly inspected and maintained in accordance with a site environmental management plan. The fabric filter will be equipped with an online dust monitor to alert operations personnel in the event of bag leakage or failure. The filtered air will be discharged to atmosphere via a 14.3 m high stack.

The key benefits associated with the use of a primary cyclone and secondary fabric filter system to control process emissions include:

- Use of air pollution control technology that is considered to be in-line with industry best practice for the removal of particulates from process emissions;
- Total particulate collection efficiency of the order of 99.9% (cyclone and fabric filter); and
- The captured particulates (dust) can be returned to the production process as filler material.
### 2.1.3 Plant Components

The asphalt plant will contain the following major items of equipment:

- **Aggregate Supply System:**
  - Cold bin and belt feeder;
  - Horizontal belt conveyor;
  - Scalping screen; and
  - Slant belt conveyor.
- **Aggregate Drying and Heating System:**
  - Dryer;
  - Dryer burner;
  - Turbo blower;
  - Blower control system; and
  - Hot elevator.
- **Aggregate Screening System:**
  - Vibrating screen; and
  - Hot bin.
- **Weighing System:**
  - Aggregate weighing;
  - Asphalt weighing; and
  - Filler/optional dust weighing.
- **Mixing System:**
  - Mixer (twin shaft pugmill); and
  - Asphalt spray pump.
- **Filler/Dust Supply System;**
- **Asphalt Supply System:**
  - Asphalt tank;
  - Asphalt supply pump; and
  - Asphalt piping.
- **Hot Oil Heating System;**
- **Fuel Supply System;**
- **Control System and Electric Power Supply System;**
- **Compressed Air Supply System;**
- **Primary Dust Collecting System; and**
- **Secondary Bag Filter.**
All conveyors, pumps and other equipment will be powered by electricity with the exceptions of:

- The burner (for the dryer) will be powered by natural gas; and
- The bitumen storage tanks (2 x 30,000L) will be heated via circulated hot oil. The hot oil will be heated via natural gas.

### 2.1.4 Source and Storage of Materials

Aggregate material will be sourced from Lloyds North (locally supplied in Ulverstone) with the following aggregate sizes: 14mm, 10mm, 7mm and 5mm and quarry dust. Sand will be sourced from Wynyard.

Aggregates and sands are to be stored in one of six 50 tonne capacity open storage bins (approximately 3m x 3m x 3m), which will shield material to prevent wind erosion and will be located along the eastern side of the site in front of the existing storage units. Manually operated water sprays will be fitted to the storage bins for dust suppression purposes. Within the plant there will be five cold feeder bins, each with a 7m³ capacity.

Quarry dust will be stored in the filler silo (30 tonne capacity). Dust extracted from the plant itself (mainly from the dryer) will be stored in a separate 30 tonne dust silo.

Bitumen will be stored in two 30,000L heated tanks. These tanks will be heated by circulating hot oil. The hot oil will be maintained at temperature via gas.

Gas will also be supplied to run the rotary dryer burner. Storage of the gas will be above ground and anticipated to be within a cylinder approximately 12m in length by 1.5m in diameter.

The types, quantities and methods of storage for onsite materials are summarised below.

<table>
<thead>
<tr>
<th>Material Storage</th>
<th>Container Description</th>
<th>Number</th>
<th>Capacity</th>
<th>Total Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size distributed aggregate and sand – prior to entry to plant</td>
<td>Ground bins</td>
<td>6</td>
<td>50 tonne</td>
<td>300 tonne</td>
</tr>
<tr>
<td>Size distributed aggregate and sand – upon entry to plant</td>
<td>Cold bins</td>
<td>5</td>
<td>7m³</td>
<td>35m³</td>
</tr>
<tr>
<td>Filler (quarry dust) from Lloyds North</td>
<td>Steel Filler Silo</td>
<td>1</td>
<td>30 tonne</td>
<td>30 tonne</td>
</tr>
<tr>
<td>Recycled Dust from baghouse</td>
<td>Steel Dust Silo</td>
<td>1</td>
<td>30 tonne</td>
<td>30 tonne</td>
</tr>
<tr>
<td>Bitumen</td>
<td>Bitumen tanks</td>
<td>2</td>
<td>30,000L</td>
<td>60,000L</td>
</tr>
<tr>
<td>(Binder) Truck-slip</td>
<td>Steel drums</td>
<td>10</td>
<td>200L</td>
<td>2,000 L</td>
</tr>
<tr>
<td>Liquified Petroleum Gas</td>
<td>Gas Cylinder</td>
<td>1</td>
<td>21m³</td>
<td>21m³</td>
</tr>
</tbody>
</table>

Material safety data sheets (MSDS) for the above materials, as appropriate and available, will be kept on site in an MSDS manifest. All of the above materials will be stored on the concrete hardstand area.
A minimal volume of water will be required for activities such as dampening down / dust suppression. This water will be sourced from Council mains water supply.

2.1.5 Energy Requirements

Energy requirements to the plant will be supplied via gas and electricity. Gas is required to heat the bitumen and run the burner for the dryer, and will be stored onsite. The anticipated power requirement for the plant when fully operational is 237.1KW.

There will be the additional, minor, power requirement to run ancillaries such as computers and small office requirements and associated bathroom facilities.

2.1.6 Production Capacity

Although the maximum annual production capacity of the plant is in excess of 265,000 tonnes per annum (based on 64 hours of maximum capacity operation per week), the anticipated required production of the plant is up to 20,000 tonnes of asphalt per annum. Demand therefore is not anticipated to require the plant to run continuously for all operating hours.

2.1.7 Operational Life Expectancy

Operational life expectancy of the plant is in the vicinity of 25 years. Various components will be upgraded as technology advances which may increase the life expectancy.

2.2 Site Access and Parking

The site has sufficient off-street parking for employee vehicles during plant operating hours and truck movements will be continual throughout the day. Trucks requiring overnight parking will be able to utilise the hardstand area at the Hardings Hotmix site (refer Figure 2).

Bitumen will be delivered to site up to twice weekly by a 25 tonne truck with the bitumen being sourced from BP Selfs Point, Hobart. Bitumen storage tanks will be located on site.

The varying sized crushed aggregate and filler (quarry dust) will be delivered via truck from Lloyds North on a weekly basis. Deliveries of sand from Wynyard will occur on a weekly basis and will be delivered by truck.

Asphalt truck movements are anticipated to be up to 20 trucks per day (total), that is there will be up to 20 trucks visiting the site per day. This is compared to existing number of approximately 6 trucks per day from the existing operations on 30 Industrial Drive.

2.3 Operating Hours

It is expected that the plant would operate Monday to Friday from 7am to 6pm and as demand requires possible Saturday operation from 7am to 4pm. It is expected that up to three full time staff will be required (one push button operator, a loader and possibly one other) to operate the plant. No production will occur on Sundays or public holidays.
2.4 Key Environmental Considerations

2.4.1 Wastewater

Water is not used in the production process, however small volumes of water may be used for dust suppression of fine aggregate stockpiles and at the aggregate feeder. Other water uses on site include general use, toilets and safety showers.

Water emissions generated on site will arise from rainfall runoff and discharge to sewer from site amenities. The water sources identified are:

- General site stormwater;
- Potentially contaminated stormwater within bunds; and
- Domestic Wastewater.

General site stormwater will be collected via a drainage network, move through a triple inceptor trap/gross pollutant trap and enter the Council stormwater system.

Uncontaminated storm water from the truck spray area will be collected over a graded pad, drain into a sump (with a shut off valve in case of spill) and be treated via the triple inceptor trap. In the event of a spill contaminating this area, the shut off valve will be activated to prevent contaminated stormwater from leaving the site. All contaminated water will be contained and removed by a licensed contractor.

Domestic wastewater from office buildings and onsite amenities will be discharged into the existing sewer system. The volume and quality of effluent predicted is not anticipated to require a Trade Waste Agreement.

2.4.2 Air Emissions

Air emission sources from the operation of the asphalt plant will include both point and fugitive sources of odours and particulates.

Process emissions from the batch dryer are the most significant point source of particulate matter and gaseous emissions to air. General materials handling is the most significant fugitive source of both gaseous and dust emissions and include activities such as the aggregate storage bay loading/unloading, screening, collector, weigh hopper and loading of hot mix asphalt onto trucks. The majority of these fugitive emissions are minor in nature. However, the process of loading hot-mix asphalt onto trucks, although this occurs only periodically, has the potential to result in a transient but noticeable odour emission, as occurs in the application of asphalt to road surfaces at its destination.

A project specific Air Impact Assessment is presented in Appendix C and summarised in Section 4.1.

2.4.3 Solid Waste

The proposed plant is not expected to generate significant quantities of waste (general or prescribed). All waste disposals will be managed under a contract with a licensed waste contractor.

Waste types expected to be generated, together with the method of disposal, are presented below.
<table>
<thead>
<tr>
<th>Wastes Produced</th>
<th>Waste Minimisation/Management</th>
<th>Disposal Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baghouse filter bags</td>
<td>Review products available for life.</td>
<td>Landfill</td>
</tr>
<tr>
<td></td>
<td>In-process actions such as dust suppression</td>
<td></td>
</tr>
<tr>
<td>Dust</td>
<td>Recycled into system</td>
<td>Landfill (excess)</td>
</tr>
<tr>
<td>Recovered asphalt</td>
<td>Re-used where practical</td>
<td>Disposed to landfill as last resort</td>
</tr>
<tr>
<td>Oil contaminated rags</td>
<td>Separate from rest of waste stream</td>
<td>Licensed waste contractor</td>
</tr>
<tr>
<td>General office waste</td>
<td>Paper recycling</td>
<td>Recycled where possible</td>
</tr>
<tr>
<td>Domestic wastes</td>
<td>Recycled where practical, balance to landfill</td>
<td>Licensed waste contractor</td>
</tr>
<tr>
<td>Waste Oil</td>
<td>Minimised under environmental management plan</td>
<td>Licensed waste contractor, recycled where appropriate</td>
</tr>
<tr>
<td>Interceptor trap wastes</td>
<td>Minimisation through avoidance and staff training</td>
<td>Pumped out and treated by licensed waste contractor</td>
</tr>
</tbody>
</table>

2.4.4 Noise

The major operational noise sources are anticipated to be from the Bag Filter. Other noise sources such as vehicle movements and noise resulting from general materials handling are considered minor in nature.

A project specific Noise Impact Assessment is presented in Appendix D and summarised in Section 4.4.

2.5 Construction and Commissioning

2.5.1 Construction

The proposed development will involve the purchase of a pre fabricated package plant. Hence the only site works required prior to delivery of the plant are:

- Clearance of existing vegetation from the site;
- Hard stand areas and concrete pad for plant;
- Installation of site drainage network, including sumps, interceptor traps and connection to Council storm water and sewer;
- Establishment of roadways; and
- Installation of open storage bins for aggregates and sands.

Once the site is prepared in this manner, SPECO will ship the plant to the site in shipping containers and arrange for a crew to undertake installation and commissioning.
The anticipated timing for plant fabrication and installation is 4 to 6 months from order. The majority of this timeframe is offsite construction of the plant prior to shipping. During this time, all other site preparation works outlined above will be conducted.

There are minimal materials or staffing requirements for the proposed construction period due to the pre-fabricated nature of the plant.

2.5.2 Commissioning

The commissioning process will be undertaken by SPECO in conjunction with Asphalt Suppliers and is anticipated to take approximately 2 weeks. Further detail on the key commissioning activities can be provided by SPECO if required.

2.6 Off-site Infrastructure

The proposed development is not expected to require any upgrade of offsite features such as roads, power supply, water supply, sewer or stormwater.

2.7 Technical and Management Alternatives

The proposed SPECO Asphalt Plant was considered by Asphalt Suppliers to be the most suitable of a range of potential providers due to price, size, ease of operation and degree of environmental management and protection. In addition, the existing, similar, Venarchi Asphalt Plant in Launceston is also a SPECO product and information obtained by Asphalt Suppliers suggests this to be a reliable and effective plant. In addition, the existence of two plants from the same manufacturer in the north of Tasmania improves efficiency for maintenance and ongoing support.

As the SPECO plant provides industry standard environmental controls, it was not considered necessary to undertake any further investigation of plant options.
3. The Existing Environment

3.1 Planning aspects

3.1.1 Location and Associated Infrastructure

The proposed Asphalt Plant is to be located just north of the Bass Highway at 30 and 34 Industrial Drive, Ulverstone, with the plant built on 34 Industrial Drive and access arrangements over 30 Industrial Drive. The site is approximately 1.7 km east of the town centre. The subject site is approximately 16 km west of Devonport and 32 km east of Burnie. The entire operation will be located on this parcel of land with the Asphalt plant to be erected on the north portion of the site (refer Figure 1). The subject land is zoned ‘Industrial’ under the Central Coast Planning Scheme 2005 (the Planning Scheme).

Under the Planning Scheme the Industrial zone provides for manufacturing, processing, repair, storage and distribution of goods and materials where there may be off-site impacts that affect the amenity of other uses. The proposal is consistent with this objective.

The subject site is connected to existing Council water, sewer and storm-water services. An electricity connection is also available to the subject site.

