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Technical Paper TP6: Surface Water

Technical Paper TP7: Traffic and Transport

Technical Paper TP8: Visual, Urban Design and Landscape

Technical Paper TP9: Waste management.

Technical Paper TP10: Ground Conditions

Declaration under Part 3, Schedule 2 of the Environmental Planning and Assessment Regulation 2000

Author of the Environmental Impact Statement:

Name: Brian Cullinane

Address: Level 9, North Tower, 1-5 Railway Street, Chatswood, NSW 2067

Qualifications: Masters in Environmental Science, Bachelor of Arts

Name and address of the Responsible Person

As above

Address of the land to which this EIS applies:

The land to which the EIS applies is 111-113 Quarry Road, Erskine Park, NSW 2759. The legal description of the land is Lot 1022, DP 1175670.

Description of the Development to which this EIS applies:

This EIS examines Murray Goulburn's proposal to construct and operate a milk processing facility at 111-113 Quarry Road, Erskine Park Business Area in the Local Government Area of Penrith. The development would involve the construction of a new milk processing facility, the transport of raw milk from farms to the facility, and the transport of bottled milk from the facility to a distribution centre at Eastern Creek.

Assessment of the Environmental Impact of the Development

An assessment of the environmental impact of the development is contained in this Environmental Impact Statement.

Declaration

Pursuant to Clause 6(f), Part 3, Schedule 2 of the Environmental Planning and Assessment Regulation 2000, I declare that this Environmental Impact Statement:

- Has been prepared in accordance with the requirements of the Environmental Planning and Assessment Regulation Act 1979 and Environmental Planning and Assessment Regulation 2000;
- Contains all available information that is relevant to the environmental assessment of the development, activity or infrastructure to which the statement relates, and
- The information contained in the statement is neither false nor misleading.

Brian Cullinane



16 September 2013

Glossary and Abbreviations

Aggressivity (soil)	The propensity of a soil to dissolve building materials such as concrete structures
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
ANZECC	Australian and New Zealand Environment and Conservation Council
ARI	Average recurrence interval - the long-term average number of years between the occurrence of a flood as big as or larger than the selected event. For example, floods with a discharge as great as or greater than the 20 year ARI flood event will occur on average once every 20 years. ARI is another way of expressing the likelihood of occurrence of a flood event
APZs	Asset protection zones
AS	Australian Standard
AVD	Average vehicle delay per vehicle
BCA	Building Code of Australia
Biodiversity Corridor	Natural areas within the Erskine Park Employment Area that are owned by DP&I and managed by Greening Australia.
Blue Book	Landcom, 2004, *Managing Urban Stormwater: Soils and Construction* (Volume 1, 4th edition)
BOD	Biochemical oxygen demand
BTEX	Benzene, toluene, ethylbenzene, xylenes
CEMP	Construction Environmental Management Plan
City Strategy	Penrith City Strategy
CLM Act	NSW *Contaminated Land Management Act 1997*
CMA	Catchment Management Authority
CO	Carbon monoxide
Community Plan	Penrith Community Plan
Consent	Approval to undertake a development received from the consent authority
CPTED	Crime prevention through environmental design
CSSI	Critical State Significant Infrastructure
Cut	An excavation for constructing below the natural ground level
dB(A)	Decibels (A-weighted) - a unit of sound measurement which has its frequency characteristics modified by a filter (A-weighted) - so that it more closely approximates the frequency response of the human ear
DCP	Development control plan
DEC	Department of Environment and Conservation (former name of NSW Office of Environment and Heritage)

DECC	Department of Environment and Climate Change (former name of NSW Office of Environment and Heritage)
DECCW	Department of Environment, Climate Change and Water (former name of NSW Office of Environment and Heritage)
Dewatering	Removal or draining of surface water or groundwater from construction site including excavations
DGRs	Director-General's Requirements for the Environmental Impact Statement
DOS	Degree of saturation
DP&I	NSW Department of Planning and Infrastructure
DP	Deposited plan
DPI	Department of Primary Industries (former name of NSW Department of Industry and Investment)
Early Works Package	Works which comprise of critical works required prior to the construction of the Proposal. These works include the bulk earthworks and piling which are necessary for preparing the site.
EC	Electrical conductivity
ECRTN	Environmental Criteria for Road Traffic Noise
EEC	Endangered ecological community
EIS	Environmental Impact Statement
ENM	Environmental Noise Management
EPIs	Environmental planning instruments
EPA	NSW Environment Protection Authority (former name of NSW Office of Environment and Heritage)
EP&A Act	NSW *Environmental Planning & Assessment Act 1979*
EP&A Regulation	NSW *Environmental Planning & Assessment Regulation 2000*
EPBC Act	Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*
EPL	Environment protection licence
EPDCP	Erskine Park Development Control Plan 2006
ESD	Ecologically sustainable development
FDI	Fire danger index
Fill	Earth used to construct an embankment or raise the existing level of the ground
FM Act	NSW *Fisheries Management Act 1994*
GFA	Gross floor area
GHS	Global Harmonised System
GRC	George Rydell Constructions Pty Ltd
HD	Highly disturbed systems (ANZECC criteria)
HEV	High conservation/ecological value systems (ANZECC criteria)

HIPAP No.4	Hazardous Industry Planning Advisory Paper No. 4 – Risk Criteria for Land Use Safety Planning
HIPAP No.6	Hazardous Industry Planning Advisory Paper No. 6 – Guideline for Hazard Analysis
IAEA	*Manual for Classification of Risks Due To Major Accidents in Processes and Other Related Industries*
ICNG	Interim Construction Noise Guidelines
INP	Industrial Noise Policy
kPa	Kilopascals
L_{Aeq}	The average sound level. It is defined as the steady sound level that contains the same amount of acoustical energy as a given time-varying sound over the same measurement period
L_{Aeq} (15min)	Equivalent sound pressure level: The steady sound level that, over a specified 15 minutes, would produce the same energy equivalence as the fluctuation sound level actually occurring
L_{Aeq} (9hr)	The L_{Aeq} noise level for the period 22:00 to 7:00 hours
L_{Aeq} (15hr)	The L_{Aeq} noise level of the period 7:00 to 22:00 hours
LA_{max}	The maximum noise level registered during train passby with the sound level meter set to fast response
LEP	Local environmental plan
LGA	Local government area
LOS	Level of service
mBGS	Metres below ground surface
MGC	Murray Goulburn Co-operative Ltd
MVA	Megavolts times amps
NES matters	Matters of national environmental significance, which are referred to in Part 3 Division 1 of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*
NML	Noise management level
NOx	Mono-nitrogen oxides NO and NO2
NOW	NSW Office of Water
NPW ACT	NSW *National Parks and Wildlife Act 1974*
NSW	New South Wales
NW Act	*Noxious Weeds Act 1974*
OCPs	Organochlorine pesticides
OEH	NSW Office of Environment and Heritage
OSD	Onsite stormwater detention
PAHs	Polycyclic aromatic hydrocarbons.
PBP	Planning for bush fire protection 2006
PCC	Potential contaminants of concern

