JENSEN BOWERS

SURVEYORS | PLANNERS | DEVELOPMENT ADVISORS

ENVIRONMENTAL ASSESSMENT

Dampier Street, Bomen
(Described as Lots 1, 2 and 4 on DP700113, Lot 6 on DP614169,
Lot 11 on DP814225, Lot 1 on DP840624 and Lot 1 on DP823346)

SECTION 75W MODIFICATION APPLICATION FOR TEYS AUSTRALIA BOMEN BEEF PROCESSING FACILITY

Prepared for:

Teys Australia Pty Ltd

Issue: B (25.03.2015)

DOCUMENT CONTROL

Project Number: 00007899
Project Name: Teys Wagga Abattoir Upgrade
Document Reference: 150109 Modification Report

Prepared for

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Document History				
Version	Description	Date	Author	Approved by
Issue A	Draft Report	22.01.2015	LG	BH
Issue B	Final Report	25.03.2015	LG	BH

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TABLE OF CONTENTS

ATTACHMENTS

1 INTRODUCTION

Jensen Bowers Group Consultants Pty Ltd (Jensen Bowers) has been commissioned by Teys Australia Pty Ltd (Teys) to prepare, lodge and manage a Section 75W application seeking the Minister's approval to modify State Significant development consent DA-220-07-2002-i. The proposed modification relates to alterations and additions to an established beef processing facility (abattoir) operated by Teys Australia and the Cargill Group located at Dampier Street, Bomen, NSW (the subject site).

The proposal relates to an established abattoir but does not seek any amendment to the existing approved capacity of the facility. The modifications proposed, seek to enhance the efficiency and technology of existing components of the facility. At present, the operations of the facility are unable to reach the maximum approved capacity due to constraints associated with existing elements of the processing design. The proposed modifications will enable a higher level of output, but not exceeding its current approved capacity, which is 1600 head of cattle per day.

In detail, the proposed modifications include:

- Reinstatement of a former vehicular access to the site off Dampier Street to service a new load out area
- Addition to the existing abattoir to accommodate new chilled carton storage, sorting and palletising areas, including new loading docks (this remains the only change to the built form of the current facility)
- Internal refurbishment including upgrade of existing carcase chillers and provision of four new chillers.

This Environmental Assessment (EA) draws on work completed by the consultant project team, including:

Jensen Bowers Group	Town Planning
Wiley & Co Pty Ltd	Processing Design
GTA Traffic Consulting	Traffic Engineer
MPN Consulting Pty Ltd	Stormwater Management
MCG Building Code Consulting	Building Certifier

2 SITE DESCRIPTION AND LOCALITY

2.1 Address

Dampier Street, Bomen NSW 2650

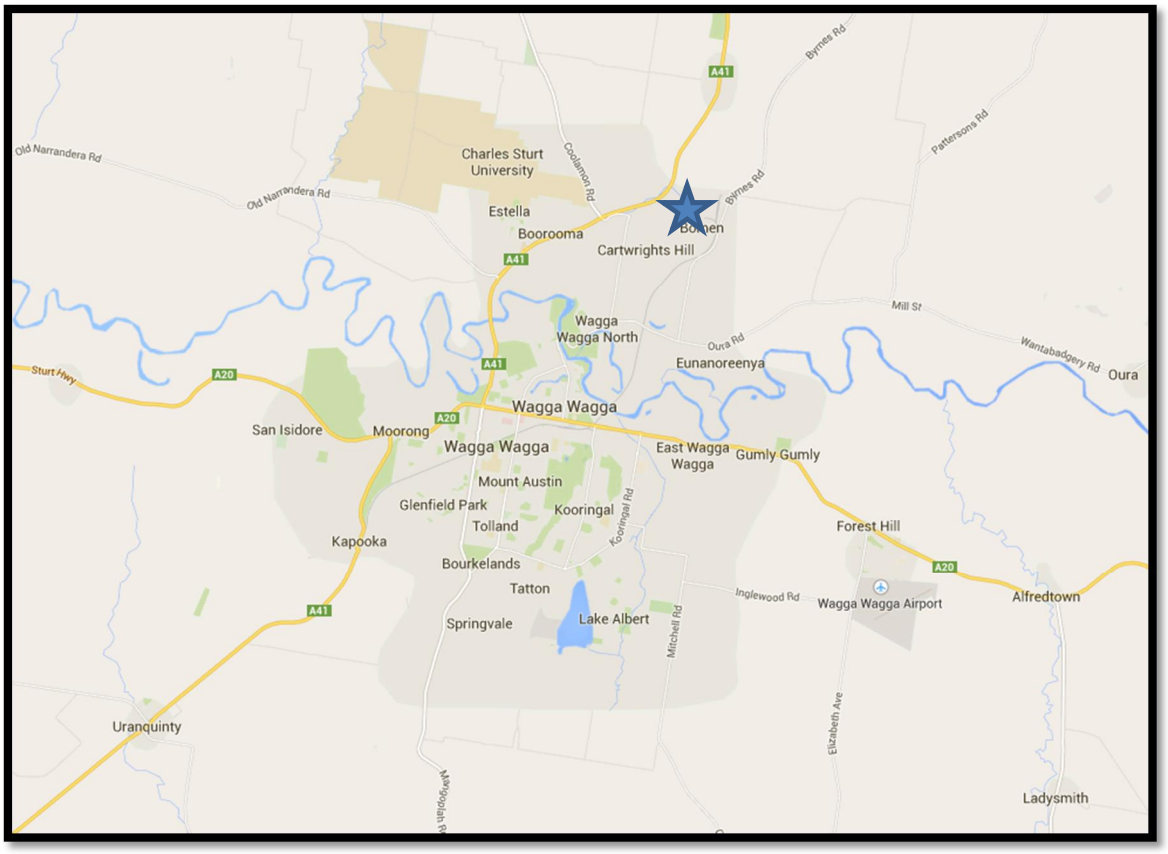

Figure 1: Subject site (Source: Google Maps, 2015)

2.2 Real Property Description

Lots 1, 2 and 4 on DP700113
Lot 6 on DP614169
Lot 11 on DP814225
Lot 1 on DP840624
Lot 1 on DP823346

2.3 Easements

Easements are located over the subject land however, none are located in proximity to the area of the site to which this application relates.

2.4 Registered Owners

Teys Australia Southern Property Pty Ltd
Wagga Wagga City Council (Lot 1 on DP823346 only)

2.5 Street Frontage

The site has a primary road frontage to Dampier Street of over 200m. The site also fronts Bomen Road measuring 220m, divided into two components, as well as Jersey Road measuring approximately 340m.

2.6 Topography

The site falls gently to the north-west. See survey plan enclosed at **Attachment A**.

2.7 Services

The site is serviced by the full range of urban services included reticulated water supply, sewerage, stormwater, electricity and telecommunications.

2.8 Existing Use

The site is currently used for the purposes of the Teys Australia Bomen Beef Processing Facility (abattoir).

2.9 Site Context

The subject site is located in the Wagga Wagga suburb of Bomen to the west of Byrnes Road. The site has frontage to Bomen Road to the north, Jersey Road the west and Dampier Street to the east. The site is located within an industrial precinct of the Bomen Business Park and is surrounded by a range of high hazard industrial activities including a waste oil refinery and bulk fuel depot.

The site is irregular in shape and transected by road reserves and is also subject to a number of easements. Notwithstanding, the proposed modification which is the basis of this Environmental Assessment relates only to that area of the site identified within the red inset box at Figure 2 and enlarged at Figure 3, which is not affected by any easements or restrictions.