34 Industrial Drive has a single road frontage onto Industrial Drive; however, vehicular access to the Asphalt Plant site can be gained via three (3) separate access points;

- The existing access that connects directly to 34 Industrial Drive; and
- The second and third access points will be via 30 Industrial Drive, CT 246406 (Harding’s Hotmix Pty Ltd, lessee).

All access points connect onto Industrial Drive Road that runs parallel alongside the Bass Highway.

The site will not be open to the general public and will be secured after hours by existing gates and fencing.

The topography of the site is relatively level. The site is cleared. There is a row of existing co-joined storage facility units along the sites eastern boundary. These storage units are used for general storage and will remain on the site. There is also a row of storage bins along the southern boundary used for storing construction materials by the lessee.

Hardings Hotmix runs its existing operation from 30 Industrial Drive with facilities including offices; car-parking facilities situated to the eastern side of the building, some storage tanks and depot facilities for vehicles and machinery.

The location of the proposed infrastructure is presented in Figure 2 and Figure 3.

3.1.2 Land Tenure and Title Details

The Asphalt Plant itself is to be located just north of the Bass Highway at 34 Industrial Drive, Ulverstone, approximately 1.7 km east of the town centre (Figure 1). The Asphalt Plant is to be accessed through the adjacent land parcel to the west known as 30 Industrial Drive CT 246406/1. This title also forms part of the application.
3.1.3 Land Use History

The site of the asphalt plant itself (34 Industrial Drive) is a vacant portion of land that was previously part of the adjoining title CT 146935 folio 1 (32 Industrial Drive). The landowners Selwyn and Jullien Harding, directors of “Asphalt Suppliers Pty Ltd”, purchased the recently created lot.

The current usage is for an additional storage area for Hardings Hotmix Pty Ltd. The two businesses currently hold a lease agreement between Asphalt Suppliers Pty Ltd. and Harding's Hotmix Pty. Ltd.

30 Industrial Drive is the current location of Hardings Hotmix Pty Ltd. This portion of land will continue to be occupied by Hardings Hotmix, as well as provide access to the Asphalt Plant.

There are no outbuildings erected on 30 Industrial Drive that require removal. The only structures on this parcel of land are the existing storage bins along the southern boundary and the storage units along the eastern boundary. This area will be cleared of any debris and then fully sealed with adequate drainage, prior to commencement of construction.

3.1.4 Site Contamination

A review of the MRT groundwater database and discussions with site personnel indicates there is limited knowledge as to the contamination status of the site. There are no known records of contamination at the subject site.

3.1.5 Surrounding Land Uses

A sensitive use is defined under the Planning Scheme as a residential building, aged or child care facility, hospital, school, holiday accommodation, caravan park or similar use which persons occupy for extended periods of living, sleeping, care, educational purposes and the like.

Sensitive uses in proximity to the proposal site are:

- Westella Bed & Breakfast to the south-east;
- Residential housing in Ulverstone East to the west and north-west; and
- Isolated residences uphill to the south.

Within the immediate area, two major Industrial businesses operate: Adbri Masonry Pty Ltd (west of the subject site) and Botanical Resources Australia (north of the subject site). The Bass Highway runs parallel with the subject site. Land located on the opposite side of the Bass Highway to the site is zoned General Rural. Further to the southwest is a pocket of Low Density Residential land.

These issues are discussed further in the accompanying Development Application Supporting Report.

Adjoining landowners are:

- North of the subject site (44 Industrial Drive) consists of an industrial business; Botanical Resources Australia - Manufacturing Services Pty Ltd (Industrial);
- South of the subject site (32 Industrial Drive) - Supreme Cake Company Pty. Ltd. (Industrial);
Asphalt Plant Development Proposal and Environmental Management Plan

East of the subject site (36-38 Industrial Drive) consists of an Agricultural parts Specialist - Dobmac Property Company Pty. Ltd. (Industrial); and

West of the subject site (28 Industrial Drive) is Adbri Masonry Pty Ltd (Industrial).

**Ulverstone Community:**

The location and nature of the industrial facilities do not have any direct impacts on any individual residences, schools, hospitals, caravan parks and any other similar sensitive uses. The subject site is also not sited near any tourist or recreation facilities or routes (such as camping areas, picnic areas, walking tracks, historic routes). The Westella bed and breakfast, on the opposite side of the Bass Highway, is in close proximity and has been addressed in Section 4.10.

Below is a list of the said facilities and their approximate proximity to the proposed Asphalt Plant:

- Camping facility / Caravan Park – approximately 1.7km north west of the site;
- Picnic facility / Rest Area – approximately 1.8km north west of the site;
- Walking Track (Buttons Beach Reserve) – approximately 1.5km north west of the site;
- Historic Route / Site – approximately 450-500 metres on the southern side of Bass Highway from the site;
- Tourist attraction – no tourists attractions in the immediate area;
- Residential – exists within a 500 -1000 metre radius from the site
- School – no primary, child care, secondary of tertiary facilities in the immediate area;
- Hospital (Central Coast Health Centre) – approximately 2km west of the site;
- Council Chamber / Library / Police – approximately 2.3km west of the site;
- Fariway Park – approximately 2.2km north west of the site;
- Shropshire & Bicentennial Park – approximately 2.7km north west of the site;
- Anzac Park – approximately 2.4 km west of the site;
- Haywoods Reserve – approximately 1.2km south west of the site; and
- Westella bed and breakfast – approximately 1.2km south west of the site.

**3.1.6 Planning Controls**

A permit for the use and development is required under the *Land Use Planning and Approvals Act 1993* (LUPAA), This DPEMP forms part of the supporting information submitted to Central Coast Council as part of a permit application for the proposal.

The proposed development is subject to the provisions of the *Central Coast Planning Scheme 2005*. The site is located in the Industrial zone. The proposed Asphalt Plant is best defined as *Manufacturing and Processing* under the Scheme.

*Manufacturing and Processing* – means use of land for manufacturing, assembling or processing products. It does not include resource processing. Examples are boat building, brick making, cement works, furniture making, glass manufacturing, metal and wood fabrication and textile manufacturing.
Manufacturing and Processing is a Discretionary Use in the Industrial Zone. The proposal also invokes discretion in relation to the Attenuation Schedule of the Planning Scheme.

Addendum Air and Noise Assessment provided as Appendix A to the Development Application report demonstrate a scientifically calculated attenuation distance as required by the Planning Scheme. Consistent with the findings of this DPEMP, the addendum concludes that there will be no unacceptable impact on nearby sensitive receivers. The proposal therefore accords with the specific exercise of discretion in relation to Acceptable Solution S 2.3.A1 under the Planning Scheme.

Detailed information relating to these planning matters are included in the Development Assessment Supporting Report to Council (Appendix B). The Development Assessment Supporting Report considers the development to be in line with the Planning Scheme, Council’s Strategic Plan and relevant State Policies. The proposal also furthers the objectives of LUPAA.

### 3.2 Environmental Aspects

#### 3.2.1 Topography

The area around Ulverstone is relatively flat lying, with the exception of some steeply incised river valleys, which are discussed further in section 3.2.9.

The site is flat lying at an elevation of approximately 10 m above sea level (asl). Approximately 700 m south of the site is a scarp that rises steeply to 50 m asl.

#### 3.2.2 Meteorology

There is no climatic data relating directly to Ulverstone, the nearest recording station being at Forthside research station. The Forthside research station holds climatic records since 1966 to the present with respect to rainfall data, however temperature data has not been recorded at this site since 1996. The next complete temperature recording station is located at Devonport Airport. As such, rainfall data has been taken from Forthside and wind and temperature data from Devonport Airport. It is recognised that the use of three different weather stations to analyse different parameters makes comparisons between the data difficult, though in this case the incompleteness of the data from the various climate recording stations makes this necessary.

<table>
<thead>
<tr>
<th>Climate Parameter</th>
<th>Climate Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Maximum temperature (hottest month)</td>
<td>21.5°C (February)</td>
</tr>
<tr>
<td>Annual mean maximum temperature</td>
<td>16.8°C</td>
</tr>
<tr>
<td>Highest Maximum Temp</td>
<td>30.9°C (December 1998)</td>
</tr>
<tr>
<td>Mean Minimum Temp (coolest month)</td>
<td>4.6°C (July)</td>
</tr>
<tr>
<td>Lowest Minimum Temp</td>
<td>-2.0°C (July 1997, September 1995)</td>
</tr>
<tr>
<td>Annual mean minimum temperature</td>
<td>8.1°C</td>
</tr>
<tr>
<td>Mean Annual Rainfall</td>
<td>967.3 mm</td>
</tr>
</tbody>
</table>
Climate Parameter | Climate Average
--- | ---
Highest Daily Rainfall | 124.4 mm (April 1989)
Mean monthly rainfall (wettest month) | 122.8 mm (July)

**Temperature**

Data for the temperature climate averages were taken from the Devonport Airport weather station as it had the most complete and current data of the two weather stations closest to the site. The following figures show the temperature averages and trends in temperature from the Devonport Airport weather station. As would be expected the winter months are substantially cooler than those in summer.

![Australian Climate Statistics](image)

*Figure 5  Mean minimum temperatures from the Devonport Airport weather station. (BOM 19/2/2008)*
Rainfall climate data was taken from the Forthside weather station. This site was chosen as it is the closest to the proposed asphalt plant site with a complete and current record of rainfall data. The average annual rainfall for the Forthside site is 967.3 mm. Highest rainfalls occur over the winter months and decrease through spring and summer.

Wind data has been taken from the Devonport Airport weather station. It is considered that this weather station is more likely to provide accurate wind information, as it is anticipated that the close proximity of
the coast will have an influence on the prevailing wind direction and speed. The prevailing wind direction at 9 am is from the south, while at 3 pm the wind is predominately from the northeast.

3.2.3 Geology, Geomorphology and Soils
The following information is based solely on desktop analysis and no field investigations have been conducted to confirm the information provided below.

There are four principal geology types in the vicinity of the proposed Asphalt plant. These generally run in bands parallel to the shoreline (east – west). The site itself is situated on “older stabilised Aeolian sand of coastal plain (Qpsa)”. Approximately 500m to the north are “beach sand, sand dunes and gravel (Qhbd)”. Along the shoreline there are outcrops of Tertiary basalt (Tb). To the south of the site are areas of “predominantly deeply weathered basalt (Tbw)”. There is also a small area of landslide deposits principally derived from weathered tertiary rocks (Qxt) (MRT, 2006).

Soils at the site are likely to be derived principally from the parent rocks and sediments at the surface. On the site it is likely that weathering profiles have developed and that some organic matter has been deposited above the sands and dunes.

Geomorphology at the site is limited to dune formations possibly formed during the last glaciation of Tasmania. Landslide deposits are also present adjacent to the site.

3.2.4 Conservation and Geoconservation Areas
There are no known conservation or geoconservation areas within 1 km of the proposed site of the Asphalt Plant, as identified by the natural Values Atlas Report 27920. The Goat Island Conglomerate is the nearest geoconservation area and is located a significant distance (approximately 4 km) from the site to the northwest and as such will not be impacted by the proposed development. This site is significant on a national scale and has an overall vulnerability of 8 (Values sensitive to major removal of geo-material, or large scale excavation or construction, e.g. values which may be degraded by quarries; sites of large dam construction).

3.2.5 High Quality Wilderness
For the purposes of this section, areas with high quality wilderness values are defined in the Regional Forest Agreement 1997. That is:

“An area larger than 8000 hectares having National Wilderness Inventory (NWI) ratings 12 or larger, estimated by the methodology used in the NWI (Leslie and Maslen 1995).

There are no areas of high quality wilderness within 20 km of the proposed site. Cradle Mountain - Lake St. Clair National Park is the closest area of high quality wilderness and is located approximately 100 km from the site.

3.2.6 Ground Water
There are several registered groundwater bores within the general vicinity of the site. The nearest registered bore on the Mineral Resources Tasmania database is bore ID:1185, located approximately 150 metres to the east of the site. The total depth of this bore is 24.4 metres with a Standing Water Level of 6.1 metres. Water Quality and other information pertaining to the groundwater at the site is either unavailable or unknown.
3.2.7 Flora and Fauna
A Natural Values Atlas Report was produced for the proposed site. The report indicated a number of threatened flora and fauna observations within 500 m of the site. There were also a number of records listed for threatened flora and fauna species within a 5 km radius of the site. These are listed in the Natural Values Atlas Report presented in Appendix J.

In response to the Natural Values Atlas Report a GHD ecologist visited the site to undertake a brief inspection. The site is cleared hardstand.

No threatened flora species were observed during the site inspection.

It is noted that a full flora survey of the site was not undertaken or considered necessary due to the limited vegetation values observed during the site visit.

3.2.8 Pests, Weeds and Diseases
The property is cleared hardstand area. There are therefore no specific considerations in relation to pests, weeds or diseases.

3.2.9 Surface Water
There are no water bodies on the site. The nearest stream (Buttons Creek) is located approximately 850m to the west. There is another creek/drainage line mapped (approximately 300m from the site), although the permanency of the unnamed creek is unknown. The most significant sources of surface water in the region is two major rivers; the Leven River (approximately 2.5km to the west) and the River Forth (approximately 4km to the east).

3.2.10 Natural Hazards
As the site is located some distance from the nearest significant watercourse, flooding is not likely to be a risk.

The site is not considered to be particularly vulnerable to natural fires as it is situated within a relatively developed area and is surrounded by cleared land and other developments.