PDCP 2010	Penrith Development Control Plan 2010
PEA	Preliminary Environmental Assessment
Penrith DCP 2006	Penrith Development Control Plan 2006
PESCPs	Progressive erosion and sediment control plans
PLEP 2010	Penrith Local Environmental Plan 2010
PM	Particulate matter
POEO Act	NSW *Protection of the Environment Operations Act 1997*
POEO CA Regulation	Protection of the Environment Operations (Clean Air) Regulation 2002
PPV	Peak article velocity
Proposal	The Proposal would involve the construction and establishment of a milk processing facility on industrial land at 111-113 Quarry Road, Erskine Park.
Proposal area	The area in which the Proposal would operate and be constructed.
RBL	Rating background noise level
RFS	Rural fire services
Riparian	Relating to the bank of a river or other water body
RMS	NSW Roads and Maritime Services
Roads Act	NSW *Roads Act 1993*
RTA	Roads and Traffic Authority (former name of NSW Roads and Maritime Services)
RUSLE	Revised Universal Soil Loss Equation (RUSLE)
SAC	Site assessment criteria
Salinity	The salt content of soil or water
SEPP	State Environmental Planning Policy
SEPP 33	State Environmental Planning Policy No.33 – Hazardous and Offensive Development (SEPP 33)
SEPP 55	State Environmental Planning Policy No. 55 – Remediation of Land
SEPP Infrastructure	State Environmental Planning Policy (Infrastructure) 2007
SEPP SRD	State Environmental Planning Policy (State and Regional Development) 2011
SEPP WSEA	Western Sydney Employment Area State Environmental Planning Policy 2009
SFPP	Special fire protection purpose
SIA	Social impact assessment
SIDRA	Signalised and unsignalised Intersection Design and Research Aid
Site compound	Area enclosing construction machinery, materials and site offices usually adjacent to construction sites
SMD	Slightly to moderately disturbed systems (ANZECC guidelines)
Spoil	Excess rock and/or earth material resulting from excavation activities

SSD	State Significant Development
SSI	State Significant Infrastructure
SWL	Sound power levels
SWMP	Soil and Water Management Plan
TFR	treatable flow rates
TIA	Traffic impact assessment
TN	Total nitrogen
TP	Total phosphorus
TPH	Total petroleum hydrocarbons
TSC Act	NSW *Threatened Species Conservation Act 1995*
Turbidity	The measure of cloudiness or murkiness of a fluid
WARR Act	NSW *Waste Avoidance and Resource Recovery Act 2001*
Wastewater System	System used to remove fats, oils and greases (FOG) and adjust the pH of wastewater generated by the Proposal in order to meet the trade waste discharge criteria
WHS Act	*Work Health and Safety Act 2011*
WHS Regulation	*Work Health Safety Regulation 2011*
Wilderness Act	NSW *Wilderness Act 1987*
WM Act	NSW *Water Management Act 2000*
WSEA	Western Sydney Employment Area

EXECUTIVE SUMMARY

PREAMBLE

This Environment Impact Statement (EIS) has been prepared for submission to the NSW Department of Planning and Infrastructure (DP&I) to accompany the application for State Significant Development (SSD 60-26) being progressed by Murray Goulburn Cooperative Co. Limited (MGC) (the Proponent) for its proposed Erskine Park milk processing facility (the Proposal).

MGC is an Australian owned co-operative that is well known for its flagship brand Devondale. MGC represents more than a third of the nation's milk volumes and is 100% controlled by its 2,880 dairy farmer shareholders in Victoria, South Australia and New South Wales. The proposed facility will be MGC's first milk processing facility in NSW and will result in 45 new jobs. The Proponent currently operates seven existing milk processing and dairy facilities across Victoria.

On 13 June 2013, MGC made a formal request to the Director General of the NSW DP&I seeking formal consideration that its application for its first NSW Devondale milk processing facility be considered as State Significant Development (SSD) and requesting environmental assessment requirements, otherwise known as Director General Requirements (DGRs).

The Proposal has been independently assessed by WT Partnership as having a Capital Investment Value (excluding land costs) of $64,000,000 ($64 million). It falls within a class of development (Class 3) that is identified under Schedule 1 of the State Environmental Planning Policy State and Regional Development 2011 (SRD SEPP 2011). Schedule 1 outlines the types of projects that are considered to be of state significance pursuant to s89C, Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

On 22 June 2013, the Director General advised that the project constituted a SSD and issued the DGRs for the proposed MGC Milk Processing facility together with the relevant legislation and policies that must be considered in the EIS.

This EIS has been prepared in accordance with the legislative requirements prescribed under Schedule 2 of the NSW *Environmental Planning and Assessment Act Regulation 2000*, which includes the DGRs that have been specified for the development.

The purpose of the EIS is to:

- detail the proposed design, construction and operation of the facility;
- identify any environmental impacts arising from its development (both positive and negative impacts);
- detail how these impacts will be managed or mitigated; and
- address the specific considerations detailed in the DGRs.

The EIS has been prepared by a multidisciplinary team with extensive experience in all facets of environmental management, urban and landscape design and industrial architecture relevant to a milk processing facility. The multidisciplinary team is detailed at Table A.

TABLE A - MGC MULTI DISICIPLINARY TEAM

DISCIPLINE	CONSULTANT
Project Coordination	Space2Develop
Architecture	Blomquist + Wark Architects
Civil Engineering	Pitt&Sherry
Environmental Planning and Management	KMH
Project Advocacy, Stakeholder and Community Engagement	Urban Concepts
Noise, Odour and Air Quality Assessment	Todoroski Air Sciences
Urban Design and Visual Impact Assessment	GM Urban Design and Architecture
Landscape Design	Group GSA
Geotech, Contamination and Salinity	Environmental Earth Sciences
Traffic and Parking Assessment	Traffix Traffic and Transportation Planners
Bushfire Hazard Assessment and Ecology	Travers Environmental Group
Socio Economic Impact	Steve Spencer
Hazard Analysis Assessment	Benbow Environment
Quantity Surveyors Report	WT Partnership
Legal and Regulatory Advice	Davis Advisory

The Proposal site has a total area of 5.07 hectares and is located at 111-113 Quarry Road, Erskine Park within the industrial estate referred to as the Erskine Park Business Area. The legal description of the site is Lot 1022 in DP 1175670. The land falls within the Penrith Local Government Area. Figure A identifies the locational context of the site.