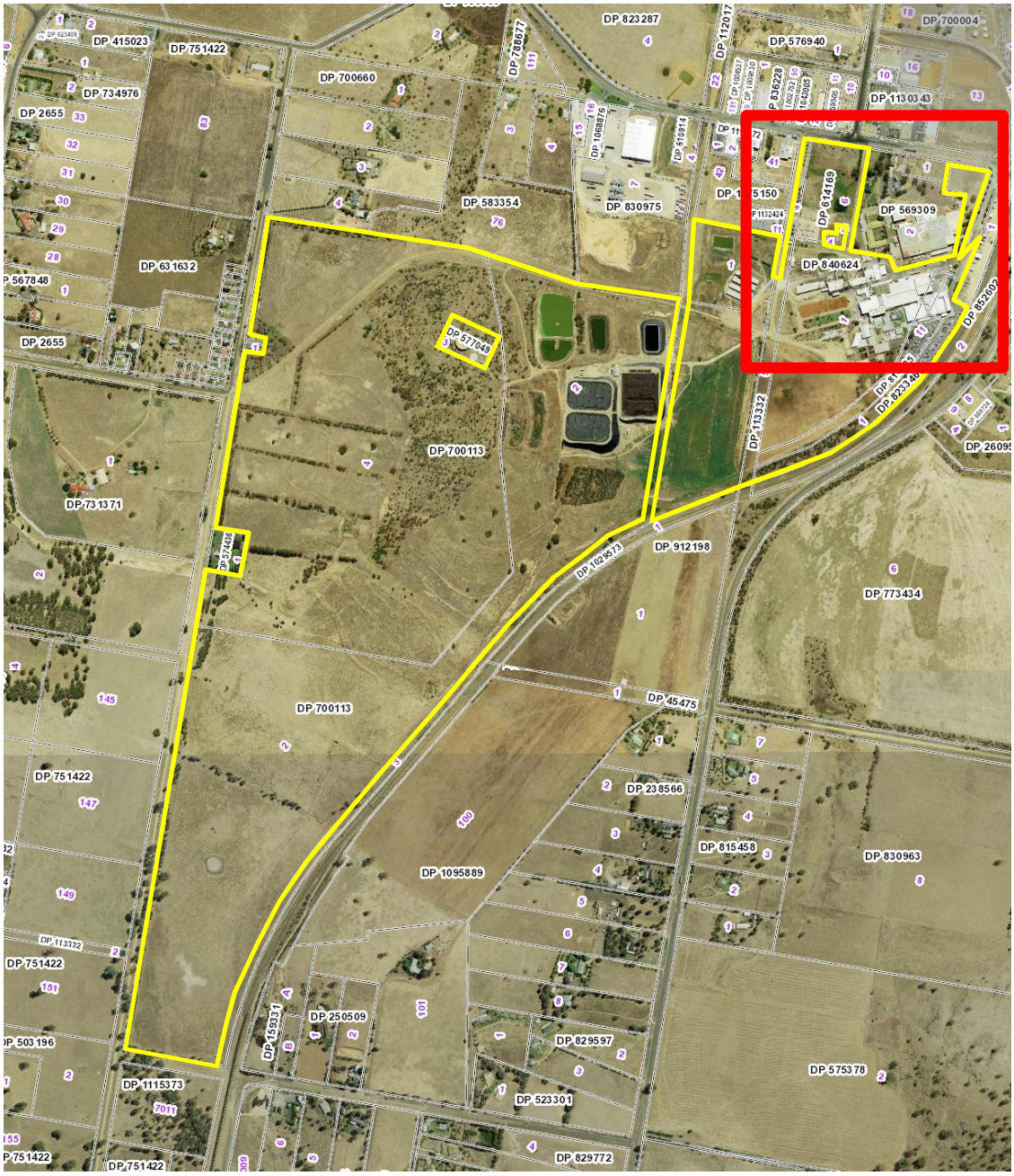

Figure 2: Site context (Source: Six Viewer, 2015)

Figure 3: Site context (area of application) (Source: SIX Viewer, 2015)

3 SITE HISTORY AND BACKGROUND

3.1 Development Approval History

The site is currently used for the purposes of the Teys Australia Bomen Beef Processing Facility (abattoir), which has operated on the site since the 1940's. The facility was owned by the local Council until 1991 when it was purchased by Cargill Beef Australia (CBA). Teys Australia is an equal partnership between the Teys Family and the Cargill Company.

A development application (DA No. 220-07-2002-i) was submitted to the former Department of Urban Affairs and Planning (now the Department of Planning and Infrastructure (DPI)) in 2002 for extensions to the facility, and was subsequently approved by the Minister on 27 February 2003. Five subsequent modifications were submitted to the Department in 2003, 2004, 2008, 2010 and 2011 for various additions and alterations, and all four were approved by the Minister.

DA No. 220-07-2002-i primarily involved the expansion of the facility. The proposal was classified as State Significant, Designated and Integrated Development under the (EPA Act). An Environmental Impact Statement (EIS), prepared by HLA Envirosciences Pty Ltd (HLA) accompanied the Application. In the EIS, CBA proposed to '*intensify existing production at the Bomen Beef Processing Facility to 14,000 of cattle per week, or 2,000 head per day over a seven day working week*'.

The $30 million expansion to support the intensification included:

- an increase in load out facility
- an increase in chiller capacity
- an increase in freezer capacity
- an increase in wastewater treatment capacity
- improvements in odour controls at the plant
- an increase in product cold storage

The five subsequent modifications lodged with the Department and approved by the Minister are summarised as follows:

- MOD-61-1-2003-i sought to alter the proposed layout of the facility expansion and to amend Conditions 1.2 and 1.3 of the Consent relating to the scope of development. The modification was approved on 3 November 2003
- MOD-4-1-2004-i sought to modify Condition 5.23 of the Consent relating to soil contamination and remediation. The modification was approved on 31 March 2004. As part of this modification the number of cattle permitted to be processed on the site was reduced to a maximum of 1,600 head per day
- DA No. 220-07-2002-i sought to vary the conditions of Consent to construct and operate a new covered wastewater treatment pond and associated flare system. The modification was approved on 29 June 2009

- DA-220-07-2002 sought construction and operation of the wastewater treatment plant upgrade, as described in Statement of Environmental Effects Effluent System Upgrade (ESU) for the facility, prepared by CBA and dated February 2010. The modification was approved on 2 August 2010
- DA-220-07-2002 related to the proposed irrigation of the CFA Low area with treatment plant effluent. The modification request was supported by an Environmental Assessment document entitled 'Cargill Beef – CFA Low Environmental Assessment' prepared by Claus Environmental Engineering and dated May 2011. The modification was approved on 28 September 2011

3.2 Environmental Assessment Requirements

NSW Department of Planning and Environment

A pre application meeting was undertaken with the NSW Department of Planning and Environment (DPE) on 11 November 2014 to present the modifications outlined in this EA. Matters that were agreed at this meeting were:

- The scope of this proposal could be submitted and assessed under the provisions of section 75W or the NSW Environmental Planning & Assessment Act 1979 (EP&A 1979)
- Given the relatively minor nature of the proposal, it was agreed that new and/or amended Secretaries Environment Requirements (formerly DGRs) were not required to be sought
- The EA supporting the proposal was to focus on issues relating to construction and operation traffic and parking as well as stormwater management from the new container and trailer storage area
- The modification application would not be publicly exhibited

Wagga Wagga City Council

Wagga Wagga City Council (Council) have been consulted on a number of occasions by the applicant as well as the traffic and stormwater specialist consultants assisting with the EA. The Council has identified its key issues and worked with the project's consultant team to ensure all traffic and stormwater management issues have been thoroughly addressed as part of this modification application.

4 DESCRIPTION OF PROPOSED MODIFICATIONS

The proposed modification relates to three specific items, including:

- Reinstatement of a former vehicular access to the site off Dampier Street to service a new load out area
- Addition to the existing abattoir to accommodate new chilled carton storage, sorting and palletising areas, including new loading docks (this remains the only change to the built form of the current facility)
- Internal refurbishment including upgrade of existing carcase chillers and provision of four new chillers.

4.1 Driveway Access

There are two main access points to the site located on the western and eastern sides of the property. The western access, known as Jersey Road (which is not formerly named), is accessed via Bomen Road. This road is used to delivery livestock as well a load out point for final product.