There are several landslide deposits located within the vicinity of the site. The steep scarp 300m to the south of the site is principally of deeply weathered Tertiary basalt. The potential for landslides to occur in the area is moderate.

As the site is close to the coast there is potential for the site to be exposed to high winds blowing off Bass Strait. Excessively high winds are not expected to be a significant risk at this site.

3.2.11 Historic Heritage
The Site itself does not currently appear on any statutory or non-statutory heritage registers or lists and is not considered to be a place of heritage significance. One historic heritage place has previously been identified within the broader vicinity of the Site. This place, Westella, is located 68 Westella Drive, on the opposite side of the Bass Highway, approximately 150 metres to the south east of the site. The proposed development is not anticipated as having an adverse heritage impact on Westella.

A separate historic heritage assessment is included at Appendix F.
3.2.12 Aboriginal Heritage

Consultation with the Aboriginal Heritage Office (now Aboriginal Heritage Tasmania), Department of Environment, Parks, Heritage and the Arts (now Department of Primary Industries, Parks, Water and Environment) established that a specific site survey for this project was not required. Nonetheless, the provisions of the Aboriginal Relics Act 1975 remain applicable if relics are identified during the site works.

3.3 Socio-economic aspects

Ulverstone is one of two major centres in the Central Coast Council local government area, the other being Penguin.

In 2006 the total population of Ulverstone was 6282 people. Of this, 4287 people were aged from 25-84 (68%) while 1822 people were aged from 0-24 (30%). Only 2% of the population were aged 85 and over (174).

The manufacturing and retail trade sectors are the largest employment industries in Ulverstone, employing over 14% of the work force. The proposed Asphalt Plant is located outside the main residential area within a previously established industrialised area. This existing area is characterised by industrial uses. As such, the addition of the proposed Asphalt plant is not likely to significantly impact on suburban areas. There are no identifiable major issues relating to the socio economic factors for the site.

3.4 Alternative Sites

As the proposed Asphalt Plant is located within an industrial zone and is immediately adjacent Hardings Hotmix, whom Asphalt Suppliers is to be the sole supplier for, the site is considered to be the ideal location for the proposed development. As such, no other sites were considered for this project.
4. Potential Effects and their Management

4.1 Air Emissions

4.1.1 Legislative and Policy Requirements
The Tasmanian Environmental Protection Policy (Air Quality) 2004 provides a framework for the management and regulation of both point and diffuse sources of emissions to air, and for pollutants with the potential to cause environmental harm. This Environment Protection Policy is made pursuant to the provisions of section 96A-96O of EMPCA 1994.

The environmental values to be protected under this Policy are:

- The life, health and well-being of humans at present and in the future;
- The life, health and well-being of other forms of life, including the present and future health, wellbeing and integrity of ecosystems and ecological processes;
- Visual amenity; and
- The useful life and aesthetic appearance of buildings, structures, property and materials.

4.1.2 Performance Requirements
The key performance requirements in relation to air are:

- To minimise occupational exposure to odours;
- To minimise odour impacts on adjacent land users during the development and operation; and
- To comply with Schedules 1, 2 and 3 of the Environmental Protection Policy (EPP) (Air Quality) 2004, which outline design and odour criteria.

4.1.3 Construction Impacts and Mitigation
Impacts associated with construction of the plant are expected to principally result from dust and vehicular emissions.

Measure to control dust release will be implemented during construction. These may include dampening of surfaces, covering of soil stockpiles, and postponement of work during excessively windy conditions.

Asphalt Suppliers will use vehicles that have been appropriately maintained such that vehicular emissions are kept to a minimum during construction.

4.1.4 Operational Impacts and Mitigation
The air emissions associated with operation of the Asphalt Plant are primarily expected to result from:

- The main stack, which serves the bag-house;
- The loading of a truck with asphalt; and
- The remainder of the asphalt load-out, up to the point where the truck’s load is covered with a tarpaulin.
The most significant point source of particulate matter and gaseous emissions is the main stack. Emissions from bag-filters on the filler and dust silos, and from the bitumen storage tanks’ vents are acknowledged, but are minor by comparison with those discharged from the main stack.

Fugitive particulate matter (dust) and Volatile Organic Compound (VOC) emission sources are primarily associated with general materials handling activities such as the loading/unloading of aggregate from the storage bays and the loading of hot mix asphalt product into transport vehicles. Other fugitive emission sources can include wind erosion from aggregate storage bays and truck movements on-site. The majority of these fugitive emissions are minor in nature, however the material storage bins will be designed to minimise dust emissions. Moreover, there are existing material storage bins and other potential dust generating sources on the existing site.

Additional mitigation measures relating to air impacts that will be addressed in the Operational EMP include:

- The maintenance of storage bays to minimise escape of materials;
- Ensuring storage bays are not filled above the wall height;
- Immediate clean-up of spills that occur during delivery and transfer operations;
- Damping down of fine material, where required, to minimise dust emissions;
- Regular maintenance of pollution control equipment such as cyclones and bag-houses;
- Procedures to maintain bitumen at the minimum practicable temperate for effective operation; and
- Adequate maintenance of burners, and operating procedures to ensure efficient operation.

The process of loading hot mix asphalt onto transport trucks, which occurs only periodically, has the potential to result in a transient, but noticeable odour emission, as is also the case when asphalt is applied to road surfaces.

4.1.4.1 Air Quality Assessment

A project specific Air Quality Assessment (AQA) is presented in Appendix C. Modeling was undertaken using AUSPLUME V6.0. Results of this modeling indicate the following:

- Compliance with Schedule 1 of the EPP (Air Quality) (Table 4);
- Compliance with Schedule 2 of the EPP (Air Quality) (Table 5); and
- Compliance with Schedule 3 of the EPP (Air Quality) would not be met in all foreseeable operating scenarios, as the 2 OU 99.5th percentile is predicted to extend into surrounding industrial sites and the 99.5th percentile 1-hour-average odour concentration off-site is predicted to be as much as 45 OU.
### Table 4  Mass emission rates – in-stack concentrations compared to policy limits

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Design Criteria</th>
<th>Calculated Value</th>
<th>Calculated Value</th>
<th>Compliance status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Concentration</td>
<td>Concentration</td>
<td>% of corresponding design criterion</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(mg/m³ unless otherwise indicated)</td>
<td>(mg/m³ unless otherwise indicated)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total metals</td>
<td>5</td>
<td>$5.6 \times 10^{-2}$</td>
<td>1.1 yes</td>
<td></td>
</tr>
<tr>
<td>Cadmium</td>
<td>1</td>
<td>$1.7 \times 10^{-2}$</td>
<td>1.7 yes</td>
<td></td>
</tr>
<tr>
<td>Mercury</td>
<td>1</td>
<td>$9.0 \times 10^{-4}$</td>
<td>0.09 yes</td>
<td></td>
</tr>
<tr>
<td>Oxides of nitrogen</td>
<td>2.0 g/m³ (as NO₂)</td>
<td>0.058</td>
<td>2.9 yes</td>
<td></td>
</tr>
<tr>
<td>Particulate matter</td>
<td>100</td>
<td>50</td>
<td>50 yes</td>
<td></td>
</tr>
<tr>
<td>Sulphuric acid mist, sulphur trioxide or both</td>
<td>100 (as SO₃ equivalent)</td>
<td>28</td>
<td>28 yes</td>
<td></td>
</tr>
</tbody>
</table>

### Table 5  Predicted ground level concentration compared to policy design criteria

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Averaging time</th>
<th>Design Criteria</th>
<th>Calculated Value</th>
<th>Calculated Value</th>
<th>Compliance status</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Concentration</td>
<td>%ile</td>
<td>Concentration</td>
<td>% of corresponding design criterion</td>
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</tr>
<tr>
<td></td>
<td>(mg/m³ unless otherwise indicated)</td>
<td></td>
<td>(mg/m³ unless otherwise indicated)</td>
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<td></td>
</tr>
<tr>
<td>Nitrogen dioxide</td>
<td>1-hour</td>
<td>0.16 ppm</td>
<td>99.9&lt;sup&gt;th&lt;/sup&gt;</td>
<td>4.4E-02 (0.021 ppm)</td>
<td>13 yes</td>
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<tr>
<td>Sulphur dioxide</td>
<td>1-hour</td>
<td>0.20 ppm</td>
<td>99.9&lt;sup&gt;th&lt;/sup&gt;</td>
<td>7.6E-03 (0.0027 ppm)</td>
<td>1.4 yes</td>
</tr>
<tr>
<td>Carbon monoxide</td>
<td>8-hour</td>
<td>9 ppm</td>
<td>100&lt;sup&gt;th&lt;/sup&gt;</td>
<td>0.79 (0.63 ppm)</td>
<td>7.0 yes</td>
</tr>
<tr>
<td>PM&lt;sub&gt;10&lt;/sub&gt;</td>
<td>24-hour</td>
<td>0.150</td>
<td>100&lt;sup&gt;th&lt;/sup&gt;</td>
<td>0.0089</td>
<td>5.9 yes</td>
</tr>
<tr>
<td>Lead</td>
<td>90-day</td>
<td>0.0015</td>
<td>100&lt;sup&gt;th&lt;/sup&gt;</td>
<td>7.7×10&lt;sup&gt;-8&lt;/sup&gt;</td>
<td>0.005 yes</td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>3-minute</td>
<td>0.076</td>
<td>99.9&lt;sup&gt;th&lt;/sup&gt;</td>
<td>9.7×10&lt;sup&gt;-4&lt;/sup&gt;</td>
<td>1.3 yes</td>
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<tr>
<td>Acetone</td>
<td>3-minute</td>
<td>48</td>
<td>99.9&lt;sup&gt;th&lt;/sup&gt;</td>
<td>9.7×10&lt;sup&gt;-3&lt;/sup&gt;</td>
<td>0.02 yes</td>
</tr>
<tr>
<td>Pollutant</td>
<td>Averaging time</td>
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<td>Calculated Value</td>
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</tr>
<tr>
<td>Asphalt fume</td>
<td>3-minute</td>
<td>0.17</td>
<td>99.9&lt;sup&gt;ith&lt;/sup&gt;</td>
<td>2.2×10⁻²</td>
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</tr>
<tr>
<td>Benzene</td>
<td>3-minute</td>
<td>0.10</td>
<td>99.9&lt;sup&gt;ith&lt;/sup&gt;</td>
<td>5.1×10⁻⁴</td>
<td>0.51</td>
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<tr>
<td>Beryllium</td>
<td>3-minute</td>
<td>0.00007</td>
<td>99.9&lt;sup&gt;ith&lt;/sup&gt;</td>
<td>3.3×10⁻⁷</td>
<td>0.47</td>
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<tr>
<td>Chromium, soluble chromic and chromous salts as Cr</td>
<td>3-minute</td>
<td>0.017</td>
<td>99.9&lt;sup&gt;ith&lt;/sup&gt;</td>
<td>1.4×10⁻⁶</td>
<td>0.01</td>
</tr>
<tr>
<td>Chromic acid and chromates as CrO₃</td>
<td>3-minute</td>
<td>0.0017</td>
<td>99.9&lt;sup&gt;ith&lt;/sup&gt;</td>
<td>3.0×10⁻⁸</td>
<td>0.002</td>
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<tr>
<td>Copper: fume</td>
<td>3-minute</td>
<td>0.0067</td>
<td>99.9&lt;sup&gt;ith&lt;/sup&gt;</td>
<td>5.4×10⁻⁶</td>
<td>0.08</td>
</tr>
<tr>
<td>Copper: dust and mist</td>
<td>3-minute</td>
<td>0.033</td>
<td>99.9&lt;sup&gt;ith&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>3-minute</td>
<td>0.05</td>
<td>99.9&lt;sup&gt;ith&lt;/sup&gt;</td>
<td>1.4×10⁻³</td>
<td>2.8</td>
</tr>
<tr>
<td>Manganese</td>
<td>3-minute</td>
<td>0.033&lt;sup&gt;*&lt;/sup&gt;</td>
<td>99.9&lt;sup&gt;ith&lt;/sup&gt;</td>
<td>1.5×10⁻⁵</td>
<td>0.05</td>
</tr>
<tr>
<td>Mercury (organic)</td>
<td>3-minute</td>
<td>0.0003</td>
<td>99.9&lt;sup&gt;ith&lt;/sup&gt;</td>
<td>7.0×10⁻⁷</td>
<td>0.23</td>
</tr>
<tr>
<td>Mercury (inorganic)</td>
<td>3-minute</td>
<td>0.017</td>
<td>99.9&lt;sup&gt;ith&lt;/sup&gt;</td>
<td>7.0×10⁻⁷</td>
<td>0.004</td>
</tr>
<tr>
<td>Toluene</td>
<td>3-minute</td>
<td>0.65</td>
<td>99.9&lt;sup&gt;ith&lt;/sup&gt;</td>
<td>2.7×10⁻³</td>
<td>0.42</td>
</tr>
<tr>
<td>Xylene</td>
<td>3-minute</td>
<td>0.35</td>
<td>99.9&lt;sup&gt;ith&lt;/sup&gt;</td>
<td>6.3×10⁻³</td>
<td>1.8</td>
</tr>
<tr>
<td>Zinc (as zinc oxide)</td>
<td>3-minute</td>
<td>0.17</td>
<td>99.9&lt;sup&gt;ith&lt;/sup&gt;</td>
<td>1.2×10⁻⁵</td>
<td>0.01</td>
</tr>
<tr>
<td>Arsenic</td>
<td>3-minute</td>
<td>0.00017&lt;sup&gt;*&lt;/sup&gt;</td>
<td>99.9&lt;sup&gt;ith&lt;/sup&gt;</td>
<td>1.0×10⁻⁶</td>
<td>0.6</td>
</tr>
<tr>
<td>Cadmium</td>
<td>3-minute</td>
<td>0.000033&lt;sup&gt;*&lt;/sup&gt;</td>
<td>99.9&lt;sup&gt;ith&lt;/sup&gt;</td>
<td>1.3×10⁻⁶</td>
<td>3.9</td>
</tr>
<tr>
<td>Nickel</td>
<td>3-minute</td>
<td>0.0003&lt;sup&gt;*&lt;/sup&gt;</td>
<td>99.9&lt;sup&gt;ith&lt;/sup&gt;</td>
<td>6.3×10⁻⁶</td>
<td>2.1</td>
</tr>
<tr>
<td>PAH (total)</td>
<td>3-minute</td>
<td>0.00073&lt;sup&gt;*&lt;/sup&gt;</td>
<td>99.9&lt;sup&gt;ith&lt;/sup&gt;</td>
<td>1.9×10⁻⁴</td>
<td>26</td>
</tr>
<tr>
<td>Total Suspended Particulates (TSP)</td>
<td>3-minute</td>
<td>0.33&lt;sup&gt;*&lt;/sup&gt;</td>
<td>99.9&lt;sup&gt;ith&lt;/sup&gt;</td>
<td>4.3×10⁻²</td>
<td>13</td>
</tr>
</tbody>
</table>