This EIS has eight sections and an overview of information presented within each section follows.

SECTION 1 INTRODUCTION

This Section establishes the context for the application by providing an introduction to the Proponent, an overview of the scope of works for the Proposal, the statutory approvals that are being sought under this application and the scope of the EIS.

1.1 INTRODUCING THE PROPONENT MGC

MGC is recognised as Australia's largest food producer processing approximately 2.94 billion litres of milk and 740,000 tonnes of dairy product per year for both export and domestic markets.

In April 2013, MGC announced a ten year partnership to supply Coles with daily pasteurised milk for its private label brands in Victoria and NSW from July 2014.

The agreement will see MGC invest $120 million in the construction of two state-of-the-art milk processing plants in Melbourne and Sydney representing the most significant investment in dairy processing technology since the deregulation of the dairy industry in 2000.

The Proposal, the subject of this application, is one of the two nominated facilities being developed by MGC. The site was acquired by MGC in May 2013.

The key features of the site that made it attractive to MGC as the site of its first NSW based milk processing facility are:

- Its strategic location adjacent to the M4 and M7 Motorways;
- Its proximity to the newly constructed Erskine Park Link Road that connects through to the Coles Chilled Distribution Centre at Eastern Creek which is the supply hub for the milk product;
- Its environmental validation (under State Environmental Planning Policy No. 55 – Remediation of Land) which confirms that it is has been successfully remediated and is free of contamination;
- Its location within the established Industrial Erskine Business Park;
- The permissibility of the proposed facility under the IN1 Industrial General land zoning that applies to the site under the State Environmental Planning Policy (Western Sydney Employment Area) 2009 (WSEA SEPP 2009); and
- The 5.07 hectare size of the land parcel that can accommodate the scale of the Proposal.

1.2 THE STATUTORY APPROVALS

The Proponent aims to have the Erskine Park facility operational by July 2014. The Proponent understands that this this will be dependent on obtaining the necessary approvals from relevant approval authorities.

In order to meet the time frame, the Proponent agreed to a staged development approval process with the DP&I and Penrith City Council. This approach sees two development applications being run in parallel:

- A development application for 'Early Works' (DA 13/0695) was made to Penrith City Council. This application sought development approval for a limited scope of works being bulk earth works and pile construction. The development application was approved by Penrith City Council on 26 July 2013. The works approved under this application are currently being undertaken by MGC on the Proposal site, and
- This SSD application (SSD-6026) for the balance of the facility, which has in its own right a capital investment value of $64 million. The Proposal falls within Schedule 1 of the SRD SEPP 2011, as development that has capital investment value of more than $30 million for the purpose of a milk or butter factory. In accordance with SRD SEPP 2011, the consent authority for the SSD is the NSW Minister for Planning.

In addition to planning approval under the EP&A Act, the following approvals will be required for the Proposal:

- The Proposal is a scheduled activity under Schedule 1 of the *Protection of the Environmental Operations Act 1997* and requires an Environmental Protection Licence.
- The Proposal also requires a Licence under the *Food Regulation 2010*.

1.3 KEY FEATURES OF THE FACILITY

The EIS seeks approval for a milk processing facility that will process approximately 150 million litres of raw milk per year, sourced from NSW based dairy farms (under normal seasonal conditions). At the facility, milk will be pasteurised and homogenised before being bottled into 1, 2 and 3 litre plastic bottles for distribution throughout NSW.

The Proposal includes the following scope of works:

- The main facility building comprising:
    - Administration office and staff recreational lunch room;
    - Manufacturing area;
    - Dry goods storage;

- Chemical storage;
- Cool rooms;
- Energy centre;
- Silo farm comprising:
  - 3 x 200KL silos for raw milk storage;
  - 2 x 500KL silos for water storage;

- Waste water system;
- Underground drainage and sewerage infrastructure;
- 53 space car park;
- Truck loading and unloading facility;
- Internal driveway circulation system;
- Perimeter fencing;
- Free standing building and business identification signage at the Quarry Road frontage;
- Onsite landscaping; and
- Area allocated for future cool room and blow moulding buildings.

1.4 DIRECTOR GENERAL'S REQUIREMENTS

The DGR's issued for the Proposal are detailed in Table A together with a reference to indicate where they are addressed in the relevant Section/Subsection of the EIS.

TABLE B - DIRECTOR GENERAL REQUIREMENTS

Category	Director-General Requirements	Relevant EIS section
General	The EIS for the development must meet the form and content requirements in clauses 6 and 7 of schedule 2 of the *Environmental Planning and Assessment Regulation 2000*.	section 1
	In addition, the EIS must include a: • detailed description of the development, including: - need for the proposed development; - justification for the proposed development; - likely staging of the development; - likely interactions between the development and existing, approved and proposed operations in the vicinity of the site; - plans of any proposed building works; • consideration of all relevant environmental planning instruments, including identification and justification of any inconsistencies with these instruments; • risk assessment of the potential environmental impacts of the development, identifying the key issues for further	section 2, section 6.15 and section 8 section 3 section 5

Category	Director-General Requirements	Relevant EIS section
	assessment; • detailed assessment of the key issues specified below, and any other significant issues identified in this risk assessment, which includes: - A description of the existing environment, using sufficient baseline data; - An assessment of the potential impacts of all stages of the development, including any cumulative impacts, taking into consideration relevant guidelines, policies, plans and statutes; and - A description of the measures that would be implemented to avoid, minimise and if necessary, offset the potential impacts of the development, including proposals for adaptive management and/or contingency plans to manage any significant risks to the environment; and • Consolidated summary of all the proposed environmental management and monitoring measures, highlighting commitments included in the EIS. The EIS must also be accompanied by a report from a qualified quantity surveyor providing: • a detailed calculation of the capital investment value (as defined in clause 3 of the Environmental Planning and Assessment Regulation 2000) of the proposal, including details of all assumptions and components from which the CIV calculation is derived; • a close estimate of the jobs that will be created by the development during the construction and operational phases of the development; and • certification that the information provided is accurate at the date of preparation.	section 6 section 7 section 6.9
Strategic context	• Demonstration that the proposal is generally consistent with the aims and objectives of all relevant environmental	section 3