The eastern access point of the site is via Dampier Street, which is also accessed via Bomen Road. This is the formal entry to the property, the main access to the staff car park and administration office. It is also used for some load out of final product. There is also a second, disused access point off Dampier Street that this modification application seeks to reinstate for the purpose of servicing a new load out dock.

The proposed modification seeks to retain heavy vehicle access via Jersey Road for livestock entry to the site, and reinstate the former secondary access point off Dampier Street. The reinstated Dampier Street access will provide for heavy vehicle loading and dispatch of final product. A new gatehouse with boom gates is also proposed at the reinstated Damper Street access point.

4.2 New Chillers and Refurbishment

Four new carcase chillers will supplement an existing five chillers which will be refurbished. The proposed new chillers will co-locate with those existing, in an area currently used for palletising and pallet storage.

4.3 Chilled Carton Sorting and Storage, Palletising Area and Loading Dock

A 1,551m2 extension to the existing building is proposed to accommodate a new chilled carton sorting and storage area and loading dock. The addition of four new carcase chillers and refurbishment of existing chillers requires additional internal floor space, thus displacing the existing chilled carton sorting and storage facilities, palletising facilities and loading docks. To this end, it is proposed to extend the building at its north-western façade to relocate these existing facilities. The proposed chilled carton storage area is located immediately adjacent to

the proposed new loading dock. The new loading dock comprises four trailer docks and will include a new concrete manoeuvring area for heavy vehicle turnaround on-site.

A relocated chilled and frozen palletising area is also required, displaced by the proposed location of the four additional carcase chillers. That area surrounding the new chillers within the existing building will be refurbished to accommodate a revised palletising arrangement.

Refer to proposed modification plans at **Attachment B**.

4.4 Approval Conditions

With the exception of reference to approved plans, at this stage we do not anticipate any changes to any existing approval conditions are required based upon the nature of the proposed modifications.

5 STATUTORY FRAMEWORK

5.1 NSW Environmental Planning and Assessment Act 1979

Section 75W -Modification of State Significant Development Applications Development consent DA No. 220-07-2002-I was originally granted by the Minister as State Significant Development (SSD) under Part 4 of the EP & A 1979. The original proposal was deemed SSD at the time under the provisions of SEPP No. 34 – Major Employment Generating Industrial Development and, therefore, the consent authority was the Minister. SSD was repealed under the EP & A Act 1979 on 1 August 2005.

The transitional provisions in the NSW Environmental Planning and Assessment Regulation 2000 (EP & A Reg), which commenced on 3 September 2010, require certain existing consents granted by the Minister under Part 4 of the EP&A Act to be modified under section 75W of the Act.

Subsequently, this application seeks to modify DA No. 220-07-2002-I, an application under the provisions of section 75W of the EP & A 1979. As previously outlined in section 3.2 of this EA, the DPE confirmed that the proposal would constitute a modification and be under the savings provisions in the EP & A Reg.

5.2 State Environmental Planning Policies (SEPPs)

5.2.1 SEPP 33 – Hazardous and Offensive Development

State Environmental Planning Policy 33 – Hazardous and Offensive Development (SEPP 33) defines 'hazardous industry', 'hazardous storage establishment', 'offensive industry' and 'offensive storage establishment' for all NSW planning instruments, existing and future. The definitions enable decisions to approve or refuse a development to be based on the merit of proposal.

The proposal does not involve an increase in the storage of hazardous materials and chemicals beyond that deemed as to require a preliminary hazard analysis (PHA) or result in the operations changing such that it would be offensive. Subsequently, the modifications are not deemed hazardous or offensive development under the provisions of SEPP 33.

5.2.2 SEPP (Infrastructure) 2007

State Environmental Planning Policy (Infrastructure) 2007 (Infrastructure SEPP), aims to facilitate the effective delivery of infrastructure across the State. This is important to cater for developments that will require new infrastructure.

The relevance of SEPP (Infrastructure) 2007 to the proposed modifications are whether it will result in an operation deemed traffic generating development. In this case, the proposed modifications do not seek to intensify the existing approved use of the operations.

Therefore, there will be no additional traffic movement to and from the site beyond that currently approved. Concurrence, therefore, should not be required from the NSW Roads and Maritime Service (RMS) for these modifications.

5.3 Wagga Wagga Local Environmental Plan 2010

5.3.1 Zoning & Permissibility

The site is zoned IN1 General Industrial (IN1 zone), under the provisions of Wagga Wagga Local Environmental Plan 2010 (WWLEP 2010).

The existing and subsequent proposed modifications are defined as 'rural industry' in WWLEP 2010, which are permissible with consent in the IN1 zone.

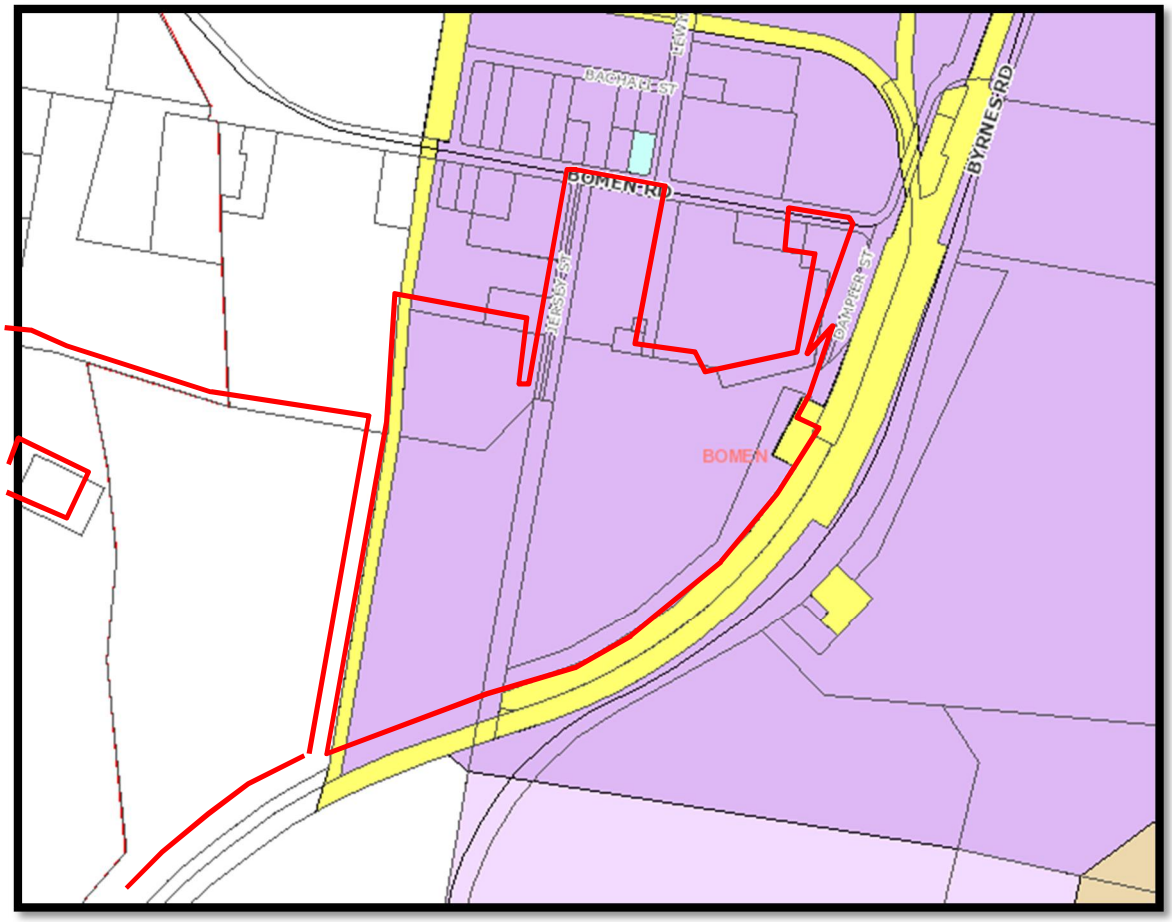

Figure 4: Excerpt of WWLEP Zoning Map (Source: Wagga Wagga City Council, 2015)

5.4 Wagga Wagga Development Control Plan 2010

The Wagga Wagga Development Control Plan 2010 (WWDCP 2010) supports the WWLEO 2010 by providing additional objectives and controls. Many of those objectives and controls are not relevant to the proposed modifications. Many other objectives and controls, where relevant, are addressed in the assessment that follows. In summary, it has been determined that the proposed modifications comply with the relevant numerical controls and the objectives in WWDCP 2010.