It is important to note that whilst the 2 OU 95.5<sup>th</sup> percentile was predicted to extend into industrial sites, the concentration at the nearest sensitive receptor (the Westella Bed and Breakfast) is 1.3OU (i.e below the 2OU criteria). Hence the area impacted by the higher odour concentration (i.e. above 2OU) is
industrial land adjacent to the site and not residential or other sensitive uses. Figure 8 shows the combined effect of all odour sources with predicted odour isopleths based on continuous operation for all operating hours (as originally proposed; 6:00 am to 6:00 pm).
Figure 8

Contour Plot of AUSPLUME Model Run - All Sources

Legend
- Sensitive Receptors
- Odour Contours

Map Projection: Universal Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994
Grid: Map Grid of Australia, Zone 55

Asphalt Suppliers Pty Ltd
Ulverstone Asphalt Plant

Job Number | Revision | Date
--- | --- | ---
32-14033 | A | 6 June 2008

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G:\31\32745\CADD\GIS\Projects\Figure7.wor (this figure has had the labels changed in adobe)
Effect of Intermittency

The modeling has been done with the conservative assumption of continuous truck loading during all originally proposed hours from 6:00am to 6:00pm (ie a 12 hour day). If truck filling and turnaround takes 6 minutes, there would be 10 trucks per hour and 110 trucks per day (based on the proposed 11 hour day). Only a maximum of 20 trucks are expected through during a peak demand day. Allowing for a 10-minute turnaround still results in an excess of daily requirements (66 compared to 20). The quick filling operation (6 minutes) produces a near 6-fold (110:20 or 5.5:1) reduction while the lower 10-minute turnaround produces a near 3-fold reduction (66:20 or 3.3:1). Frequency plots reflecting these values have been plotted in Figure 9. The 44-hour contour corresponds to the 99.5 percentile while the 132 and 264 contours correspond to approximately 10 and 5 minute filling/turn-around respectively. As expected, the area outside the site boundary decreases in extent to now only include the industrial zoned land.

Odours, at the levels and duration expected, do not cause risk to health or serious and/or material harm. The nearest receptor that could be considered residential is the Westella Bed & Breakfast. Odour levels here are below the Schedule 3 requirements so would not expect to have interference to amenity.
Figure 9

LEGEND

- Sensitive Receptors
- Odour Contours

Asphalt Suppliers Pty Ltd
Ulverstone Asphalt Plant

Frequency Plot with Adjustment for Non-Continuous Emissions

Map Projection: Universal Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994
Grid: Map Grid of Australia, Zone 55

Job Number | 32-14033
Revision | A
Date | 6 June 2008

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The major contributing source of odour is from the process of truck loading and covering (tarping). The best control for the odours during the tarping stage of the process is to limit the time of the emission. Asphalt Suppliers will adopt operating procedures that include the immediate tarping of all loads (Commitment 1). The Operational Environmental Management Plan (Section 4.18.2) will include other operating procedures to minimise odour during tarping, as well as include specific procedures to record incidents (including complaints regarding odour), and actions to be implemented if such are recorded. The typical response profile would include verification of the incident, identification of the cause, and remedial actions as appropriate.

Additional mitigation measures that will be adopted to control process emissions include:

- The drum dryer will operate under slight vacuum to minimise the potential for escape of dust through seals (Commitment 2);
- The drum dryer will be routinely maintained and tuned to improve combustions efficiency and reduce emissions of carbon monoxide and organic compounds associated with incomplete combustion (Commitment 3);
- Process controls will be regularly inspected and maintained in accordance with an inspection and maintenance schedule (Commitment 4);
- The mixing tower will have slight negative pressure so as to minimise the amount of blue smoke and odour emissions released from the tower as the asphalt is loaded into trucks (Commitment 5); and
- The bitumen kettles will be fitted with automatic temperature control devices that will be set at the minimal practicable operating temperature (160 – 165 degrees) to minimise odour and VOC emissions (Commitment 6).

Should odour become a significant problem, the AQA (Appendix C) presents a number of additional mitigation measures, such as an extraction system through carbon filters to reduce fugitive odour emissions during loading, that Asphalt Suppliers will investigate and implement as necessary (Commitment 7).

4.2 Liquid Waste

4.2.1 Legislative and Policy Requirements

The key Policy surrounding the management of liquid waste is the State Policy on Water Quality Management 1997 (SPWQM 1997). The purpose of the Policy is to achieve the sustainable management of Tasmania’s surface water and ground water resources by protecting or enhancing their qualities while allowing for sustainable development in accordance with the objectives of Tasmania’s RMPS. Some of the core objectives are to:

- Focus water quality management on the achievement of water quality objectives which will maintain or enhance water quality and further the objectives of Tasmania’s RMPS;
- Ensure that efficient and effective water quality monitoring programs are carried out; and
- Ensure that diffuse source and point source pollution does not prejudice the achievement of water quality objectives and that pollutants discharged to waterways are reduced as far as is reasonable and practical, by the use of best practice environmental management.
4.2.2 Performance Requirements

The key performance requirements will be to prevent any potentially contaminated waters from entering the environment in accordance with the SPWQM 1997.

4.2.3 Construction Impacts and Mitigation

Liquid waste generation during construction is limited to the potential for surface run-off mobilising sediments during heavy rainfall events. The risk of significant impacts arising from such an event is considered low as the site is flat and will be covered with hardstand. Construction techniques will be employed to divert uncontaminated stormwater away from the site to reduce the amount of contaminated run-off. Additional mitigation measures such as silt traps and hay bails will be employed should inclement weather threaten to cause sediment mobilisation and runoff (Commitment 8).

Minimal hazardous materials are anticipated to be used onsite during construction. Should such materials be required, they will be stored within bunded areas in accordance with relevant Australian Standards and Codes of Practice.

4.2.4 Operational Impacts and Mitigation

During the operation phase, the proposed asphalt plant itself will not have a wastewater stream. Activities such as truck washing are not intended to occur onsite and, as such, liquid waste generation will be limited to uncontaminated stormwater runoff, potentially contaminated stormwater runoff and domestic wastewater.

**Stormwater Runoff**

As discussed in Section 2 the entire hardstand area will be surrounded by stormwater capture drains that direct stormwater through a triple interceptor trap (Ecosol or similar) or gross pollutant trap for staged treatment, prior to discharge into the existing stormwater system. The triple interceptor trap will remove silt, grease and suspended solids from the storm water prior to discharge and will be of appropriate design and size to treat predicted 1 in 20 year storm events (Commitment 9).

The outflow from the inceptor trap/gross pollutant trap is proposed to discharge to the Council stormwater system, via the existing reticulation system. The treatment trap will be cleaned regularly in accordance with a maintenance schedule proposed by the product supplier and approved by the relevant authorities.

A concrete contaminated drainage pad will be established surrounding the plant and for the handling of hazardous materials and spraying of trucks with release agent (Truck-slip). Trucks will be manually sprayed with a small quantity of release agent such that, during normal operation, there will be no run off of material onto the pad. Hence, the pad is effectively a management measure to address any spills during operation of the plant or over application of release agent. A safety shower will be installed next to the operation room which will also be contained within the contaminated drainage pad. Runoff on the contaminated drainage pad will be collected in a grated pit and subsequently, via a drainage network, flow into the triple interceptor trap or gross pollutant trap. The pit outlet pipe will be fitted with a manual shut off valve to contain and control any accidental spills that may occur (Commitment 10). Should a spill occur that can not be cleaned up manually, a licensed waste contractor will be used to pump out and dispose of the contaminated liquid. Valve operation and spillage clean up operations will form a
component of the environmental management and emergency response plan such that no contaminated water will be discharged to the stormwater system.

The 200L drums of Truck-slip will be stored within the truck spraying bay on the contaminated drainage pad.

There will be a bunded area established on site for the bitumen storage (2 above ground 30,000L tanks) and hot oil heater. As with the contaminated drainage pad, the bund outlets will be manually operated such that spills can be pumped out by a licensed waste contractor while clean stormwater can be released to the triple interceptor trap. Bunded areas will be in accordance with relevant standards and codes of practices. All filler points will be located within the tank bund (Commitment 11). Locked valves will be fitted to the bund to contain spillage and to periodically drain stormwater. Stormwater will be drained from the bunds and treated in the triple interceptor/gross pollutant trap prior to discharge to the Council stormwater. Spills will not be drained into the triple interceptor trap, but will be removed and disposed of off-site by a licensed waste contractor (Commitment 12).

There are no underground storage tanks proposed.

At this stage detailed design of the site water management system has not been undertaken. Asphalt Suppliers plans to take advice from the plant supplier and will provide these details to DPIPWE for approval following their completion.

**Domestic Wastewater**

Domestic wastewater generation from onsite amenities will be minimal in quantity as there will be only 2-3 staff employed on-site. Wastewater will be discharged into the existing sewer system. The volume and quality of effluent predicted is not anticipated to require a Trade Waste Agreement due to the small quantity of domestic waste anticipated, and is well within the capacity of the existing systems.

As with the site stormwater management, detailed design has not been undertaken for the domestic wastewater management. Asphalt Suppliers will provide these plans to DPIPWE for approval following their completion.

**4.3 Groundwater**

**4.3.1 Legislative and Policy Requirements**

The construction and operation of the Asphalt Plant must fulfill the requirements of the following legislation and policy, in relation to groundwater:

- *Water Management Act 1999*;
- SPWQM 1997;
- ANZECC and Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) (October 2000), *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, Volume 1; and
4.3.2 Performance Requirements

In accordance with the above mentioned legislation, the key performance requirement for the proposed Asphalt Plant is the protection of beneficial uses of groundwater. The SPWQM 1997 outlines protected environmental values for groundwater based on total dissolved solids (TDS). There is no known data relating to the TDS levels in the groundwater at the site and as such a precautionary approach of no identifiable impact to groundwater is adopted.

4.3.3 Background Groundwater Quality

As discussed in Section 3.2.6 background groundwater data is limited and the quality of the groundwater at the site is unknown.

4.3.4 Construction Impacts and Mitigation Measures

The potential for impacts on groundwater during construction are expected to be minimal. It is anticipated that the only hazardous materials to be used onsite during construction will be fuels (i.e. diesel). Hazardous materials management is discussed in Section 4.6.

There is to be no significant excavation at the site, thereby negating the possibility of intersection of the groundwater table through construction.

4.3.5 Operational Impacts and Mitigation Measures

It is considered that there is a low potential risk to groundwater during the operation of the Asphalt Plant. Potentially contaminating materials stored at the site will be in above ground tanks, within bunded areas, as discussed in Section 4.6. No below ground storage areas will be constructed on the site.

4.4 Noise Emissions

A project specific Noise Impact Assessment (NIA) has been undertaken and is presented in Appendix D. The following is a summary of the principal points defined in the Assessment.

4.4.1 Legislative and Policy Requirements

The noise assessment has been prepared with consideration to the following Tasmanian and NSW standards and guidelines:

- The State Government of Tasmania’s Acts and Regulations:
  - Environmental Management and Pollution Control Act 1994 (EMPCA); and
  - Environmental Management and Pollution Control (Miscellaneous Noise) Regulations 2004 (EMPCR).
- Tasmanian Environment Division (ED) of the Department Environment, Parks, Heritage and Arts:
- Tasmanian Environment Division (ED) of the Department of Primary Industries and Water (DPIW):
- NSW DECC’s Environmental Noise Control Manual (ENCM); and
4.4.2 Background Noise

In order to establish background noise levels, unattended noise monitoring was undertaken at two locations from the 31st March 2008 to 10th April 2008 and from the 31st March 2008 to the 6th April 2008. Full results and discussion are provided in the NIA (Appendix D).