Category	Director-General Requirements	Relevant EIS section
	planning instruments including, but not limited to, State Environmental Planning Policy (Western Sydney Employment Area) 200g, and relevant Development Control Plans (DCPs); and • Detailed justification for the proposal and suitability of the site to be developed.	section 2 and section 8
Traffic and transport	• Details of key transport routes and traffic types and volumes likely to be generated during construction and operation; • Assessment of predicted impacts on road safety and the capacity of the surrounding road network including current traffic counts, details of truck routes and modelling of key intersections such as James Erskine Drive and Quarry Road, Sarah Andrews Close, James Erskine Drive and Mamre Road, Erskine park Road and Mamre Road; • Assessment of where off site infrastructure works are required as a result of traffic impacts including detailed plans of any proposed road upgrades; • Access arrangements; and • Provision of parking in accordance with the relevant guidelines.	section 6.11
Air quality and odour	• A quantitative assessment of the potential air quality impacts (particularly odour and dust) of the development on surrounding receivers, including impacts from construction, operation and transport; and • Details of the proposed mitigation, management and monitoring measures.	section 6.2
Noise	• A quantitative assessment of potential construction, operational and transport noise impacts, including potential impacts on nearby sensitive receivers; and • Details of the proposed noise management and monitoring measures.	section 6.8
Soil and water	• A site water balance and an outline of the proposed water requirements, including sources of water, usage and efficiency measures;	section 6.6 and section 6.10

Category	Director-General Requirements	Relevant EIS section
	• Detailed assessment of potential soil, surface, flooding and groundwater impacts; • Potential soil contamination (including acid sulphate soils) and any proposed management measures; • Details of proposed erosion and sedimentation controls (during construction); • Details of proposed stormwater management measures (during construction and operation); and • Wastewater management, spill containment and bunding.	
Waste management	• Details of the quantities and classification of solid and liquid waste to be generated on site; • Details on waste storage, handling, treatment and disposal; and • Details of the measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the NSW Waste Avoidance and Resource Recovery Strategy 2007.	section 6.13
Food safety	• In relation to product handling and processing, how the NSW Food Authority standards and requirements will be met.	section 6.5
Biodiversity	• Identification of species on site, and potential direct and indirect impacts on critical habitats, threatened species and populations, ecological communities, vegetation reserves and wetlands.	section 6.4
Greenhouse gas	• A quantitative assessment of the potential scope 1 & 2 greenhouse gas emissions of the development, and a qualitative assessment of the potential impacts of these emissions on the environment; and • A detailed description of the measures that would be implemented on-site to ensure that the development is energy efficient.	section 6.2
Hazards and risks	• A preliminary risk screening completed in accordance with State Environmental Planning Policy No. 33 - Hazardous and	section 6.7

Category	Director-General Requirements	Relevant EIS section
	Offensive Development and Applying SEPP 33 (DoP, 2011), with a clear indication of class, quantity and location of all dangerous goods and hazardous materials associated with the proposal. Should preliminary screening indicate that the proposal is "potentially hazardous," a Preliminary Hazard Analysis (PHA) must be prepared in accordance with Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis (DoP, 2011) and Multi-Level Risk Assessment (DoP, 2011).	
Visual	• An assessment of the potential visual impacts of the development on the amenity of the surrounding area; and • A detailed description of the measures (e.g. landscaping) that would be implemented to minimise the visual impacts of the development.	section 6.12
Cumulative impacts	• As assessment of the cumulative impacts, particularly in relation to air, noise and traffic associated with other nearby industrial or commercial operations.	section 6.15
Plans and documents	• The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the *Environmental Planning and Assessment Regulation 2000*. These documents should be included as part of the EIS rather than as separate documents.	section 2 and EIS Appendix 2
Consultation	• During the preparation of the EIS, you must consult with the relevant local, state or commonwealth Government authorities, service providers, community groups and affected landowners. • In particular you must consult with the: - Penrith City Council; - NSW Environment Protection Authority (EPA); - NSW Roads and Maritime Services (RMS); - NSW Department of Primary Industries	section 4

Category	Director-General Requirements	Relevant EIS section
	(DPI); - SWC; and - NSW Food Authority. • The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.	

SECTION 2 PROPOSAL DESCRIPTION

2.1 OVERVIEW OF PROPOSAL

The site is located in the Erskine Park Business Area (as detailed by Figure A) and falls under the WSEA SEPP 2009. The Erskine Park Business Area is an established industrial park and comprises a range of large-scale industrial complexes. To the south, the site is adjoined by an existing Biodiversity Corridor, which is owned by the DP&I and managed by Greening Australia.



The Site

FIGURE A - SITE LOCATION

This section describes the proposal in terms of:

- Construction staging and works;
- Urban design rational;
- Building form, site layout and development statistics;
- Process and operations;
- Landscape; and
- Signage.

A drawing register of the plans that comprise the SSD application is detailed in Table B. The plans are reproduced in Appendix 2 of the EIS.

TABLE C - SCHEDULE OF SSD DA PLANS AND ELEVATIONS

SSD APPLICATION DOCUMENT TITLE	NUMBER	ISSUE REVISION
Blomquist and Wark Architects		
Site Location Plan	1325-DA01	Revision P4
Site Layout Plan	1325-DA02	Revision P9
Floor Plan	1325-DA03	Revision P4
Elevations	1325-DA04	Revisions P5
Factory Sections	1325-DA05	Revision P4
Energy Centre and Milk Receivals	1325-DA06	Revision P4
Piling Layout plan- Early works	1325-DA07	Revision P5
Operational Waste Management Plan	1325-DA08	Revision P1
Group GSA Landscape		
Landscape Plan	L-110	05 14/8/13
Landscape –Detail Plan 01	L-1101	03 14/8/13
Landscape Detail Plan 02	L-1102	03 14/8/13
Landscape Detail Plan 03	L-1103	03 14/8/13
Landscape Detail Plan 04	L-1104	03 13/8/13
Landscape Detail Plan	L-1105	03 13/8/13
Landscape Sections	L-3100	02 18/7/13
Landscape Schedules	L-4000	02 15/7/13
Landscape Specifications 01	L-8100	01 18/7/13
Landscape Specifications 02	L-8101	01 18/7/13
Landscape Specifications 03	L-8102	01 18/7/13

Compiled from Information sourced from Blomquist + Wark and Group GSA

2.2. CONSTRUCTION

The construction of the Proposal would occur across eight stages (not including EarlyWorks) in accordance with an approved construction management plan:

- Stage 1 works relate to the Early Works approval granted by Penrith City Council **(**DA 13/0695) for bulk earth works and prime foundations comprising the installation of concrete capped piles, and
- Stages 2 through to 8 relate to the construction works for the SSD.