6 ASSESSMENT OF ENVIRONMENTAL IMPACTS

6.1 Stormwater

Stormwater from the existing hardstand area associated with the new load out docks and reinstated access of Dampier Street will be collected and disposed of via the existing system, which is described below.

Existing Stormwater System

The existing facility employs a first flush stormwater collection system that can be employed to capture the first 20 to 25 mm of runoff from the site. The receiving basin in the northern area of the facility maintains a capacity of over 1.0 ML in volume. Assuming a 47,000m2 catchment on the site and a 1.1 ML basin, the first 23mm of runoff would be contained within the basin, should the valve be closed.

The system operates with an open valve on the downstream side, until an operator is instructed to close the valve. The basin holds approximately 0.2 ML with the valve open and over 1.0 ML with the valve closed. The system protects against a major spill or runoff of potentially contaminated water from a source of silt, such as piles of demolition waste. It also assists in reduction of sediment downstream in a smaller rainfall event even if the valve is not closed. There remains a baffle basin and capacity to store over 100,000 litres before the pond level reaches the outlet pipe.

This arrangement reduces the total peak flow and delays the remainder of the flow to the Council stormwater system. This has the effect of reducing the impact of the runoff from the site and allowing the Council stormwater system to carry the flow from larger rainfall events, than could be carried without the first flush system.

Figure 5: Baffle basin which precedes the first flush pond as part of the existing stormwater arrangement (Source: Claus Environmental Engineering, 2014)

Figure 6: Final chamber of the baffle basin (Source: Claus Environmental Engineering, 2014)

Figure 7: First flush pond as viewed from the south (Source: Claus Environmental Engineering, 2014)

Figure 8: First flush pond to the left, overflow spillway and downstream channel and drainage valve (Source: Claus Environmental Engineering, 2014)

The proposed modifications to accommodate the chillers and palletising areas are located within the existing building and so do not add any additional hardstand to the site. The new 1,551m2 building extension to accommodate chilled carton sorting and storage and new loading docks seeks to replace any area already used for hardstand (being a driveway) and so results in no net increase in impervious area and/or stormwater runoff.

The new gatehouse measures only 31m2 and so does not seek any substantial increase in runoff area that cannot be effectively managed by the existing stormwater arrangements, or discharge to the nearest lawful point of discharge. There may be some disruption to normal stormwater movement for short periods in the vicinity during construction and this matter will be addressed in the Erosion and Sedimentation Control Plan to be prepared prior to the commencement of construction.

For further detail, refer to the Stormwater Management Plan prepared by MPN Consulting at **Attachment C**.

6.2 Erosion and Sediment Control

The proposed modifications are planned to be constructed in areas that currently constitute hardstand and form part of the existing stormwater management systems, including the first flush system previously described. During operation there is no specific need for erosion and sedimentation controls relating to the proposed modifications, as there remains no exposed soil that could erode as a result of operational activity in this case.

No natural soil will be disturbed for the construction of the proposed modifications with the exception of some excavation required in the new driveway area to remove previous fill which has not been correctly compacted, as well as the new gatehouse however, this component measures just 31m2 and so does not represent a substantial disruption. The stockpile for soil earthworks associated with the removal of incorrectly compacted fill material is located on a clear pad area to the south of Building 11 and 12 (refer to **Attachment B**).

During construction there will be some demolition which will create a limited amount of debris. This will be controlled primarily by loading debris into commercial waste bins immediately following demolition work. Construction contractors will be required to keep the site clean as the facility must remain operational during construction. This will reduce the potential for debris and other waste to be washed into the stormwater system during a rain event. The stormwater drains are easily identifiable in proximity to the area of proposed modification works. Building and demolition materials will be stored in waste bins situated away from the drain inlet points and avoiding any overland flow paths. The facility is not currently identified as subject to inundation in a storm event.

Erosion and Sediment Control provisions are included within the enclosed Stormwater Management Plan at **Attachment C**.

6.3 Flood

The Wagga Wagga City Council has published a Flood Prone Land map and as per Figure 9 below. That are of the site which is the subject of this modification is not identified as subject to any potential flood inundation.

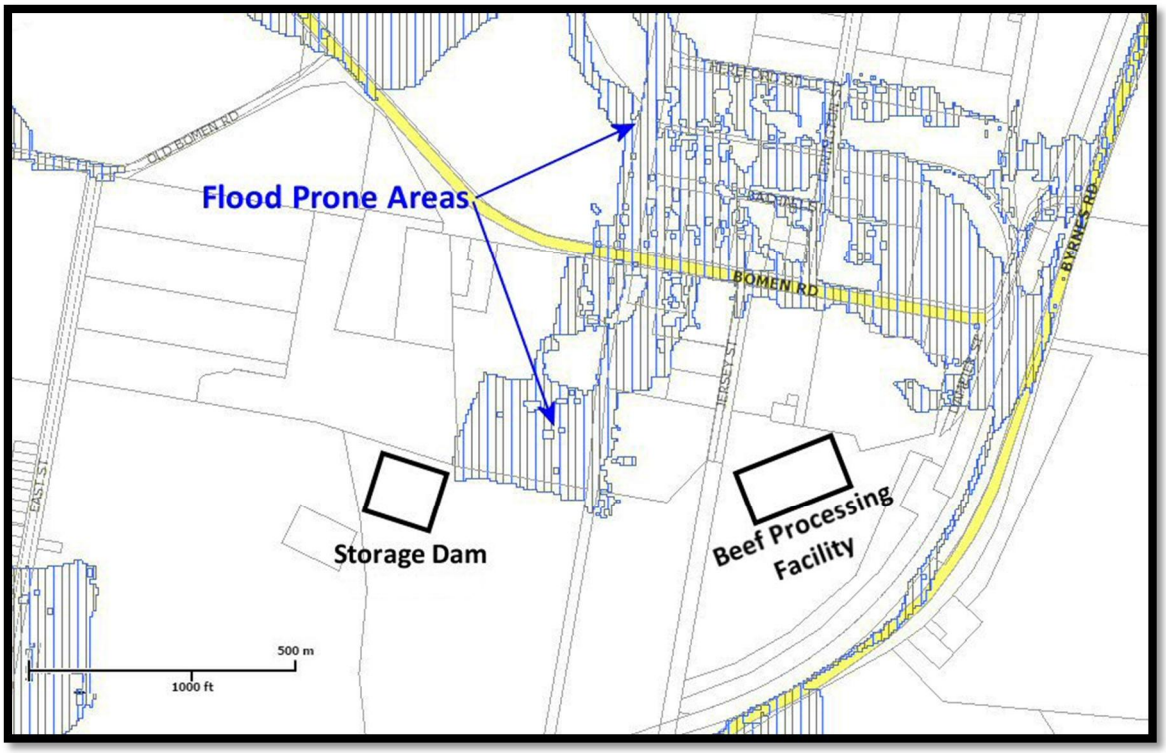

Figure 9: Excerpt of Wagga Wagga City Council Flood Prone Land Map (Source: Wagga Wagga City Council, 2015)

6.4 Flora, Fauna and Landscaping

All of the proposed modifications relate to an area of the site which has been developed and utilised for industrial activities for decades. This being the case, the impact on flora and fauna is negligible.