4.4.3 Performance Requirements

**Construction Noise Criteria**

Criteria for the construction phase applied to the assessment were sourced from Section 171 of the ENCM. The criteria are established by applying a correction factor to the measured background noise levels based on the expected construction period. Construction noise criteria based on Table 3-1 background noise levels of Section 3.4.1 of this report, are shown in Table 6.

<table>
<thead>
<tr>
<th>Construction Period</th>
<th>Level Restrictions</th>
<th>Criterion L&lt;sub&gt;A10&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 4 weeks</td>
<td>Background + 20 dB(A)</td>
<td>70</td>
</tr>
<tr>
<td>Exceeding 4 weeks, though less than 26 weeks</td>
<td>Background + 10 dB(A)</td>
<td>60</td>
</tr>
<tr>
<td>More than 26 weeks</td>
<td>Background + 5 dB(A)</td>
<td>55</td>
</tr>
</tbody>
</table>

As the construction period is expected to last approximately 6 weeks, the applicable daytime criterion was conservatively adopted as 60 dB(A)<sub>L</sub><sup>10</sup> for all residential receivers during this phase of the project.

**Operational Noise Criteria**

The operational noise criteria were determined with consideration to the NSW Industrial Noise Policy (INP). The INP provides guidance on the assessment of operational noise impacts. The guidelines include both Intrusive and Amenity criteria that are designed to protect receivers from noise significantly louder than the background level and to limit the total noise level from all sources near the receiver.

Intrusive noise limits set by the INP control the relative audibility of operational noise compared to the background level. The amenity criteria limit the total level of extraneous noise. Both sets of criteria are calculated and, in the case of steady noise sources, the lower of the two in each time period normally apply, becoming the Project Specific Noise Levels.

The project specific noise levels for residential receivers are presented in Table 7.

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Sensitive Receiver</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Day 7 am to 6 pm</td>
</tr>
<tr>
<td>A: Rating Background Level</td>
<td>50 L&lt;sub&gt;A90&lt;/sub&gt;(day)</td>
</tr>
</tbody>
</table>

### B: Intrusiveness Criteria

L_{Aeq(15min)} = A + 5dB

<table>
<thead>
<tr>
<th>Sensitive Receiver</th>
<th>Day 7 am to 6 pm</th>
<th>‘Night’ 6 am to 7 am</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>55 L_{Aeq(15min)}</td>
<td>47 L_{Aeq(15min)}</td>
</tr>
</tbody>
</table>

### C: Urban Amenity Criteria

(Table 2.1 INP)

<table>
<thead>
<tr>
<th>Sensitive Receiver</th>
<th>Day 60 L_{Aeq(day)}</th>
<th>‘Night’ 45 L_{Aeq(night)}</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### D: Amenity Criteria:

(INP Table 2.2 Adjusted)

<table>
<thead>
<tr>
<th>Sensitive Receiver</th>
<th>Day</th>
<th>‘Night’</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### E: Modifying factor corrections (INP Table 4.1)

<table>
<thead>
<tr>
<th>Sensitive Receiver</th>
<th>Day</th>
<th>‘Night’</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### F: High traffic noise criterion

<table>
<thead>
<tr>
<th>Sensitive Receiver</th>
<th>Day</th>
<th>‘Night’</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Project Specific Noise Level

(Pg 21 INP)

<table>
<thead>
<tr>
<th>Sensitive Receiver</th>
<th>Day 55 L_{Aeq(15min)}</th>
<th>‘Night’ 45 L_{Aeq(night)}</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Project specific noise levels for industrial receivers have been developed following discussions with DPIPWE and are presented in Table 8.

#### Table 8 Project Specific Noise Levels – Industrial Receivers

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Industrial Receivers I1 – I4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>When in Use</td>
</tr>
<tr>
<td>Recommended Acceptable Noise Level L_{Aeq} dB(A)</td>
<td>65</td>
</tr>
</tbody>
</table>

Full details of the methodology used to derive the Operational Noise Criteria is presented in the NIA (Appendix D).

#### 4.4.4 Construction Impacts and Mitigation Measures

It is expected that noise generating construction equipment on site may involve a dump truck, concrete mixer, grader, excavator and a crane.

Typical noise levels produced by such construction plant, sourced from AS2436: 1981 *Guide to Noise Control on Construction, Maintenance and Demolition Sites* and from GHD’s internal database, indicate that an exceedance of the 60dB(A)L_{10} construction criterion may occur at the nearest residential receiver at times. This is a result of construction machinery operating at their maximum sound power, in particular when activities occur with a sound power level greater than 114dB(A) occur on site.

This is not an uncommon feature of construction sites but the nuisance is partly alleviated by the fact that site activities are temporary in nature. However, Asphalt Suppliers will take every reasonable and practicable step to ensure that the noise impact on the nearest sensitive receivers is minimised at all times. Impacts to local residents will be minimised by limiting construction times to between 7:00 am and 6:00 pm Monday – Friday and 8:00 am and 1:00 pm on Saturdays. Noise will be minimised by the use of well maintained machinery with noise attenuation equipment as appropriate.
4.4.5 Operational Impacts and Mitigation Measures

Acoustic modelling was undertaken using Cadna-A to predict the effects of industrial noise generated by the proposed site operational activities.

Two scenarios were modeled based on the following assumptions and inputs:

- Scenario 1 – For the duration of the noise monitoring period, meteorological conditions were considered neutral; and
- Scenario 2 – Prevailing north-westerly wind vectors at 40 km/hr (refer outlined in Section 5.2.2 above) have been modelled in Cadna-A with consideration to ISO 9613-2.

Predicted emitted noise level contribution contours from each scenario from the proposed asphalt plant (plant only) are shown graphically in Figure 10 and Figure 11. Full details of the modeling work are shown in Appendix D.
Figure 10  Cadna-A $L_{Aeq}$ Day Period Predicted Noise Level Contribution Contours From the Proposed Asphalt Plant, Neutral Conditions
Figure 11  Cadna-A $L_{Aeq}$ Day Period Predicted Noise Level Contribution Contours From the Proposed Asphalt Plant, Prevailing NW Wind Conditions
Based on the results of the modeling, it was concluded that:

- Project specific noise goals should be met for day-time general operations at both of the nearest sensitive residential receivers (R1 and R2);

- There would be a predicted exceedence of the ‘night’ (6am to 7am) noise goals of 3 dB(A) at R1, and 4dB(A) at R2 if these operating hours were adopted. This resulted from the predicted noise contribution of site mechanical plant operations, specifically as a result of the contribution from the bag filter and the prevailing winds.

As a result of this potential ‘night’ non-compliance, Asphalt Suppliers have amended their operating hours to only include day-time operations (ie from 7am to 6pm), resulting in the project specific noise goals being met at all of the nearest residential receivers.

- There was a predicted potential non-compliance to project specific noise goals of 12 dB(A) at the nearest industrial site boundary from site mechanical plant operations, specifically as a result of the contribution from the bag filter dominant noise source.

This non-compliance is at the site boundary (at the location of an electric fence) and is not an area of the adjoining properties used for regular human activity. The nearest operational buildings on the adjacent properties have a modeled noise levels of 59, 58 and 63dB(A) respectively, which is below the industrial criteria of 65dB(A).

The Operational Environmental Management Plan will include specific procedures to record incidents and exceedences (including complaints regarding noise), and actions to be implemented if such are recorded. The typical response profile would include verification of the incident, identification of the cause, and remedial actions as appropriate.

A noise monitoring event will be undertaken within 2 months of commissioning (Commitment 13). Should emitted noise levels exceed the noise goals indicated above, Asphalt Suppliers will investigate and implement noise attenuation devices as necessary. The NIA (Appendix D) presents a number of potential mitigation measures that Asphalt Suppliers will investigate as necessary.

### 4.5 Solid and Controlled Waste Management

#### 4.5.1 Legislative and Policy Requirements

The construction and operation of the site must fulfil the requirements of the following legislative and policy requirements in relation to solid and controlled waste:


- Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG) Code; and

- Used Packaging Materials NEPM.

#### 4.5.2 Performance Requirements

The key performance requirements, as related to the legislation outlined above are:

- Approval must be sought prior to controlled wastes being transported from the site;

- Controlled wastes must be removed from the site by an approved controlled waste transporter; and
Controlled wastes must be disposed of at an approved disposal facility.

Waste management during construction and operation will generally be in line with the principles of the waste hierarchy.

### 4.5.3 Construction Impacts and Mitigation Measures

Waste construction materials and packaging will be generated during the construction period. These materials will be stored in a designated laydown yard or in bins located in convenient areas and disposed of regularly to a recycling facility or an approved disposal facility as appropriate. Waste minimisation and recycling will be undertaken where possible.

### 4.5.4 Operational Impacts and Mitigation Measures

The proposed development will not involve production of significant waste materials. The potential areas for waste generation are:

- Small quantities of office and domestic waste which will join the existing waste stream from Hardings Hotmix at 30 Industrial Drive for collection by Council;
- Waste oils and material from the sumps, which will be collected by a licensed operator;
- Baghouse filter bags, which will be transported to landfill; and
- Waste oil rags, which will be segregated and removed by a licensed waste contractor.

The source and destination of these waste streams are outlined in Table 2 in Section 2 of this document.

The production of waste oil and hydrocarbon waste will be minimized. Sources of these products include the following:

- Hydrocarbon waste from routine plant maintenance, oily rags; and
- Fuel/diesel leakage from transport trucks whilst unloading and loading.

Dedicated and clearly marked bins and drums will be used for hydrocarbon-contaminated wastes. A licensed waste contractor will collect these for disposal.

To ensure the continued integrity of the interceptor trap, periodic cleaning (pumping out) of the interceptor trap will occur and waste material removed will be consigned to landfill. A licensed waste contractor specialising in interceptor pit maintenance will collect waste for disposal.

The proposed development is not anticipated to involve asphalt recycling.

### 4.6 Dangerous Goods

#### 4.6.1 Legislative and Policy Requirements

The construction and operation of the site must fulfil the requirements of the following legislation and policy in relation to dangerous goods:

- *Australian Code for the Transport of Dangerous Goods by Road and Rail*;
- *Dangerous Substances (Safe Handling) Act 2005* and associated regulations;
- *Australian Dangerous Goods Code* (6th edition); and
4.6.2 Performance Requirements

Dangerous goods legislation is prescriptive, as opposed to many other forms of environmental legislation, which are performance based. As a result all aspects of dangerous goods handling and storage will be undertaken in accordance with the above-mentioned legislation.

4.6.3 Construction Impacts and Mitigation Measures

Small quantities of fuel, lubricants and other chemicals may be stored on-site during the construction phase of the project. The transport and storage of these dangerous goods will be in accordance with the relevant standards and legislative requirements.

Temporary bunding and spill kits will be utilised as for any onsite storage that may be required.

4.6.4 Operational Impacts and Mitigation Measures

A limited range of dangerous goods will be used onsite during the operational phases of the proposed development. These include:

- Gas for heating bitumen and the burner (Gas storage tank in accordance with manufacturer’s specifications);
- Hot Oil Heater with circulating oil;
- Bitumen storage in 2 X 30,000L silos on site; and
- Truck-slip release agent stored in 200L drums within the truck spray contamination pad.

All hazardous materials will be stored within bunded areas in accordance with AS 1940 (Commitment 14). An inventory will be kept of all hazardous materials stored on the site, which will identify the location of storage facilities, the maximum quantities of each hazardous material likely to be kept in storage and accompanying material safety data sheets (MSDS). MSDSs will be kept at the site for reference at all times, and will be updated annually or when the chemicals used change. Relevant staff will be trained in the use of specific hazardous materials prior to operation and on an as-needs basis thereafter. Spill kits will be kept on site in suitable locations and staff trained in their use (Commitment 15).

4.7 Biodiversity and Nature Conservation Values

4.7.1 Key Legislative and Policy Requirements

Biodiversity and nature conservation values in Tasmania are protected by a range of legislation and policy, the key documents relevant to this project include:

- Environment & Biodiversity Conservation Act 1999 (EPBC Act);
- Tasmanian Threatened Species Protection Act 1995 (TSPA);
- Regional Forestry Agreement;
- Forest Practices Act 1985 and associated regulations;
- Weed Management Act 1999; and
4.7.2 Performance Requirements
Under the above stated legislation the key performance requirements for the development are to avoid impacts to listed species or communities or seek appropriate approvals if such avoidance is not possible and to limit the potential for the spread of weeds, pests and diseases.

4.7.3 Background Biological Values
The site exists as cleared hardstand and there are no significant background biological values to be considered.

4.7.4 Construction Impacts and Mitigation Measures
During the construction phase of the Asphalt Plant, it is unlikely that there will be any significant impacts to the flora and fauna of the proposed site.

4.7.5 Operational Impacts and Mitigation Measures
During the operational phase of the Asphalt Plant, it is unlikely that there will be any significant impacts to the flora and fauna of the proposed site.