The total estimated construction program is 40 weeks. Construction hours for the project will be in accordance with the requirements of Penrith City Council being:

- Monday to Friday 7.00am through to 6.00pm
- Saturday 8.00am through to 1.00pm
- No work permitted on Sundays and public holidays.

The Early Works that were approved by Penrith City Council on 26 July 2013 (Development Consent DA 13/0695) are comprised of:

- Bulk earthworks;
- Prime foundations;
- Limited drainage works;
- Ancillary works; and
- Site entrance and temporary access road.

2.3 SITE LAYOUT AND DEVELOPMENT COMPONENTS

Urban Design Rationale

GM Urban Design has provided guidance on the design rationale to ensure that the Proposal addresses the urban design principles of Penrith City Council for the Erskine Park Business Area. Specifically the Proposal has:

- Utilised a colour pallet that complements the existing streetscape of the business park whilst denoting the Devondale brand;
- Utilised colour to create visual interest by reinforcing the industrial functionality of the architecture;
- Incorporated landscaping that integrates the built form to the natural landscape and ecology of the adjacent biodiversity corridor;
- Incorporated fencing that is visually passive in its appearance whilst maintaining the security function essential for a food processing facility;
- Maximised the principles of water sensitive urban design, and
- Respected the bush fire prone status of the land.

Building Form and Layout

The Proposal is designed as a low rise structure which is predominantly around 9 metres in height. Raw milk is stored in refrigerated stainless steel silos that stand approximately 19 metres in height. A 3D visualisation of the Proposal is detailed at Figure B. The silos sit below the tree line of the biodiversity corridor located to the south of the site. The grouping of the silos is referred to as a tank farm. A breakdown of the gross floor area of each building component is detailed in Table C.



FIGURE B - ENTRANCE TO THE SITE

TABLE D - DEVELOPMENT STATISTCS

DEVELOPMENT COMPONENT	SQUARE METRES
Site Area	50,770
Main Facility building including energy centre	10,012 (19.7% overall site area)
Tank Farm	782 (included in hardstand)
Pavement/Hardstand	20,616 (40.6% overall site area)
Landscape Area	20,142 (39.6% of site area)

Source: Blomquist + Wark Architects

2.4-2.7 OPERATION

The key steps in the operation of the Proposal are described in these Subsections. Specifically, the operation of the proposal will entail:

- Milk receiving area where the fresh milk arrives to the site by refrigerated tanker;
- Raw milk storage where the tanker is emptied into one of the refrigerated stainless steel silos. The volume of one tanker equates to the volume of one silo for quality control;
- Pasteurisation, separation and homogenization of the raw milk product. These processes convert the raw milk into the consumer product ready for bottling;
- Pasteurised milk is stored for bottling;
- Milk is bottled into 1, 2 and 3 litre plastic bottles, capped and labelled;
- Bottled milk is loaded into plastic crates which are uploaded onto pallets; and
- Pallets are loaded at the front entry docks onto refrigerated articulated vehicles (including B Doubles) for distribution to the Coles chilled distribution centre at Eastern Creek.

The Proposal incorporates Clean In Place and Milk Solid Recovery Processes that are designed to assist water reuse and reduce effluent load. Both processes are integral to the operation of the Proposal.

2.8-2.9 OPERATING HOURS AND STAFFING

The Proposal will operate 24 hours per day, 7 days per week. Production will be over 5 non consecutive days. A table is presented in Subsection 2.9 which details the staffing for the operation of the Proposal on a daily basis over a standard seven day operating week. It is anticipated that there will be up to 45 employees on site at any one time.

2.10 UTILITY REQUIRMENTS

The key utility services that will be required for the operation of the Proposal are:

- Estimated power demand is 4MVA;
- 450,000 litres of water per day;
- Average sewer flow is 8L/s with 15L/s peaks up to 4 times a day for 20 minutes each; and
- 30,000 mJ/hr peak flow of Gas.

A description of the servicing demands for each utility is detailed in this Subsection.

2.11 TRAFFIC

This Subsection describes the:

- Traffic that the Proposal will generate during both the construction and operational phases;
- Traffic Management Plan that will be applied; and
- Parking demand, having regard to the projected staff numbers.

2.12 LANDSCAPE

A landscape strategy forms part of the Proposal and has been prepared by Group GSA. Due consideration has been given to the plant species identified for the Biodiversity Corridor which adjoins the southern boundary of the site. Greening Australia is responsible for the management of the corridor. The landscape strategy has also had regard to the bushfire status of the site to ensure compliance with asset protection zones under Rural Fire Service legislation, which is discussed in Subsection 6.3 of the EIS.

SECTION 3 STATUTORY PLANNING AND POLICY

3.1 OVERVIEW

The statutory planning controls pertaining to the site fall under Commonwealth, State and local legislation. The Proposal substantially complies with all of the relevant provisions. There are areas of non-compliance with the 15 metre height, rainwater harvesting and on-site car parking provisions contained in the Penrith City Council Erskine Park Development Control Plan (DCP) 2006. Non-compliance with these provisions has been fully considered and is justifiable given the context of the Proposal site and the nature of this Proposal.

3.2 COMMONWEALTH LEGISLATION

There is no Commonwealth legislation that imposes specific requirements on the Proposal. Specifically, the Proposal will not significantly impact any Matter of National Environmental Significance and thus, no referral under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is required.

In respect to the *Native Title Act 1993*, a search of the Native Title Register, the Register of Native Title Claims, and the Register of Indigenous Land Use Agreements has been undertaken. It was determined that the Proposal site does not have any native title or registered claims or indigenous land use agreements located within the Proposal site.

3.3 NSW LEGISLATION

This Subsection identifies the relevant NSW legislation that applies to the proposal.

3.3.1 State Environmental Planning Policies (SEPP):

State Environmental Planning Policy State and Regional Development 2011

The SRD SEPP 2011 establishes the Proposal as an SSD with a capital investment value of $64 million. The application shall be assessed in accordance with Section 79C, Part 4 of the EP&A Act.

State Environmental Planning Policy Infrastructure 2007

The Proposal is defined as a traffic generating development pursuant to Schedule 3 of the SEPP. The Proposal will need to be referred to the NSW Roads and Maritime Services for assessment.

State Environmental Planning Policy Western Sydney Employment Area 2009

The site is located within Precinct 7 Erskine Park Employment Lands and is zoned IN1 General Industrial under the WSEA SEPP 2009. The Proposal for a milk processing facility falls under the definition of 'Industry'. Industrial uses are permissible with consent in the IN1 Zone. Pursuant to Clause 18, the Erskine Park DCP 2006 is the relevant Development Control Plan that applies to the land. Clause 29 stipulates that the written certification of the Director General of the DP&I will be required to support that satisfactory arrangements have been made for the provision of regional transport infrastructure and services for the proposal.