Item C2 of Section 5.2 in Table 5.2.1 of the DCP states that in Zones IN1 and RU6 consent must be granted to cut down trees exceeding 5m in height.

The new chillers, carton sorting and storage, palletising area and loading docks does not involve in disruption to any area of environmental value.

With specific regard to the new gatehouse, two trees will require removal in order to locate this structure and to reinstate the adjacent heavy vehicle driveway crossover to Dampier Street. The trees to be removed, understood to be *tilia x europaea*, are not a protected species, maintain no heritage significance and are not part of a threatened or venerable community hence, the impact of this action will also be negligible.

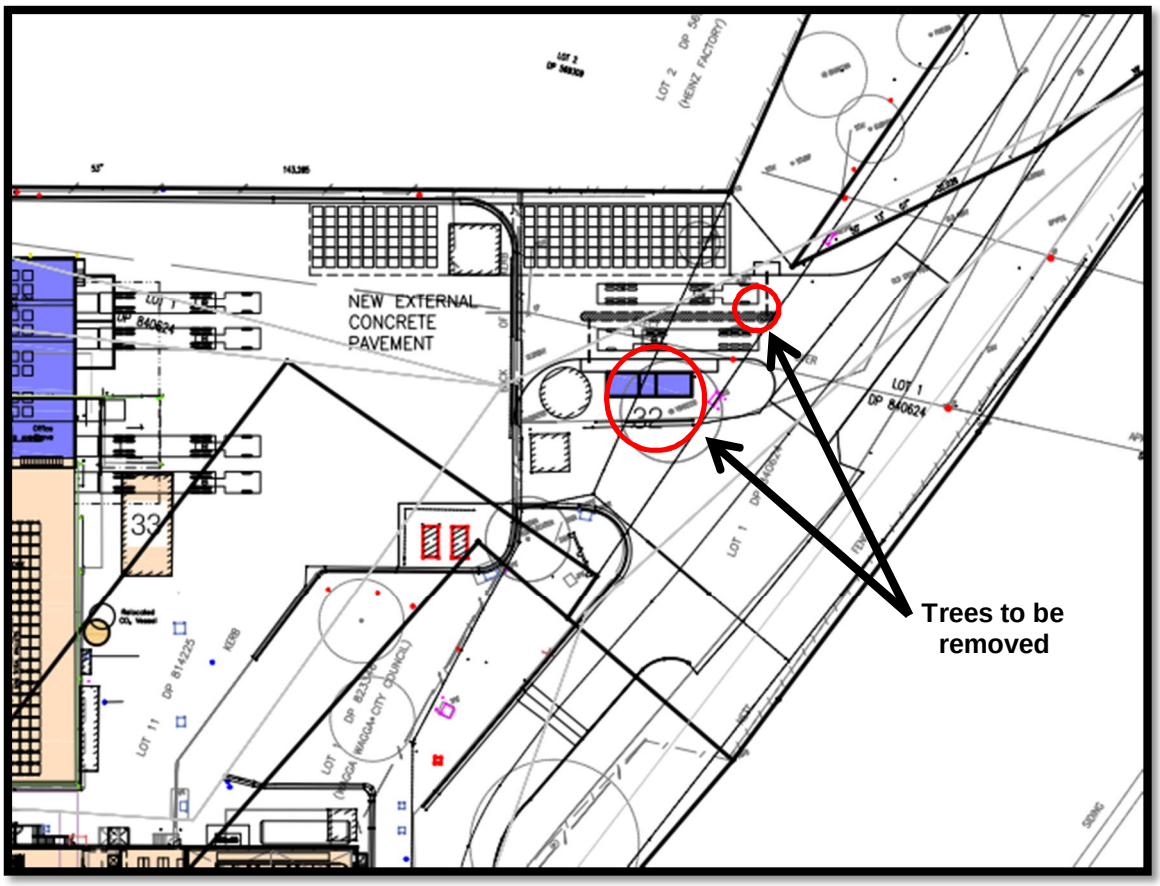

Figure 10: Location of two trees required for removal at Dampier Street site access (Source: Wiley & Co, 2014)

Figure 11: Proposed Dampier Street access location (Source: Claus Environmental Engineering, 2014)

6.5 Construction Air Pollution

Diesel-burning construction equipment will be utilised for the proposed modification works. Equipment to be used will include generators, cranes and other equipment that will generate gaseous and particulate emissions. All equipment will be maintained to ensure excess emissions are not generated.

All heavy vehicles carrying waste that might cause dust to be generated at speed will be covered as required to prevent dust generation. The site is not a greenfield site and trafficable

areas are all currently hardstand, as such there is no need for grates or other tyre cleaning methods to limit mud or dirt transfer to public roads.

6.6 Operational Air Pollution

No additional local air pollution will be generated from the proposed modifications and no additional fossil fuels will be burnt on-site. All new chillers and cold store / freezing areas will be powered using electricity.

The number of heavy vehicles accessing the site will remain the same as that prior to the modifications. The primary difference will be that heavy vehicles will now travel directly to the customer as opposed to going to an intermediate freezing plant. The same number of heavy vehicles coming to and from the site means that there will be no additional air pollution resulting from heavy vehicle exhaust.

6.7 Greenhouse Gas Generation

The assessment of the generation of Greenhouse Gases due to the operation of the modifications is outlined below in terms of figures associated with specified energy usage.

Table 1: Breakdown estimate of proposed greenhouse gas emissions

	Equipment Description	**Motor size (kW)**	**Run Time (hrs/day)**	**Total Usage* (kWh/day)**	**GHG Emissions (t/day)**
Loadout	Evaporator Fans	150	24	3600	3.13
	Conveyors	30	12	360	0.31
	Pushers	30	20	600	0.52
Chillers	Evaporator Fans	150	24	3600	3.13
	General Lighting	50	24	1200	1.04
	Other Uses	20	24	480	0.42
Entrance	Gates, Lights	1	1	1	0.001
Carton Sortation					
Amenities	Lights	1	1	1	0.001
	Total	432		9,842	8.552

*Total Usage is theoretical because motors usually operate at less than rated load.

The total usage quantity shown in **Table 1** is likely to be conservative on the basis large motors like the evaporator fans rarely run at their maximum motor rating and, in general, motors have a peak efficiency at about 75% of rated load.

Assuming that the daily greenhouse gas emissions are 75% of the total shown in **Table 1**:

8.55t CO_2e /day x 75% x 365 days/year = 2,339 tonnes CO_2e per year

6.8 Wastewater and Water Pollution

The proposed modifications will include portable toilet facilities and the use of existing facilities for the additional construction workers present on site.

This arrangement will generate a very small amount of wastewater compared to the total volume produced daily and only for the short construction period.

From an operational perspective, no additional wastewater will be generated by the proposed modifications to the facility. The number of employees will remain as is and so no additional wastewater / sewage will be generated in this respect. There will be no additional cleaning with water as the new and refurbished chillers and cold storage facilities (carton store and palletising areas) will be dry cleaned to prevent the formation of ice during the cleaning process.

Similarly, the operation of the new proposed gatehouse will not generate any additional wastewater.

6.9 Hazardous Materials Storage and Use

The proposed increase in chilling capacity on-site will require a very minor increase in on-site ammonia storage. The ammonia storage and its use will be carried out in accordance with existing site safety procedures in place, and by experienced staff with a negligible increase in chemical storage.

The proposed modifications will require a very small increase to amounts of cleaning fluids and lubricants, etc. currently stored and used safely on-site. The methods used for storage, Material Safety Data Sheets register and all the other occupational health and safety procedures currently in place will be continued to be used for the chemicals / oils needed for this modification. Overall, the minor increase in chemical storage is negligible.

It should be noted that the levels of ammonia and other chemicals on site will not result in the operations being hazardous or offensive development under the provisions of SEPP 33-Hazardous and Offensive Development.