4.8 Marine and Coastal

4.8.1 Legislative and Policy Requirements
In Tasmania there are a wide range of policies and pieces of legislation relating to the natural environment and human activities within the environment. The key documents pertaining to the marine environment include:

- Living Marine Resources Management Act 1995;
- Environmental Management and Pollution Control Act 1994 (EMPCA);
- Tasmanian State Coastal Policy 1996; and
- State Policy on Water Quality Management 1997

4.8.2 Performance Requirements
The principal performance requirements of this development that relate to the marine environment are those outlined in the above legislations. In particular, the development should not have a measurable impact on the marine or coastal environment, its water quality or ecosystems.

4.8.3 Construction Impacts and Mitigation Measures
The site is located approximately 300m from the coast and construction of the proposed facility is not expected to impact either the coast or the marine environment. There is a small potential for sediments and runoff to occur to the coast during construction. This is discussed in Section 4.2.3)
4.8.4 Operational Impacts and Mitigation Measures

Impacts to the marine and coastal environment are expected to be minimal as a result of the proposed development. The only potential impacts are associated with liquid wastes and are addressed in Section 4.2.

4.9 Greenhouse Gases and Ozone Depleting Substances

4.9.1 Legislative and Policy Requirements

The National Greenhouse Strategy (NGS) provides Australia with the strategic framework for an effective greenhouse response and for meeting current and future international commitments. The goals of the NGS are:

2. To limit net Greenhouse Gas (GHG) emissions, in particular, to meet our international commitments;
3. To foster knowledge and understanding of greenhouse issues; and
4. To lay the foundations for adaptation to climate change.

At a State level the Tasmanian Greenhouse Statement 1999 aims to further the understanding of Tasmania’s greenhouse gas emissions status and highlight opportunities for contributing to reducing Australia’s emissions. Industrial Processes and Waste Management, Goal 3, of the Statement relates to reducing waste and other emissions resulting from industrial processes. This goal outlines the various government initiatives to support businesses in improving environmental performance in design and process as well as reducing wastewater and organic materials that contribute to GHG emissions.

4.9.2 Performance Requirements

Performance requirements relate to the assessment of GHG emissions and the reduction of GHG production where feasible.

4.9.3 Construction Impacts and Mitigation Measures

GHG emissions during construction will be minimal and will include the use of machinery and equipment on site and the transport of plant and infrastructure to the site. Asphalt Suppliers will ensure that all machinery and equipment onsite is in good working order so as not to emit unnecessary GHGs.

4.9.4 Operational Impacts and Mitigation Measures

A high level GHG assessment has been undertaken for the assessment. The predicted GHG emissions are presented in Appendix E. It is predicted that the proposal will emit in the order of 2,810 t CO$_2$-e per year. This figure is strongly influenced by the inclusion of trucking movements (1,820 t CO$_2$-e) in the overall emissions calculation. It is noted that the proposal is not introducing new trucking movements, but rather diverting existing movements. Asphalt Suppliers will endeavour to minimise the release of GHG emissions by maintaining the plant in good working order and undertaking preventative maintenance over the life of the plant.
4.10 Heritage

A Historic Heritage assessment was undertaken and is provided in Appendix F. The following is a summary from this assessment.

4.10.1 Legislative and Policy Requirements

The key legislation and policy relating to historic heritage and of relevance to the site are:

- The Historic Cultural Heritage Act 1995, which establishes the Tasmanian Heritage Council and the Tasmanian Heritage Register;
- The Central Coast Planning Scheme 2005 which applies to use and development in a heritage place or heritage area; and
- The Project Specific Guidelines for the proposed development require the DPEMP to consider possible impacts on the setting or significant qualities of the 'Westella' heritage property to the south east of the Site. The General Guidelines also refer to identifying potential effects of the proposal on heritage sites and areas.

4.10.2 Performance Requirements

Under the Historic Cultural Heritage Act 1995, a person must not carry out any works in relation to a registered place or a place within a heritage area which may affect the historic cultural significance of the place unless the works are approved by the Heritage Council. Because the development site is not entered in the Heritage Register, the proposed development does not require the approval of the Heritage Council.

Neither the Historic Cultural Heritage Act 1995 nor the Central Coast Planning Scheme create provisions for consideration of potential impacts from development adjacent to a heritage registered place. That is, potential heritage impacts on the significance of Westella do not require a Works Application.

However, the policy requirements of the Project Specific Guidelines require considerations of potential impacts on Westella.

4.10.3 Background Heritage Values

The site itself does not currently appear on any statutory or non-statutory heritage registers or lists and is not considered to be a place of heritage significance. One historic heritage place has previously been identified within the broader vicinity of the Site. This place, Westella, is located at 68 Westella Drive, on the opposite side of the Bass Highway, approximately 150 meters to the south east of the Site.

4.10.4 Construction Impacts and Mitigation

Prior consultation with the Aboriginal Heritage Office (now Aboriginal Heritage Tasmania), Department of Environment, Parks, Heritage and the Arts (now Department of Primary Industries, Parks, Water and Environment) established that a specific site survey for this project was not required. Nonetheless, the provisions of the Aboriginal Relics Act 1975 remain applicable. This Act governs the treatment of Aboriginal relics and protected sites in Tasmania. It is an offence to destroy, damage, deface, conceal or otherwise interfere with a relic. Aboriginal cultural heritage is defined under the Act as 'any place, site or object made or created by, or bearing the signs of the activities of, the original inhabitants of Australia or descendants of such inhabitants in or before 1876 in Tasmania'.
Hence if any Aboriginal heritage features are identified during the construction phase, works shall cease and advice will be sought from Aboriginal Heritage Tasmania prior to re-commencement of works (Commitment 16).

As the proposal does not include any European heritage places or sites, no specific mitigation measures are necessary.

4.10.5 Operational Impacts and Mitigation

The proposed development will not have direct impacts on the significance of Westella. The issue under consideration is therefore, whether the proposed development will have indirect impacts on the heritage significance of Westella, namely impacts on the setting of the place.

The proposed Asphalt Plant itself is to be located at 34 Industrial Drive, on the north portion of the site. The development area is currently a vacant lot. Existing industrial buildings are located to the east and west along Industrial Drive and to the south with the Supreme Cakes building. Beyond the immediate surrounds of the Site are the major developments of the Industrial Estate. A series of existing roadways separate the Site from Westella, including Industrial Drive, the four lane, dual carriageway of the Bass Highway and Westella Drive.

It is considered that the setting and siting to the south of Westella forms part of the significant qualities of the place, in particular its relationship with the surrounding open agricultural/semi-rural land. The value of Westella’s association with the coast has been adversely impacted upon by previous industrial and major road developments.

The existing industrial structures on the subject Site will screen most of the proposed new structures, although part of the Main Tower will be visible above the roofline of the existing buildings. Because of the level of past impacts on the setting of Westella, the partial visibility of the proposed development is not anticipated as having a substantial heritage impact on Westella.

4.11 Land Use and Development

4.11.1 Legislative and Policy Requirements

The proposal constitutes a Level 2 activity under Schedule 2 of EMPCA 1994. As such the proposed activity is deemed to be a discretionary application pursuant to Section 25(1)(a) of EMPCA and Section 57 of the Land Use Planning and Approvals Act 1993 (LUPAA). The proposal also invokes discretion under the Attenuation Schedule of the Central Coast Planning Scheme 2005, as is detailed in the attached planning report in Appendix B.

4.11.2 Performance Requirements

LUPAA and EMPCA are the primary land use planning and environmental legislative instruments under the Resource Management and Planning System (RMPS) of Tasmania. The objectives of the RMPS are set out in Schedule 1 of the Land Use and Planning Approvals Act 1993. This proposal is assessed to be consistent with these objectives as detailed in the attached planning report in Appendix B.
4.11.3 Potential Construction and Operational Impacts and Mitigation Measures

This section identifies any potential effects of the proposal in terms of constraints and/or benefits on current or future use of land within the proposed site and surrounding area. Where relevant, measures to avoid, mitigate and compensate for any possible adverse effects are identified. In particular, the effect on the following proposed or current activities is assessed:

- Tourist or recreation activities, such as camping areas, picnic areas, walking tracks, horse riding tracks, heritage trails etc.;
- Residential activities;
- Industrial activities;
- Agricultural activities;
- Commercial activities;
- Local and regional tourism; and
- Other commercial activities.

The attached planning report in Appendix B illustrates the land uses adjacent to the Asphalt Plant site and the land zonings from the Central Coast Planning Scheme 2005. Section 3.1 describes the land use (current and historic) and land ownership (proposed development site, surrounds, and land that may be affected by the proposal).

The proposal is not considered to unreasonably affect the siting of future land use on the adjoining properties, having regard to the topography, size of the adjoining lots, and the industrial character of the area. The proposal is compatible with the current uses within the site, and these will continue both during construction and operation of the proposal. The proposal is also compatible with the surrounding industrial activities as is reflected by the Industrial zoning.

In summary, the proposed use is considered to be appropriately located within the Industrial zone. The subject site is located in proximity to existing residential uses, however, will maintain adequate attenuation distances between the proposed development and these uses, to minimise land use conflict.

There will be limited impacts on the surrounding land resulting from the operation of the Asphalt Plant. The proposed Asphalt Plant can be constructed on the site with minimal disruption to the existing activities in the immediate area.

4.12 Visual effects

4.12.1 Legislative and Policy Requirements

The key legislative document addressing visual impacts in the area are the:

- Central Coast Planning Scheme 2005; and
- The objectives of the Land Use Planning and Approvals Act 1993.

Of these three documents, the Planning Scheme and LUPAA deal with the broader issues of maintaining the environmental and social values of the area (of which the visual landscape is a relevant factor).
4.12.2 Visual Impact Objectives

Tasmania’s landscape is an important consideration in any land use planning exercise because of its cultural, ecological and/or scenic qualities. In regards to the development site, it is already within an industrial area. As the development will be visible from the Bass Highway, it is important that this development or any other development minimise negative effects on the landscape and visual qualities of the area.

It is important to acknowledge that the Resource Planning and Development Commission (RPDC), in their State of Environment reports and in the preparation of other studies and documents, have recognised the importance of maintaining landscape values within Tasmania, in particular for the following reasons:

- Protecting landscape values can sometimes help to protect a range of other environmental services. Landscape values often have an association with environmental and natural resource quality; the values that people appropriate in a landscape are often also important ecologically;
- The landscape values of the State remain a major draw card for the tourism industry and these landscapes should be managed as a key component of tourism infrastructure.

The proposed Asphalt Plant development is sited and designed to minimise the visual appearance as viewed from the site and surrounds. The proposal provides for adequate separation and attenuation distances to the nearest residential areas for the use proposed. Additional landscaping is not considered necessary given the existing site and surrounding characteristics in particular the existing buildings, setback of the proposed development and the topography.

4.12.3 Approach to Visual Impact Assessment (Methodology)

The visual assessment was conducted in the following manner:

- Step 1 – Fieldwork – taking notes, photographs of the subject and surrounding sites;
- Step 2 – Vantage point analysis from on site, the surrounding area and an observation from the Heritage Listed site sited across the Bass highway;
- Step 3 – A brief assessment of any potential impacts arising from the development;
- Step 4 – Meeting/discussion with the property owners/developers to discuss details of the proposed operation; and
- Step 5 – Analysis of any Visual Values, taking into account the adjoining land owners/businesses.

4.12.4 Existing Visual Setting

Vantage Point Analysis

From the vantage points of Industrial Drive and surrounding views including opposite the Bass Highway, the site is relatively hidden from surrounding businesses, however would be noticeable from the Southern side of the Bass Highway. Views from these points reveal an existing industrial area; therefore the proposed plant will not adversely impact the area. The proposed maximum height of the Asphalt Plant is approximately 14 metres, of this the only visual part of the development will be of the top of the structure with the main tower totally exposed. The plant will be totally visible from the southern side of the Bass Highway as the majority of residential development is elevated from the Hillside. However, as
the surrounding businesses have similar sized developments and structures, the proposal will not be a stand alone structure and will blend in with the surroundings.

- **Access**

  The proposed development has three (3) possible access scenarios available. All proposed access points to the subject site are outlined and identified in the Visual Appendix (Appendix G).

- **Highway**

  The proposed development will be easily visible from the highway as it is elevated approximately 2.4 metres at any given time above the subject site and overlooks the existing business building in front of the subject site. Although the proposed plant will be visible from the highway it will fit in with the surrounding structures and will not have any detrimental visual affect on passing traffic.

- **Adjoining Land Owners / Existing Businesses**

  The existing businesses in the immediate area are all of an industrial nature, with the proposed development adding to this environment. Adjoining landowners and their current operations are outlined and identified in the attached photos in the Visual Appendix (Appendix G).

- **On Site Observation & Existing Uses**

  34 Industrial Drive is currently used as an additional storage area for excess gravels used by Harding’s Hotmix Pty Ltd. The two businesses currently hold a lease agreement between Asphalt Suppliers Pty. Ltd. and Harding’s Hotmix Pty. Ltd. The site will be cleared of all gravel storage in preparation for the proposed Asphalt Plant.

  The site will be sealed (hard stand) with adequate drainage and infrastructure. The existing fence between Harding’s Hotmix and 34 Industrial Drive will be removed and the existing bins between the southern end of 30 Industrial Drive and 32 Industrial Drive will be maintained.

  Access will remain to the storage facility sited to the eastern boundary with the proposed plant being constructed further to the northern corner of the site and away from this existing use.