State Environmental Planning Policy No.55 Remediation of Land

The site conditions raise no issues of compliance under SEPP 55. The Proposal site is suitable for the Proposal. The geotechnical and environmental investigations that underpin this conclusion are presented in Subsection 6.6 of the EIS.

State Environmental Planning Policy No 33 Hazardous and Offensive Development

SEPP 33 applies to the Proposal and it triggers the requirements for a Preliminary Hazard Analysis (PHA) to be undertaken. The PHA is detailed in Subsection 6.7 of the EIS.

State Environmental Planning Policy No. 64 Advertising and Signage

The Proposal incorporates a building identification signage at its Quarry Road frontage. The signage will be a low rise freestanding structure integrated with the landscape design and front entry statement. The Proposal falls under the provisions of Part 2 of SEPP 64. An assessment of the signage has been undertaken against the relevant provisions detailed in Schedule 1. The proposed signage does not raise any issues or non-compliance with the SEPP 64 provisions.

3.3.2 Other Relevant State Legislation

To operate as a milk processing facility in NSW the Proposal will require:

- An Environment Protection Licence pursuant to the *Protection of the Environment Operations Act 1997;* and
- A Licence pursuant to the *NSW Food Regulation 2010*.

3.4 LOCAL PLANNING LEGISLATION AND POLICY CONTROLS

3.4.1 Penrith Local Environmental Plan 2010

The Proposal supports the provisions and objectives prescribed under Penrith Local Environmental Plan 2010 as detailed in the compliance table in Subsection 3.4.1.

3.4.2 Penrith City Council Erskine Park Development Control Plan 2006

Detailed development controls are prescribed under the Erskine Park DCP 2006. The Proposal complies with the requirements of the DCP with the exception of three areas where the Proposal will not achieve compliance with the nominated development standards. These relate to the:

- 15 metre height limitation;
- Rainwater harvesting, and
- On-site car parking requirement of 1 space per 75 square metres of Gross Floor Area.

The variation to the 15 metre height control is only sought where it applies to the raw milk silos. The stainless steel silos are 19 metres in height and are tall and narrow in design. Sited on the southern side of the facility, they are screened from view by the facility itself. GM Urban Design and Architecture has undertaken a visual impact assessment to understand whether the non-compliance will adversely impact on the quality of surrounding views and vistas. The results of the visual impact assessment support the variation to the 15 metre height control as it demonstrates that the silo structures will not be visible from any residential area or sensitive land use.

The Penrith DCP 2010 requires that roof gardens be considered for development such as this proposal. The merits of roof gardens have been considered, but ultimately considered undesirable. The proposed milk factory is to operate according to stringent food safety and hygiene standards. This includes vermin control for which MGC have specific Company Standards. It is considered that a roof garden would potentially attract birds, rats and other vermin, and would be contrary to the site's operating requirement

Traffix Traffic and Transportation Planners have assessed the extent of variation to the parking standard based on the historical use of existing MGC facilities. These investigations indicate that 53 car parking spaces would be adequate to service the facility.

3.5 NSW PLANS AND STRATEGIES

The Proposal supports the intent and strategic direction of the State as identified under the NSW State Plan, NSW Transport Plan and the Draft Metropolitan Strategy for Sydney 2031.

The Proposal supports each of these plans by:

- Providing employment opportunities located in Western Sydney;
- Reinforcing the Western Sydney Employment Area as a prime industrial location;
- Supporting the NSW dairy industry, and
- Providing a facility in close proximity to its supply hub to support an efficient regional road network.

SECTION 4 COMMUNITY AND STAKEHOLDER CONSULTATION

The preparation of the EIS is supported by an extensive stakeholder and community consultation process. This process was documented in a communication plan that was submitted to the DP&I for its review and approved by the Department as fulfilling its Major Project Guidelines for Community Consultation on 27 July 2013.

The communication initiatives and outcomes that have arisen from the engagement process are documented in Section 4. Appendix 5 details the Consultation Report and the supporting consultation collateral. The consultation initiatives and outcomes are presented for each target audience recognised under the Plan and include:

- The local residential and business community;
- Major adjoining landowners;
- Penrith City Council;
- State Government Agencies identified for consultation in the DGRs being:
    - NSW Food Authority;
    - NSW Environment Protection Authority;
    - NSW Roads and Maritime Services;
    - Emergency Service Providers; and
    - Utility Providers.

The following consultation initiatives have been undertaken to date:

Communication lines:

- Project website established on Friday 16 August 2013;
- Project email and mail address established;
- Stakeholder letter inviting participation to the Stakeholder Round Table event 27 August 2013, distributed the week commencing Monday 12 August 2013;
- 2,500 community Newsletters Edition 1 – August 2013 were distributed the week commencing Monday 19 August 2013; and
- Media display advertisements in three newspapers (Penrith City Star, Mt Druitt & St Marys Standard, Mt Druitt - St Marys Star) appeared the week Monday 19 August 2013.

Consultation:

- NSW Environment Protection Authority Briefing 5 June 2013;
- Formal Pre Development Application meeting with Penrith City Council on 18 June 2013;
- DP&I Agency Coordination Meeting on 21 June 2013 attended by:
    - Department of Planning & Infrastructure;
    - Environment Protection Authority;
    - Penrith City Council; and
    - Roads and Maritime Service.
- Stakeholder Round Table Lunch held on the 27August from 12.00 – 2.00pm at Twin Creeks Country and Golf Club attended by 8 participants;
- Community Information Session held on the 27 August from 7.00 – 9.00pm at Twin Creeks Country and Golf Club attended by 11 participants; and
- Direct and ongoing liaison undertaken by the project team with the State Government Agencies specified in the DGRs.

SECTION 5 ENVIRONMENTAL RISK ANALYSIS

An environmental risk analysis has been undertaken in accordance with the principles of the Australian and New Zealand Standard AS NZS ISO 31000:2009 Risk Management-Principles and Guidelines.

The full Environmental Risk Analysis is presented in Appendix 4. A total of thirteen potential environmental risks were identified for examination. These were:

- Air quality, odour and greenhouse gases;
- Bushfire;
- Ecology;
- Ground Conditions;
- Hazards;
- Noise;
- Surface Water;
- Visual Impact;
- Waste Management;
- Traffic and Transportation;
- Socioeconomic;
- Aboriginal Heritage, and
- Non-Aboriginal Heritage.