6.10 Hazardous Waste

The proposed modification does not give rise to or produce any hazardous waste. Small amounts of cleaning fluids, lubricants, oily rags, etc. used for cleaning will be disposed of as per current waste disposal requirements.

6.11 Hazard Risk Restrictions

No area of the site that is the subject of the proposed modifications is affected by landslide, bushfire, tidal inundation, subsidence or acid sulphate soils.

6.12 Mine Subsidence

There is no land proclaimed to be in a mines subsidence district under Section 15 of the Mines Subsidence Compensation Act 1961.

6.13 Groundwater

The area proposed for the construction of the modifications is all hardstand, thus no impact on groundwater is likely.

During the construction process when parts of the existing hardstand are demolished and cut open to make way for foundation and infrastructure construction, runoff water will be directed away from trenches or other areas of excavation. These relatively small excavations will be open only for a short duration so there is little opportunity for significant impact on groundwater.

6.14 Contaminated Land

No part of the land subject to the proposed modification is significantly contaminated under the definition of 'contaminated' pursuant to the Contaminated Land Management Act 1997. There remain no management orders, maintenance orders or voluntary management proposals as per the definitions described in the Act.

All contaminated lands on site have been remediated in accordance with the original conditions of consent. This work was completed in April and May 2014 and reported to Wagga Wagga City Council. Site Audit Statement No. 0301-1310, prepared by James Davis of Enviroview Pty Ltd certified the site as suitable for commercial and / or industrial use however, this areas of remediation is not in proximity to any modification works now proposed.

6.15 Solid Waste

The proposed modifications do not give rise to any additional volumes of solid waste. The same packaging volumes that are currently used will be maintained. There will continue to be some packaging wastage as is currently the case however, volumes are not significant.

6.16 Construction Waste Management

Part of the proposed modifications is the partial demolition of the existing facility to enable the additions. Demolition waste will therefore include bricks, concrete, timber, steel, freezer panels, wiring, plumbing, fittings, windows and other demolition waste generated. This waste will be carefully controlled, particularly as the facility will remain operational during demolition and construction. Waste will be loaded into commercial waste bins at the time of the demolition and regularly removed from the site.

There is a possibility that asbestos waste will be encountered during demolition. If asbestos is located it will be removed and disposed of in accordance with the requirements of the Work Health and Safety Regulation (2011), with special attention to Chapter 8.

6.17 Acid Sulphate Soils

Acid sulphate soils are not identified as present in the area of the proposed modifications. Limited soil disruption is proposed as a result of the modifications and limited to the area of existing development.

7 ASSESSMENT OF SOCIAL AND COMMUNITY IMPACTS

7.1 Construction Traffic

Heavy and oversized vehicles transporting equipment, building materials, cranes, etc. will access and egress the site throughout the construction period. Building material deliveries will generally occur during normal hours of construction, from 7am to 6pm. There may be some cranes or other large equipment delivered to the site outside of working hours to limit disruption to normal traffic.

Construction vehicle access will primarily occur via the western site entrance. The number of construction vehicles per day is expected to be relatively minor compared with the approximately 28 heavy vehicles (56 vehicle movements) per day (Monday to Friday) that enter and leave the site during the normal operation of the Facility.

Construction employee vehicle access will also be relatively minor compared with that associated with the operation of the facility each day.

Most of the reinstatement of the eastern driveway crossover to Dampier Street is internal to the site boundary however, one 25 metre section of Dampier Street will require repaving. During this period, a minor traffic diversion around this pavement area may be required. The diversion will have only a minor impact on the secondary entrance to the Patrick Portlink container storage facility on the south-eastern side of Dampier Street. Overall, this section of Dampier Street predominantly services the Beef Processing Facility, and as such is of minor concern to the overall community.

7.2 Operational Traffic

The existing number of employees' vehicles and heavy vehicles servicing the site will not change due to the proposed modifications. Approximately 28 heavy vehicles (58 vehicle movements) per day (Monday to Friday) enter and leave the site during the normal operation of the Facility. Table 2 shows that this is a minor volume compared to the surrounding road network traffic reported in 2008. The 2015 traffic volumes are expected to be slightly greater than recorded in 2008.

Table 2: Traffic volumes provided for 2008 Report for Planning Studies, Traffic Management Bomen (Source: Wagga Wagga City Council, 2008)

Road	Current volume (vehicles/day)	Existing Trucks % usage
Bomen Road (West of Old Bomen Road)	1300	<4%
Dampier Street (at Railway crossing)	2500	<1%
Byrnes Road (South of Bavins Road)	3100	<1%
Byrnes Road (Between Bavins Road and Dampier Street)	2750	<1%
Olympic Way at Coolamon Road	3700 (25% heavy or commercial vehicles	<1.5%

It is noted that traffic movements to achieve the throughput of up to 1,600 head of cattle per day have been previously approved. These modifications now proposed are part of a series of proposed improvements to the existing site facilities which are designed to upgrade the operational efficiency and achieve its maximum approved output. As such, these traffic movements have already been anticipated, considered and approved within the current consent and subsequent modifications. The only changes created by this Stage 1 modification is that now truck movements will be distributed more widely between the back and the new front gate entry which is designed to more evenly distribute heavy vehicle activity across the site and avoid any vehicle queuing on either Dampier Street or Bomen Road.

The mid-block capacities of dual lane roads undivided with parking is 12,000 vehicles per day and two lanes undivided with no parking is 18,000 vehicles per day (Table 3.2 (p28), URaP-TTW, 2008). The NSW RTA classifies roads with a traffic volume of less than 2,000 vehicles per day and a peak hour volume of less than 200 vehicles per hour as a Local Road.

The calculation for the percent usage in Table 2 was made assuming that 90% of the trucks that leave the facility turn left to access the Olympic Highway and 10% turn right onto Byrnes Road and travel toward Sydney. Should these percentages change, Table 2 demonstrates there will continue to be no significant stress on the capacities of any of the roads around the Bomen area.

Further and from an operational perspective, refrigerated vehicles will use the existing loading docks until they are renovated and commissioned. Once the new loading docks are commissioned, the old loading docks will be removed. There will be no change to the volume of heavy vehicle or employee vehicle traffic on the roads.

The proposed modifications will have no impact on the ability for pedestrian movement on Dampier Street or any other street however, there will be some restrictions on pedestrian movement during construction of the Dampier Street driveway and crossover. Use of the opposite side of the street may be required.

For further detail please refer to the Traffic Assessment Report prepared by GTA Consultants at **Attachment D**.

7.3 Construction Noise

For the purposes of understanding the noise levels in the vicinity and the potential noise levels from the highest noise-producing components of the facility, the NSW DECC Interim Construction Noise Guideline (2009) is referenced.

The proposed modifications will not require the extensive use of heavy equipment over a long period. The demolition work required will necessitate some heavy and noise-emitting equipment however, this will not occur for any extended period. The majority of work required relates to the installation of the new chillers and freezing equipment and other equipment internal to the main building which is relatively quiet compared with earthworks or demolition.

Construction noise is unlikely to have any significant impact on the nearest residences for two reasons:

- the nearest residences are over 900 metres from the site of proposed modification works and many of the noise sources are blocked by buildings on the path of the nearest residences.
- the noise impact of Byrnes Road far outweighs the noise from any work at the facility.

Noise Monitoring was carried out in October 2006 by Carey Murphy and Associates at a Byrnes Road receiver and a Bavin Street receiver (referenced as Bavin Road in the Carey Murphy report). Noise Monitoring was also carried out by Atkins Acoustics and Associates in October 2007. This noise monitoring showed a significant difference in between the LAeq noise levels and the LA90 noise levels (often referred to as the background level).

This data indicates, as quoted in the Murphy and Associates report:

> '*The inference from these results… was that traffic noise was the dominant noise source at this receiver*'.

Noise levels at the Byrnes Road sites (**Table 3**) and the Bavin Street sites indicate that the noise levels from Byrnes Road (and possibly Bavin Street for the Bavin Street sites) are much more significant than any potential noise emission from the Beef Processing Facility.