  There will be no construction through the central part of site due to a large drainage easement cutting across from east to west. The only disturbance will be the preparation of the hardstand and any relating service upgrades.

  There are no outbuildings erected on site that require removal. The site will be fully sealed pavement with adequate drainage for the proposed Asphalt Plant.

- **Heritage Listed House - Westella**

  The heritage visual assessment was taken from two (2) main vantage points. The first vantage point was taken from the central part of the proposed plant site, observing across the Bass Highway (please note that the heritage site can not been seen from the subject site due to the adjoining land owners buildings). The roof of the heritage listed house and surrounding trees could only been seen from this vantage point. The second vantage point was taken from the actual heritage site looking over the Bass highway towards the proposed site. Once the development is complete, the only part of the plant that will be visible will be the Asphalt Plant’s ‘Stack’ that will be in line with the adjoining land owners structures (Hanson). Therefore, based on this visual assessment, it is concluded that the subject proposal will not have any detrimental visual impacts on the heritage-listed site. The
discussed vantage points are identified in the attached photos in the Visual Appendix (Figure 13, 14, 15, 16 and 17).

- **Surrounding Area**
  
The site is located within the largest industrial estate within the Central Coast Municipal Area. This estate is zoned Industrial and occupies an area of approximately 37 Ha. Within this immediate area, two major Industrial businesses operate. This includes: Adbri Masonry (west of the subject site) and Botanical Resources Australia (north of the subject site). The Bass Highway runs parallel with the subject site. Land located on the opposite side of the Bass Highway to the site is zoned Rural. Further to the southwest is a pocket of Low Density Residential land.

  The location and nature of the industrial facility does not have any direct impact on any individual residences, schools, hospitals, caravan parks and any other similar sensitive uses. The subject site is not sited near any tourist or recreation facilities or routes (such as camping areas, picnic areas, walking tracks, historic routes).

4.12.5 **Construction Impacts and Mitigation Measures**

Increased traffic from construction vehicles to and from the site from Industrial Drive will require appropriate signage. Industrial Drive has recently been re-sealed and is wide enough to cater for the appropriate traffic levels for this access road. The visual impact from the construction stage will be limited in duration and therefore is not considered significant.

4.12.6 **Operational Impacts and Mitigation Measures**

To assess the potential visual impact from the proposed development, a desktop visual assessment and onsite investigation was undertaken. The visual assessment was undertaken using aerial photography, digital photographs from vantage points.

- **Vegetation Clearance**
  
The site is cleared of vegetation.

- **Facility Height and Size**
  
The subject development stands approximately 14.3 metres at it highest point from natural ground level. The overall volume and size of the plant is contained in an approximate area of 1200m² (~30 m x ~40 m), which includes storage and loading areas, tanks, cold bin and belt feeders and the horizontal belt conveyor.

- **Colour and Design**
  
The subject construction is said to be of a ‘sky blue colour’. It is recommended that where possible non-reflective materials should be used.

- **Separation & Setback**
  
The subject development is sited 4.132 metres from the northern boundary (rear) and 4.159 metres from the western boundary between 30 and 34 Industrial Drive. As the subject development is sited to the far northwestern corner, it will not be subject to a front boundary setback assessment.

  The proposal complies with the permitted siting standards under the Planning Scheme.
Proposed Vehicle Movements

There are currently 10 - 12 trucks parked overnight at the Hardings Hotmix site (30 Industrial Drive). These trucks currently leave empty each morning and drive to Roadways in Burnie to buy asphalt. There are approximately half a dozen trucks through the site during the day.

Once the Plant is developed on the Asphalt Suppliers property, Hardings Hotmix will ‘lease’ an area of the hardstand to park their trucks (12 tonne capacity) over night. These will fill-up on site and leave for the day. It is anticipated that customers such as Council will purchase asphalt from the facility (2-3 tonne capacity trucks). At peak production it is anticipated that there will be up to approx 20 trucks through the site a day. This is compared to an existing movement of approximately 6 trucks per day from the existing operations on 30 Industrial Drive. Vehicle movements will generally occur during the morning and on an as-needed basis throughout the day.

Additionally there will be up to 2 bitumen delivery trucks a week (25t per truck) from BP at Selfs Point.

These are the main comings and goings. There will be other various deliveries for binders and fillers, fuel etc but these will be minimal.

4.13 Socio-economic Issues

4.13.1 Total Capital Investment

The total capital investment for the proposed Asphalt Plant is approximately $1.7 million. This figure includes the cost of purchasing the plant, the land and the planning process.

4.13.2 Impacts on Local and State Labour Markets

It is anticipated by the proponents that the proposed Asphalt Plant during its operation phase, will employ two people on a full time basis, although a third person may be required. During the construction of the Asphalt Plant it is anticipated that local contractors will be engaged where needed to assist with the construction.

4.13.3 Impacts on Upstream and Downstream Industries

Hardings Hotmix currently source asphalt from external sources. This process can often result in delays in obtaining asphalt. By Asphalt Suppliers installing an on-site asphalt plant it is anticipated that this delay will be eliminated. Hardings Hotmix will be better equipped to meet demand within the community for asphalt after the installation of the Asphalt Plant.

4.13.4 Local Raw Materials

The Asphalt Plant itself will be purchased partly assembled. It is anticipated that Hardings Hotmix will supply all hardstand surface materials. During the operational phase, it is anticipated that bitumen will be sourced from BP Selfs Point, aggregate will be obtained from Lloyds North and sand will be sourced from Wynyard. Other materials will be sourced locally where possible. It is also noted that local labour will be used for construction where possible.
4.13.5 Impacts on Land Values

Given the site’s location within an existing industrial zone, the projected impact upon land values is not considered to be significant. As the proposed site is an internal block within a pre-existing industrial area, it is considered unlikely that the proposed Asphalt Plant will impact negatively on the aesthetic values of the surrounding residential properties. Air and noise impacts will be mitigated through a number of engineering measures as discussed in Sections 4.1 and 4.4 respectively. Increased heavy vehicle movement is unlikely to have an impact on the surrounding properties due to the site’s proximity to the Bass Highway, which already carries most of the heavy vehicle traffic to the North West of Tasmania. The actual site itself, with an increase in capital works would be expected to experience an increase in land value.

4.13.6 Community Impacts

The proposed Asphalt Plant is not expected to result in significant community impacts. The proposed facility is considered to be relatively small in scale. It is unlikely that there will be any impact to the community demographic factors of the area. As previously noted it is considered unlikely that the land values for the area will be affected by the proposed Asphalt Plant.

4.13.7 Socio-economic Impacts of the Proposed Asphalt Plant

The proposed Asphalt plant will be the supplier of asphalt to Hardings Hotmix Pty Ltd and other customers. It is anticipated that this may lower the cost of supplying asphalt to the community. As the proposed asphalt plant will be constructed in an industrial area, it is anticipated that there will be little impact on the community.

4.14 Health and Safety Issues

4.14.1 Legislative and Policy Requirements

The Asphalt Plant must comply with all relevant State and Commonwealth legislation with respect to the health and safety of staff, contractors, and the general public.

In particular, the construction and operation of the facility must comply with the Tasmanian Workplace Health and Safety Act 1995 and Regulations 1998 and AS 4804 Occupational Health and Safety Management Systems.

4.14.2 Performance Requirements

The above stated legislation, essentially means that all potential hazards associated with the construction and operation of the plant must be identified, and the associated risks assessed. Thereafter the identified risks need to be managed by minimising them to as low as is reasonably practicable.

4.14.3 Construction Impacts and Mitigation Measures

During the short construction phase it is not anticipated that there will be any significant impacts upon worker or public health and safety.

The construction stage of the proposed project will be undertaken by a Contractor, under the supervision of the proponent. The Contractor will undertake works in accordance with the Tasmanian Workplace Health and Safety Act 1995 and Regulations 1998 and AS 4804 Occupational Health and Safety Management Systems.
Prepare and implement a Health and Safety Plan (HASP) specific to the proposed project (this may be required to be submitted to the Workplace Safety Division);

Undertake an initial hazard and risk assessment and maintain records of risk assessment and risk management actions throughout the Contract as work processes change on the site;

Provide notification of incidents to the relevant Competent Authority as soon as reasonably practicable after the occurrence of an accident/incident; and

Manage all wastes generated during the construction of the Asphalt Plant.

4.14.4 Operational Impacts and Mitigation Measures

Once constructed, operation of the Asphalt Plant will be undertaken in accordance with the requirements of the Tasmanian Workplace Health and Safety Act 1995 and Regulations 1998. A Safety Management System (SMS) will be prepared to generally meet the requirements of AS 4804 Occupational Health and Safety Management Systems (Commitment 17), at a minimum the SMS will include:

- Identification of safety hazards and controls;
- Documented procedures for operational control of potentially hazardous equipment;
- The identification of roles and responsibilities for specific management representatives who have a defined role for occupational health and safety management of the facility;
- The development of a competency, training and awareness program for employees associated with the facility;
- An Emergency Response Plan (ERP); and
- An incident management system.

4.15 Hazard Analysis and Risk Assessment

4.15.1 Risk Analysis

The analysis of hazards is central to the effective management of health, safety and environmental risks for the project. This section provides the hazard analysis and risk assessment that was conducted to identify and manage hazards during the concept development phase, while considering the construction and operational phases.

The Risk Assessment was conducted to assess the potential risks associated with the Asphalt Plant with evaluation of the likelihood and consequence of events being risk ranked according to a Sustainability Risk Assessment Tool (see Appendix H). Risks were firstly evaluated without considering mitigation strategies and secondly including the strategies (see Appendix I). In all cases there was a decrease in risk due to the mitigation.

Summary results from the risk assessment are shown in Table 9, indicating that when mitigation strategies are employed there are no identified Extreme or High risks.
Table 9  Sustainability Risk Assessment Summary After Mitigation

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4.16  Fire Risk

4.16.1  Legislative and Policy Requirements

The construction and operation of the Asphalt plant must fulfil the requirements of the following legislative and policy requirements in relation to fire risk:

- *Fire Services Act* 1979; and
- *Workplace Health and Safety Act* 1995

4.16.2  Performance Requirements

There are no performance requirements related to the fire risk set specifically for the proposed Asphalt Plant. However, the design and operation of the Asphalt Plant will demonstrate compliance with both the *Fire Services Act* 1979 and the *Workplace Health and Safety Act* 1995, as well as all relevant Australian Standards.

4.16.3  Background

The location of the proposed Asphalt Plant is within an industrial area, not prone to bushfire. On the south, east and west, the site boarders built up and cleared, sparsely vegetated areas. There is an area of native vegetation within 1 km of the site. It is possible that this area could be affected by wildfire, however, it is unlikely that the fire would reach the Asphalt Plant as it is separated from this vegetation by areas of agricultural land and the Bass Highway. As such it is considered that there is a low risk of fire reaching the site from the surrounding environment.

The site itself however will contain a number of potential ignition sources to be managed as outlined below.
4.16.4 Construction Impacts and Mitigation Measures
The construction of the Asphalt Plant will involve the use of some hazardous materials, such as fuels for construction machinery. These materials will be stored and transported in accordance with the Dangerous Goods Act 1998. The risk of fire during construction is considered to be low, however appropriate fire fighting equipment (such as fire extinguishers) will be available on site.

4.16.5 Operational Impacts and Mitigation Measures
All management measures relating to prevention and response to fire at the Asphalt Plant will be incorporated into the Emergency Response Plan, which will be developed prior to commissioning.

Workplace procedures will be developed for the Asphalt Plant and other off-site ancillary infrastructure prior to commissioning, and will include fire and emergency response procedures. The Asphalt Plant will incorporate fire equipment including fire extinguishers, fire blankets and fire alarms.

The fire management procedures will also include:
- Identification of all tasks that may create a potential fire hazard;
- Preparation of the site to minimise the potential escape of any fire to the surrounding environment;
- Minimisation of potential fuel on site (including natural fuels);
- Development of fire fighting and emergency notification procedures; and
- Provision of fire fighting equipment such as extinguishers, blankets and water pumps.

As the site is cleared there is no need to provide buffer zones around any isolated, aboveground equipment and or infrastructure.

The storage of LPG onsite poses an additional fire risk. The installation of the LPG cylinder, and maintenance schedule will be accordance with all relevant Standards.

Electrical faults are a potential fire risk for the Asphalt Plant. All electrical infrastructure will be constructed in full compliance with the Tasmanian Electricity Code.

4.17 Infrastructure and off-site ancillary facilities

4.17.1 Legislative Requirements
All accesses, works and activities affecting the surrounding road ways are required to comply with the relevant Austroad Guidelines, Council regulations and relevant Australian Standards including AS 1742.3.

4.17.2 Performance Requirements
The key performance requirements are for the construction and operation of the proposed Asphalt Plant not to significantly impact upon the local road networks, power or water supply.

4.17.3 Construction Impacts and Mitigation Measures
As the plant is primarily pre-fabricated it is not anticipated that there will be significant loads placed on local roads, power or water supplies.
4.17.4 Operational Impacts and Mitigation Measures

The operational phase of the Asphalt Plant is anticipated to lead to a minor increase in trucking movements (from around 6 trucks per day up to approximately 20 trucks per day) within the vicinity of the plant. These trucking movements are not associated with additional trucks on the road in general, but rather a diversion of trucks from other locations. The Bass Highway is the primary road running from east to west along the north coast of the state and will not be significantly affected by the development.