SECTION 6 KEY ENVIRONMENTAL ASSESSMENT ISSUES

This Section presents an assessment of each of the thirteen environmental issues that were identified from the environmental risk analysis and through the DGRs. Each environmental issue is discussed in terms of:

- Its legislative framework;
- The baseline site conditions;
- The potential impact arising from the construction and or operation of the Proposal, and
- Mitigation measure for any potential impact.

6.1 SITE CONDITIONS

This Subsection describes the existing site conditions of the land and establishes the context of the Proposal site. There are no conditions that render the site unsuitable for the Proposal.

6.2 AIR QUALITY, ODOUR AND GREENHOUSE GASES

This Subsection should be read in conjunction with Technical Paper 1 prepared by Todoroski Air Sciences. The results of the assessment indicate that the predicted maximum impacts from the Proposal would not exceed the NSW EPA criteria for NO_2, CO and H_2S at each sensitive receiver identified within the vicinity of the site.

Greenhouse gas emissions arising from transport to and from the site as well as energy consumption associated with the operation of the facility (gas and electricity) have been assessed. The facility incorporates energy efficiency measures such as capture of waste heat and energy efficient lighting, which reduce the overall greenhouse gas emissions.

6.3 BUSHFIRE PROTECTION

This Subsection should be read in conjunction with Technical Paper 2 prepared by Travers Ecology and Bushfire. The Proposal is categorised by the NSW Rural Fire Service (RFS) planning policy document Planning for Bushfire Protection 2006 (PBP) as being 'other development'.

The RFS requires that development applications should satisfy the aims and objectives of PBP, propose a combination of bushfire protection measures and provide evidence that the intent of each measure can be satisfied.

The assessment found that bushfire can potentially affect the site from the existing Biodiversity Corridor located to the south, as well as the proposed land to the east and north east which is proposed to be revegetated and forms part of the Biodiversity Corridor that adjoins the site.

The bushfire risk can be mitigated if appropriate bushfire protection measures are put in place and managed in perpetuity. In conclusion, the assessment has concluded that the Proposal will provide compliance with PBP.

6.4 ECOLOGY

This Subsection should be read in conjunction with Technical Paper 3 prepared by Travers Ecology and Bushfire. There is a limited ecological value on the site, being a remediated site with up to 6 m of fill. However, to the south of the site there is a Biodiversity Corridor owned by the DP&I and managed on its behalf by Greening Australia. The main ecological risk is potential for run-off from the site during construction and operation to impact on the Biodiversity Corridor and the related creek. Given the erosion and sedimentation controls proposed to be implemented, and the design of the drainage and surface water system, the ecological assessment has determined that there would be no significant risk to the ecology of the Biodiversity Corridor including the creek.

6.5 FOOD SECURITY

This Subsection details the legislative requirements that govern the operation of a dairy factory in NSW and its consumer products. MGC manufacturing operations are subject to a range of certification, regulatory, customer and internal requirements to ensure appropriate quality, food safety and brand integrity is maintained. Regulatory requirements are prescribed under the NSW *Food Regulation 2010*.

To meet these requirements, the Proponent has developed a Quality Management System that is regularly reviewed by a third-party certification body.

Key components of the Quality Management System include:

- A MGC Quality and Food Safety Policy outlining its commitment to quality;
- Certification of manufacturing sites to British Retail Consortium Global Standards for Food Safety (BRC Standards);
- Third-party certification of compliance to MGC's Quality Management System, and
- Continuous improvement programs to allow MGC to continually innovate and adapt to meet new and evolving demands from the market place.

The MGC Quality Management System encompasses National and State regulatory requirements, customer requirements and internal MGC quality requirements.

6.6 GROUND CONDITIONS

This Subsection should be read in conjunction with Technical Paper 4. It presents a summary of the ground conditions pertaining to the land addressing salinity, contamination and groundwater:

- Salinity: On the basis of the site inspection and laboratory results, it is concluded that the Proposal site is not currently affected by soil salinity and there would be a relatively low risk of ongoing salinity problems with the Proposal, either on-site or off-site;
- Contamination: Elevated concentrations of contaminants were not encountered in the soil samples analysed for the investigation. Based on the results of these samples it was determined that the potential for contamination to prevent the use of the site for the Proposal would be relatively low. The level of contaminants does not trigger SEPP 55, and
- Groundwater: As the Proposal is not expected to intercept or interact with groundwater, the risk of groundwater contamination arising from the Proposal would be very low. The various Government policies related to groundwater protection in NSW have only limited relevance to the Proposal and have not been individually addressed in detail.

6.7 HAZARDS

This Subsection should be read in conjunction with Technical Paper 5 prepared by Benbow Environmental. It presents a summary of the Preliminary Hazard Analysis (PHA). The PHA has found that the operation of the Proposal would readily meet the criteria laid down in Hazards Industry Planning Advisory Paper No. 4 *Risk Criteria for Land Use Safety Planning* and would not cause any risk, significant or minor, to the community, with the recommended safeguards in place. The Proposal is not categorised as offensive or hazardous development.

6.8 NOISE

This Subsection should be read in conjunction with Technical Paper 6 prepared by Todoroski Air Sciences. The noise assessment was undertaken to assess potential noise impact on sensitive receivers arising from:

- Noise from the processing plant;
- Noise from external equipment;

- Noise from vehicles on site; and
- Noise from additional traffic generated by the Proposal.

The greatest potential noise impacts are related to night time noise from the operation of external equipment on the site. These impacts were assessed as being well within NSW criteria, due to the relatively limited noise emissions and the significant distance to the nearest sensitive receivers.

6.9 SOCIOECONOMIC

A broad Socioeconomic Impact Assessment (SIA) was undertaken to identify the existing social environment surrounding the Proposal, to assess potential impacts and to determine mitigation measures. The following key matters were identified as being positive socioeconomic contributions of the Proposal:

- It will employ approximately 45 people during the operation of the processing facility;
- It is defined as a State Significant Development that would support the NSW Government's strategic direction in providing commercial infrastructure for improving the NSW economy;
- It will provide local employment opportunities particularly during the operation of the processing facility for the Penrith community;
- It is situated in land identified as an environmental conservation area and Biodiversity Corridor. The area is known to contain remnant Cumberland Plain Woodland. The Proposal will not have any significant impacts on the adjacent Biodiversity Corridor; and
- Food manufacturing is not a significant sector in the Western Sydney Employment Area, and in the Erskine Park Employment Area. The Proposal will add to the diversity of businesses in the area.