Table 3: Historical noise monitoring data on Byrnes Road and Bavin Street (Source: Murphy, 2009 and Atkins, 2008)

	Background L_{A90} dB(A)			**Assessment L_{Aeq} dB(A)**		
Source of Data - Location	Day	Eve	Night	Day	Eve	Night
Murphy 2006-Byrnes	36	33	37	54	53	48
Atkins 2007-R2 Byrnes 35m from road	48	54	51	59	62	62
Atkins 2007-R4 171 Byrnes 130m from road	37	38	33	53	52	52
Murphy 2006-Bavin	34	37	34	43	42	40
Atkins 2007-R3 78 Bavin	35	32	29	49	44	44

The Evening and Night-time LAeq noise levels at Atkins' Byrnes Road site, 35m from the road, are higher than the day-time noise levels. This indicates that night-time traffic is heavier. The 59 dB(A) LAeq noise level 35m from Byrnes Road indicates that the 50 dB(A) noise level guideline set by the EPA in the Industrial Noise Policy document is not achievable.

The NSW DECC Interim Construction Noise Guideline (2009) recommends an LAeq background noise level of LA90 plus 10 dB(A) or 75 dB(A) for Major Construction Projects (page 18/62), during normal working hours. As per Table 4, achievement of the background plus 10 dB(A) guideline is not possible for sites in Bomen where background noise has been measured. **Table 4** demonstrates the average difference between the background noise and the LAeq assessment noise level is about 14 dB(A). Only one of the five measurements was less than the recommended 10 dB(A) and that was the Murphy report measurement at Bavin Road with a difference of 9 dB(A).

Table 4: Comparison of LA90 and LAeq Noise Levels during Daytime monitoring

	L_{A90} dB(A)	L_{Aeq} dB(A)	dB(A)
Source of Data - Location	**Day**	**Day**	**Difference**
Murphy-Byrnes 2006	36	54	18
Atkins-R2 Byrnes 2007 35m from road	48	59	11
Atkins-R4 171 Byrnes 2007 130m from road	37	53	16
Murphy-Bavin 2009	34	43	9
Atkins-R3 78 Bavin 2007	35	49	14

The EPA Industrial Noise Policy (2000) recommends acceptable and recommended maximum noise levels under a variety of conditions from a variety of sources. The LAeq acceptable level for daytime noise (7am to 6pm Monday to Saturday and 8am to 6pm Sundays and Public Holidays) when the facility is operating is 50 dB(A) and remains compliant with the Industrial Noise Policy.

Estimates of construction noise can be made using the assumed noise levels from the assumed equipment that will be used to construct the project, attenuating this noise using the noise with distance attenuation equation:

> Noise-Far = Noise-Near – 20 Log (Distance-Far/Distance-Near)
> (Page 23/62 of Interim Construction Noise Guideline, Department of Environment and Climate Change (2009))

This is a conservative measure of the noise level at an affected premises, especially for long distances as noise is also attenuated when blocked by structure or terrain. Figure 12 illustrates the distances to the nearest affected premises are all over 900 metres from the facility.

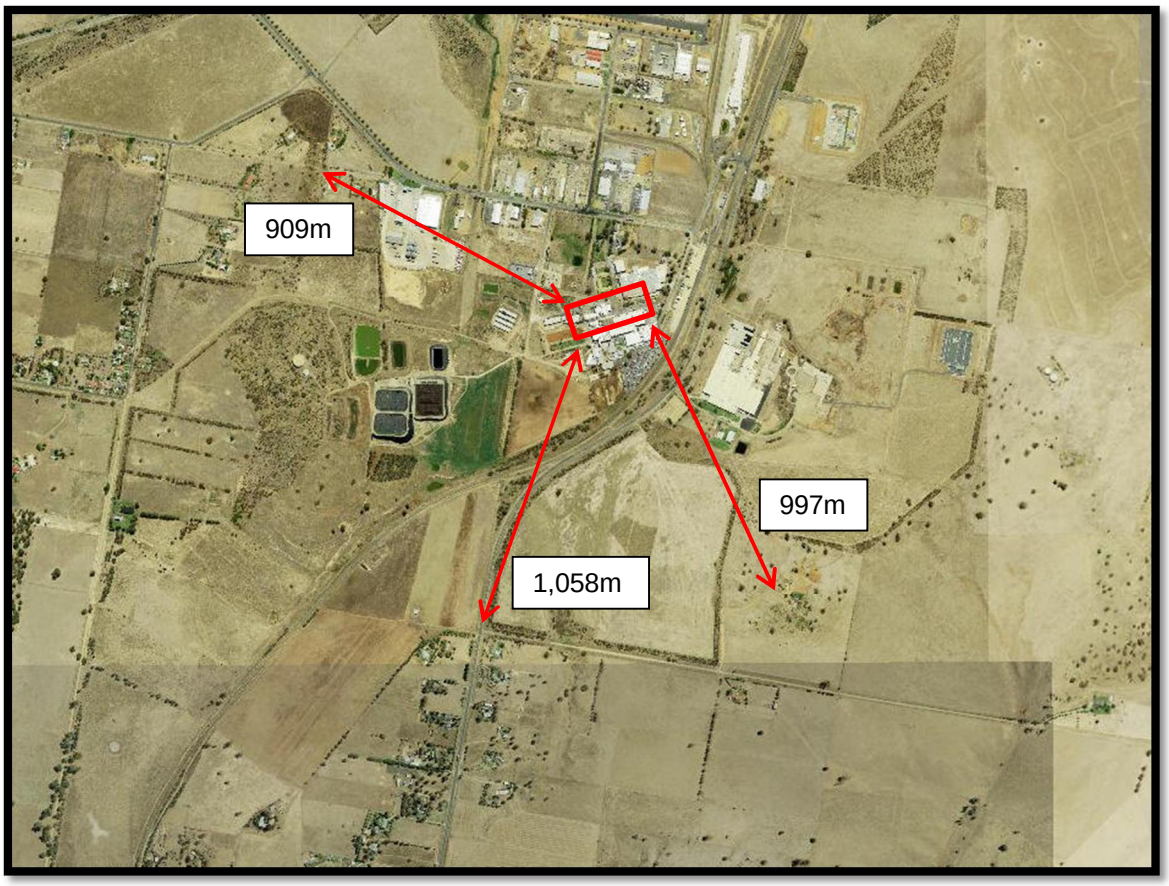

Figure 12: Residential proximity to the site of proposed modifications (Source: SIX Viewer, 2015)

Appendix B of the NSW Interim Construction Noise Guideline recommends using the equipment noise levels referenced in DEFRA (2005). The tracked excavator is one of the loudest pieces of equipment which may be used. DEFRA (2005) has several noise levels listed for tracked excavators when they are idling (52, 63 and 68 dB(A)) to doing several other tasks (69 to 86 dB(A)).

Normal distance-only noise attenuation will reduce an excavator with an LAeq noise level of 82 dB(A) at 10 metres away to 43.6 dB(A) at 830 metres away.

Noise-Far = Noise-Near – 20 Log (Distance-Far/Distance-Near)
Noise-Far = 82 – 20 Log (830/10) = 82 – 20 Log (83) = 82 – 20 x 1.92 = 43.6 dB(A)

The calculated noise level 43.6 dB(A) is well below the 53 to 59 dB(A) noise levels that would follow the recommendation of the NSW DECC Interim Construction Noise Guidelines. They are also far below the acceptable 50 dB(A) during the daytime from the EPA Industrial Noise Policy.

At Bavin Street where the average daytime LAeq noise levels would be in the range of 44 to 49 dB(A) based on the NSW DECC Interim Construction Noise Guidelines, the attenuated noise level is calculated at 42.2 dB(A).

These noise calculations are worst case with respect to the proposed modifications as much of the alterations to the site will be shielded by existing development between the site and the nearest residents.

This combination of factors strongly indicates that the noise levels from the construction activities will not have a significant effect, even temporarily, on the amenity of the nearest residents.