The power and water requirements for the development are considered minimal and are not anticipated to have a significant affect on local supplies.

4.18 Environmental Management Systems

Both the construction and operational phases of the proposed project have the potential to result in environmental impacts.

The framework for addressing environmental performance and continual improvement will be addressed in an EMP that will be prepared for the operational phase of the project.

4.18.1 Construction Environmental Management

As discussed in Section 2, construction will be undertaken by Contractors under the supervision of the Asphalt Suppliers.

The construction of the plant will be undertaken in accordance with all construction impact mitigation measures discussed throughout Section 4 of this document.

4.18.2 Operational Environmental Management Plan (EMP)

Following construction it will be the responsibility of Asphalt Suppliers to prepare and implement an Operational EMP prior to commissioning. This EMP will reviewed and updated within 24 months of operation (Commitment 18).

It is expected that the EMP will encompass the relevant issues identified in Section 4, and include, but not be limited to the following key elements:

**Site Management**

Development and implementation of a system to manage entry and exit from the site. The site management procedures will include:

- Development and implementation of an induction program to be provided to all employees;
- Identification of areas requiring restricted access and methods for ensuring this occurs; and
- Installation and maintenance of appropriate signage.

**Dust and Odour Management**

Development and implementation of a system to minimise dust and odour generation during operation. The dust management procedures will include:

- Identification of areas within the site that may be prone to dust and odour emissions under certain climatic conditions;
- Development of odour control systems to minimise potential odour emissions.
Development of dust control systems to minimise the emission of dust from identified potential sources such as storage bays;

Development of procedures to minimise the time between truck filling and tarping;

Development of processes to ensure dust and odour emissions are minimised from vehicles delivering or removing materials from site; and

Development of a system to document complaints relating to dust and odour.

The management of dust emissions from the site may include measures such as:

(i) Wind reduction;
(ii) Tarpaulins or other similar covers;
(iii) Wet suppression;
(iv) Paving
(v) Chemical stabilisation;
(vi) Programming of works;
(vii) Management of traffic within the site.

Water Management

Development and implementation of a water management system. The water management procedures will include:

- Identification of final site drainage design;
- Development of procedures to manage maintenance of interceptor trap;
- Maintenance of bunding and associated release valves; and
- Development of procedures to manage spills of hazardous materials and deal with their removal.

Erosion Management

Development and implementation of an erosion management system. The erosion management procedures will include:

- Identification of final site drainage patterns and erosion control structures;
- Development of procedures to manage maintenance of permanent erosion control structures; and
- Development of a monitoring system to confirm the effectiveness of permanent erosion control structures.

Hazardous Materials Management

Development and implementation of a system to manage the delivery, storage, use and disposal of all hazardous materials used during operations. The hazardous materials management procedures will include:

- An inventory of all hazardous materials used during operations, including material safety data sheets, delivery dates, quantity, storage location, date and method of disposal;
- A system for storing all hazardous substances on site, including permanent bunding or storage cabinets, warning signs and access restrictions;
A system for loading, unloading and using hazardous substances that minimises safety and environmental risks; and
Emergency procedures for containing and cleaning up any spillages of hazardous substances.

**Noise Management**

Development and implementation of a system to manage and control noise emissions.

All equipment and machinery will be operated in accordance with the requirements of Part 3, Division 3, “The exposure standard for noise”, of the Tasmanian Workplace Health and Safety Regulations as follows:

122.(1) For the purposes of this Division, the exposure standard for noise is -

- An eight - hour equivalent continuous A-weighted sound pressure level, \( L_{Aeq, 8h} \) referenced to 20 micropascals; or
- A linear (unweighted) peak sound pressure level, \( L_{peak} \) referenced to 20 micropascals.

The noise to which an employee is exposed is the noise level measured at the employee’s ear position -

- In accordance with AS 1269 *Acoustics - Hearing Conservation*; and
- Without taking into account any protection that may be provided by a personal hearing protection device.

The value of \( L_{peak} \) is to be determined by using sound- measuring equipment with a peak detector that complies with the AS 1259, *Acoustic Sound Level Metres - Part 1 Non-integrating*.

Sound level meters must be calibrated at least once every 12 months by a NATA accredited laboratory.

**Fire Management**

Development and implementation of a system to prevent and control the escape of fire during operation. The fire management procedures will include:

- Identification of all tasks that may create a potential fire hazard;
- Preparation of the site to minimise the potential escape of any fire to the surrounding environment;
- Minimisation of potential fuel on site (including natural fuels);
- Development of fire fighting and emergency notification procedures;
- Provision of fire fighting equipment such as extinguishers, blankets and water pumps; and
- A procedure for management of plant in the event of fire ingress to site from surrounding areas.

**Waste Management**

Development and implementation of a system to manage the storage and disposal of all waste materials created during the works. The waste disposal procedures will include:

- Identification of potential waste materials generated during operation;
- Identification of statutory requirements and a waste tracking procedure;
- Provision of storage facilities and procedures for waste generated;
Identification of suitable off site disposal for waste generated;
Implementation of recycling procedures; and
Monitoring the site to minimise the escape of waste material during certain climatic conditions.

4.19 Cumulative and Interactive Effects
The proposed development is not anticipated to create any significant cumulative impacts associated with other existing or known developments in the area.
5. Monitoring and Review

On-going monitoring of the efficacy of mitigation measures and potential impacts of the Asphalt Plant is required to determine if the project is meeting obligations stated in the DPEMP, and subsequent permit conditions. The key aspects requiring monitoring, include:

- Noise Emissions; and
- Odour Emissions.

As the quantity of water to be discharged in to the municipal sewer is minimal, monitoring of water discharges is not considered necessary.

5.1 Noise Monitoring

Noise monitoring will be undertaken within 2 months of commissioning of the facility and, assuming compliance, on an as needs basis there-after. Noise monitoring locations and methods will be consistent with the Noise Impact Assessment presented in Appendix D and summarised in Section 4.4 or as directed by the Director, Environment Protection Authority.

5.2 Odour Emissions

To monitor odour, and other potential impacts not considered suitable for on-going monitoring, a complaints and incidents register will be developed and maintained.

Any complaints received from neighboring residents, motorists and any other members of the general public will be recorded in the register.

The complaints register will include details such as:

- Time complaint received;
- Time incident occurred;
- Name of complainant;
- Contact details of complainant;
- Details of complaint;
- Person responsible for addressing complaint;
- Investigations undertaken; and
- Manner in which the complaint was resolved (including mitigation measures implemented).

Any accidents, or incidents resulting in the potential for personal or environmental harm or nuisance will be reported to the appropriate authority as soon as practicable.

5.3 Post Commissioning Review

A review of operations and associated management plans will be undertaken 12 months after commissioning of the upgraded facility (and at three-yearly intervals thereafter) and will include all results of the regular monitoring programs.
6. Decommissioning and Rehabilitation

There is no plan for the decommissioning of the proposed facility in the foreseeable future and as such it is not expected that a detailed decommissioning and rehabilitation plan will be required for some time. In the event that the facility becomes redundant a decommissioning and rehabilitation plan will be produced and provided to the Director, Environment Protection Authority at least three months prior to decommissioning.

The decommissioning and rehabilitation plant will include the following:

- Sale and removal of equipment;
- Assessment of contamination;
- Site preparation and decontamination (where necessary);
- Re-vegetation (where appropriate);
- Maintenance of the site; and
- Monitoring the success of the rehabilitation (if required).
7. Commitments

These commitments relate to the relative sections throughout Sections 2 and 4 of this document. Asphalt Suppliers Pty Ltd are responsible for the implementation of all commitments.
<table>
<thead>
<tr>
<th>No.</th>
<th>Commitment</th>
<th>Section of DPEMP</th>
<th>Responsibility</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Procedures that require immediate tarping of loads will be implemented to reduce odour emissions</td>
<td>4.1.4</td>
<td>Asphalt Suppliers</td>
<td>Commissioning and Operation</td>
</tr>
<tr>
<td>2</td>
<td>The drum dryer will operate under slight vacuum to minimise the potential for escape of dust through seals</td>
<td>4.1.4</td>
<td>Asphalt Suppliers</td>
<td>Commissioning and Operation</td>
</tr>
<tr>
<td>3</td>
<td>The Dryer will be routinely maintained and tuned to improve combustion efficiency</td>
<td>4.1.4</td>
<td>Asphalt Suppliers</td>
<td>Commissioning and Operation</td>
</tr>
<tr>
<td>4</td>
<td>Process controls will be regularly inspected and maintained</td>
<td>4.1.4</td>
<td>Asphalt Suppliers</td>
<td>Commissioning and Operation</td>
</tr>
<tr>
<td>5</td>
<td>The mixing tower will have a slightly negative pressure so as to minimise the amount of blue smoke and odour emissions during truck loading.</td>
<td>4.1.4</td>
<td>Asphalt Suppliers</td>
<td>Commissioning and Operation</td>
</tr>
<tr>
<td>6</td>
<td>Bitumen kettles will be fitted with automatic temperature control devices that will be set at the minimum practicable operational temperature (160 – 165 degrees)</td>
<td>4.1.4</td>
<td>Asphalt Suppliers</td>
<td>Commissioning and Operation</td>
</tr>
<tr>
<td>7</td>
<td>Should odour become a significant issue, additional mitigation measures will be investigated and implemented.</td>
<td>4.1.4</td>
<td>Asphalt Suppliers</td>
<td>Commissioning and Operation</td>
</tr>
<tr>
<td>8</td>
<td>Mitigation measures such as silt traps and hay bails will be employed should inclement weather threaten to cause sediment mobilisation and runoff during construction</td>
<td>4.2.3</td>
<td>Asphalt Suppliers</td>
<td>Construction</td>
</tr>
<tr>
<td>9</td>
<td>The triple interceptor trap will be of appropriate design and size to handle predicted 1 in 20 year storm events.</td>
<td>4.2.3</td>
<td>Asphalt Suppliers</td>
<td>Pre-Construction</td>
</tr>
<tr>
<td>10</td>
<td>The pit outlet pipe will be fitted with a manual shut off valve to contain and control any accidental spills that may occur</td>
<td>4.2.4</td>
<td>Asphalt Suppliers</td>
<td>Commissioning and Operation</td>
</tr>
<tr>
<td>11</td>
<td>Hazardous materials filler points will be located within the tank bund.</td>
<td>4.2.4</td>
<td>Asphalt Suppliers</td>
<td>Construction</td>
</tr>
<tr>
<td>12</td>
<td>Hazardous substance spills will not be released from bunded areas, but will be pumped out by a licensed waste contractor.</td>
<td>4.2.4</td>
<td>Asphalt Suppliers</td>
<td>On-going</td>
</tr>
<tr>
<td>13</td>
<td>A noise monitoring event will be undertaken within 2 months of commissioning</td>
<td>4.4.5</td>
<td>Asphalt Suppliers</td>
<td>Within 6 months of Commissioning</td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Section</td>
<td>Responsible Party</td>
<td>Stage</td>
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</tr>
<tr>
<td>14</td>
<td>All hazardous materials will be stored within bunded areas in accordance with AS 1940</td>
<td>4.6.4</td>
<td>Asphalt Suppliers</td>
<td>On-going</td>
</tr>
<tr>
<td>15</td>
<td>Spill kits will be kept on site in suitable locations and staff trained in their use.</td>
<td>4.6.4</td>
<td>Asphalt Suppliers</td>
<td>Commissioning and Operation</td>
</tr>
<tr>
<td>16</td>
<td>If any Aboriginal heritage features are identified during the construction phase, works shall cease and advice will be sought from the Aboriginal Heritage Office prior to re-commencement of works.</td>
<td>4.10</td>
<td>Asphalt Suppliers</td>
<td>Construction</td>
</tr>
<tr>
<td>17</td>
<td>A Safety Management System (SMS), including an Emergency Response Plan, will be prepared to generally meet the requirements of AS 4804 <em>Occupational Health and Safety Management Systems.</em></td>
<td>4.14.4</td>
<td>Asphalt Suppliers</td>
<td>Pre-Operation</td>
</tr>
<tr>
<td>18</td>
<td>An Operational Environmental Management Plan will be implemented and reviewed within 24 months of commissioning.</td>
<td>4.18.2</td>
<td>Asphalt Suppliers</td>
<td>Pre-Commissioning</td>
</tr>
</tbody>
</table>
8. Conclusion

The proposed Asphalt Suppliers' Asphalt Plant involves the purchase and construction of a fully computerised control and direct drive asphalt mixing plant, associated materials storage, small office and staff amenities.

The key issues for the proposed facility, as outlined in the Project Specific Guidelines, include:

- Potential impacts on air quality through dust and emissions;
- Potential noise effects on surrounding receptor sites associated with the construction and operation of the proposal; and
- Potential impacts on water through emissions.

These issues have been addressed in this DPEMP and a series of management actions identified to mitigate potential impacts. With these management actions in place the residual impact of the proposed development on these values is limited.
9. References


NSW EPA (2000), Department of Environment and Climate Change (DECC) *Industrial Noise Policy (INP)*

NSW EPA, Department of Environment and Climate Change (DECC) *Environmental Noise Control Manual (ENCM)*.