7.4 Operational Noise

The factors influencing the operational noise, distance and noise barriers are the same as that relating to construction noise. The most significant difference is that the operational noise generated will be much quieter than the construction noise. The chillers and freezers are internal to the building. Assuming a typical new compressor has a maximum LAeq noise level of 75 dB(A) at 7 metres and that would be similar to the maximum from a chiller or freezer. The building would reduce the noise to a maximum of 68 dB(A) at 7 metres. Even without the blockage by the existing buildings the noise 1,000 metres would be 25 dB(A) which is far below the night-time acceptable noise level of 40 dB(A) and generally considered to be too quiet to hear.

7.5 Visual Assessment

The 1,551m2 extension to the existing building will be constructed with elevations similar to that of the existing building. All proposed modifications are designed to blend with the existing built form of the site. None of the proposed modifications are visible from the nearest residence. The proposed building elevations are included at **Attachment B**.

7.6 Need for Additional Energy

The requirement for additional electrical power to carry out chilling on-site is essentially only a change in consumption location rather than an increase in energy required for the overall activity. The processed stock is currently trucked to a freezing facility before being shipped to its final destination, which is often overseas.

The expected energy requirements are broken down by each source in **Table 5**. The Total energy requirement is 824 kW or about 0.8 MW. The Peak Power requirement over the 13 months from 1 April 2013 to 8 May 2014 was 5.5 MW with a maximum 6.0 MV-Amps.
The current system into the facility is rated at 8.5 MV-Amps (Essential Energy Electrical Supply Agreement, 2012).

Table 5: Estimated energy requirements by source (Source: Claus Environmental Engineering, 2014)

	Equipment Description	Motor size (kW)	Run Time (hrs/day)	Total Usage* (kWh/day)	GHG Emissions (t/day)
Loadout	Evaporator Fans	150	24	3600	3.13
	Conveyors	30	12	360	0.31
	Pushers	30	20	600	0.52
Chillers	Evaporator Fans	150	24	3600	3.13
	General Lighting	50	24	1200	1.04

	Other Uses	20	24	480	0.42
	Total	430		9,840	8.55

*Total Usage is theoretical because motors usually operate at less than rated load

Over the 13 months from 1 April 2013 to 8 May 2014 the average kW-hrs per day was approximately 82,000 kW-hrs per day. The total usage sum shown in **Table 5** is conservative as large motors like the compressor and the evaporator fans rarely run at their maximum motor rating and in general, motors have a peak efficiency at approximately 75% of rated load.

7.7 Need for Additional Water

There is no requirement for additional water as a result of the proposed modifications. Chillers and freezers are dry cleaned to prevent the formation of ice and no increase in staff is required to operate the proposed modifications

During construction there will be between 5 and 20 construction workers on-site at times, for a period of approximately six months. Assuming an average water usage of 30 litres per person and an average of 8 construction workers for 120 days, the total additional water usage will be approximately 30,000 litres over 6 months. This amounts to less than one - one hundredth of a percent of the existing water usage of the facility, a very small amount in comparison to the overall operation.

7.8 Need for Additional Natural Gas

There is no requirement for additional natural gas as a result of the proposed modifications. The use of steam is not required by the proposed modifications as boilers or other gas-fired equipment do not form part of the project.

7.9 Need for Additional Telecommunications

The site is currently services by telecommunications services and the proposed modifications do not give rise to any further demand.

7.10 Interruption to Utilities

There are no foreseeable interruptions required during the construction of the proposed modifications, with the exception of a minor traffic diversion require for the re-pavement of a 25m area of Dampier Street adjacent to the proposed eastern access driveway and crossover. However, as previously noted the primary function of Dampier Street is to provide access to the site and an adjacent container yard however, such a minor diversion will not result in any substantial impact on either operation.

7.11 Signage

No additional signage is proposed as part of this modification with the exception of access and directional signage at the new driveway access point on Dampier Street.

7.12 Odour

No odour will be generated as a result of the proposed modifications. None of the chilling or freezing operations currently in place create odours.

Should there be a loss of power, the freezers are designed with an insulating capacity that keeps meat fresh for 48 hours and avoid potential for spoilage which may produce an odour. There will be no odour produced from any other component of the proposed modifications.

7.13 Fire and Safety

The proposed modifications to the existing buildings will meet the requirements of the Building Code of Australia for Fire Safety and Structural Considerations, which is supported by the preliminary assessment provided by MCG Consulting at **Attachment E**.

It is understood the current design of the proposed new chilled carton store additions proposes:

- A sprinkler system throughout the new areas of the building
- Per BCA C2.4 at least 6m clear unobstructed perimeter emergency vehicular access around the building within 18m of the subject building (to the new works), whilst there may be existing conditions that don't comply they are not subject to this application
- A smoke hazard management system per the requirements of Table E2.2a as addressed through Fire Engineered Alternative Building solution to capture Performance Requirements EP2.2, Dp4 and CP9 of BCA 2014 due to the nature of the refrigerated environment of the carton store and adjacent areas.

The conclusion of the BCA assessment referred to above states:

'The above assessment has been carried out in accordance with the provisions of the BCA 2014 and the Commonwealth Governments Access to Premises Standards unless otherwise noted. The design of the proposed alterations and additions are considered capable of achieving compliance with provisions of the Building Code of Australia 2014.'

7.14 Heritage

The site is not listed as an item of state or local heritage significance and is not located within the vicinity of any listed items under the provisions of the WWLEP 2010. In addition, the site is not located within a conservation area.

The proposed modifications will therefore have no adverse impacts in respect to any items of heritage or conservation areas.

Moreover, it is unlikely there will be deep excavations however, should any excavation reveal any item that may be considered of heritage value, Teys Australia will report it directly to the Council.

7.15 Social and Economic Impact

The number of employees at the site is not planned to change as a result of the proposed modifications. The number of heavy vehicles movements will remain constant however, approximately 35-40 heavy vehicles per day will enter and leave from the proposed Dampier Street access point as opposed to all movements via Jersey Street which is currently the case. This is not expected to cause any social impact.

Teys Australia expects these proposed modifications will increase the quality of its product by increasing its shelf life. The modifications will also improve the profitability of the facility, with an improved level of job security for employees. Whilst current positions are relatively secure at present, this is not expected to have a significant social impact however, it certainly remains a positive social benefit.

The proposed construction works will provide a direct benefit to the local economy as local electricians, plumbers, concreters, surveyors and other trades and professionals are likely to be engaged to perform the work. The construction works will also likely generate a very minor level of additional traffic on the surrounding road network in Bomen, with an associated level of noise and air pollution. The net effect is expected to be a minor positive social impact.

There will be no changes to public safety or public security due to the proposed modifications.

8 CONCLUSION

This Environmental Assessment seeks to modify development consent DA-220-07-2002-i under the savings provisions of section 75W of the EP& A Act 1979.

The proposed modifications involve internal reconfiguration to provide new beef carcase chillers, and extension to the building to provide a new chilled carton sorting and load out docks and reinstatement of a former vehicular access point from Dampier Street to service the new load out dock.

The primary purpose of the proposed modifications are to improve the shelf life of the product as well as enable the facility to run at its full approved capacity of 1600 head of cattle per day. The proposed modifications do not result in an intensification of the operations.

The proposed modification is supportable from a town planning perspective for reasons set out in this report. The proposal will not result in any adverse environmental, social or economic impacts but will offer a variety of benefits in terms of production, product shelf life, shipping efficiencies and general business profitability, all of which are important in terms of sustaining regional industry and supporting regional economies.

We therefore recommend the modification application be approved by the Minister subject to reasonable and relevant conditions as required.

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Attachment A SURVEY PLAN

Attachment B PROPOSED MODIFICATION PLANS

Attachment C STORMWATER REPORT

Attachment D TRAFFIC ASSESSMENT

Attachment E PRELIMINARY BCA ASSESSMENT