6.10 SURFACE WATER

This Subsection should be read in conjunction with Technical Paper 7 prepared by Pitt&Sherry. The surface water assessment provides a description of the existing site surface water drainage patterns, proposed stormwater management measures and stormwater related risks during construction and operation of the proposed Project. The main risks relate to Ropes Creek, located to the south of the site and the potential for run-off to the creek during construction and operation. A number of erosion and sedimentation controls have been implemented to manage the risk during the construction phase and the permanent drainage and stormwater system has been designed to minimise risk during operation.

6.11 TRAFFIC AND TRANSPORT

This Subsection should be read in conjunction with Technical Paper 8 prepared by Traffix Traffic and Transportation Planners. Traffic will enter the site via Quarry Road. The Proposal will have a one-way traffic movement system to reduce truck and vehicle conflicts and the potential for accidents on site. At the entrance to the site, trucks and cars will be separated with a traffic barrier, with a one-way truck path around the perimeter of the site to the functional area (milk receiving area, dry goods, distribution). Cars will continue to the car parking area. This area also provides direct pedestrian access to the administration office avoiding any cross over between large vehicles and pedestrians.

The Proposal would generate the following traffic movements:

- 100 light vehicles and 200 truck movements (including B Doubles) per day;
- In the PM period there will be approximately 30 light vehicles and 20 truck movements;
- All vehicles will enter and exit the site via Quarry Road, the only vehicle entry/exit point for the facility;
- Quarry Road and surrounding road networks have been assessed as having sufficient geometry, layout and site distance for the large vehicles that will service the Proposal, and

- The traffic generated would not significantly impact on the local road network including junction capacity.

6.12 VISUAL AMENITY

This Subsection should be read in conjunction with Technical Paper 9 prepared by GM Urban Design. The visual impact assessment shows that the Proposal would have a negligible impact on all views considered.

The Proposal has been assessed as:

- Having no adverse visual impact on the existing views studied from within the suburban residential areas of St Clair and Erskine Park (Blackwell Avenue and the Erskine Park Road / Lenore Drive intersection) due to the topography of the local area;
- Having a negligible visual impact on the most prominent views of the site from the surrounding landscape (Bakers Lane / Mamre Anglican School to the south and Luddenham Road / Patons Lane to the west). The proposal is distant from these views and hidden by trees such that any change in these views, or others nearby, is likely to be visually imperceptible;
- Not being visible from a mid-point along the Quarry Road approaching the site, and
- Having a negligible visual impact from James Erskine Drive.

6.13 WASTE MANAGEMENT

This Subsection should be read in conjunction with Technical Paper 10 prepared by KMH Environmental. The Waste Management Plan (WMP) has been prepared to address both construction and operational waste. The WMP has been prepared using the following methodology:

- A review to assess the adequacy of its access requirements as set out in the Waste Management Plan of Penrith City Council;
- A review to assess the adequacy of its access requirements as set out in the City of Sydney's Policy for Waste Minimisation in New Developments;
- An assessment of the adequacy of the Proposal's on-site waste storage facilities;
- An estimation of waste generation rates and waste composition both during construction and for its ongoing operation, and
- The identification of the potential for resource recovery.

6.14 HERITAGE

This Subsection presents the results of a preliminary due diligence investigation to determine whether the Proposal site is at risk of containing any items or places of Aboriginal or Non-Aboriginal heritage significance. These investigations have concluded that the Proposal site would not likely contain any listed aboriginal heritage items or places and no listed non aboriginal heritage items or places.

6.15 CUMULATIVE IMPACTS

The assessment presented in this Subsection considers the interrelationship between different impacts arising from the Proposal, as well as the cumulative impacts arising from other committed or proposed developments in the vicinity. The main areas with potential for cumulative impact are air quality/odour, noise and transport. Given the industrial nature of the area immediately surrounding the site and having regard to the existing and planned infrastructure to support the Business Park, the potential for adverse cumulative impact has been assessed to be insignificant.

SECTION 7 STATEMENT OF COMMITTMENTS

This Section details the Commitments that the Proponent has made to ensure that the Proposal would not, either as a result of its construction or its ongoing operation, have any adverse environmental impact.

Commitments are documented for each of the thirteen identified potential environmental risks. Where appropriate, the Commitments specify the compliance requirements of the relevant Acts and Australian and New Zealand Standards.

SECTION 8 PROJECT JUSTIFICATION AND CONCLUSION

This Section provides the justification for the Proposal, an explanation of how its supports the objects that underpin the *Environmental Planning and Assessment Act 1979*, and the four sustainability principles set out in the *Environmental Planning and Assessment Regulations 2000*.

The Proposal is justified as it will:

- Enable the Proponent to expand into NSW for the benefit of the NSW dairy industry and the consumer market;
- Assist the growth of the NSW dairy industry offering an integrated farmer-owned business to improve the agricultural productivity of the dairy sector;
- Enable the Proponent to fulfil its commercial agreement with Coles to supply Devondale and private brand milk to the NSW Coles supply chain over a ten year period;
- Not give rise to risk of adverse environmental or socioeconomic impacts by way of the proposed management regime that would ensure the construction and ongoing operation of the facility occurs without adverse environmental impact; and
- If the Proposal did not proceed, the Coles contractual agreement would not be fulfilled, and the Proponent could not advance its business model into NSW.

1 Introduction

1.1 Background

Murray Goulburn Co-operative Ltd. (MGC) (the Proponent) proposes to construct and operate a milk processing facility at 111-113 Quarry Road, Erskine Park in the Erskine Park Business Area, NSW (the Proposal). The Proposal site is situated in Lot 1022 in Deposited Plan 1175670. The Proposal site and adjoining allotments were part of a Torrens Title subdivision that occurred in 2008 (DA 08/0917), subdividing Lot 102 into 4 allotments.

In April 2013, MGC entered into a ten year partnership with Coles Supermarkets for the supply of daily pasteurised milk for its private label brands in Victoria and NSW from July 2014. The milk price that will be paid by Coles Supermarkets under this agreement locks in a premium and will deliver additional profits to MGC dairy farmers over the life of the contract. To meet its supply requirements, MGC is investing $120 million in the development of two new milk processing facilities in Melbourne and Sydney. The milk processing facility proposed at Erskine Park is the subject of this Environmental Impact Statement (EIS). MGC is the owner of the Proposal site at 111-113 Quarry Road, Erskine Park.

The site at Erskine Park was selected based on the following factors:

- Its strategic location adjacent to the M4 and M7 Motorways;
- Its proximity to the newly constructed Erskine Park Link Road that connects through to the Chilled Distribution Centre at Eastern Creek. The Erskine Park Link Road will provide the main route for transport of bottled milk to the Centre;
- Its validation confirming that it has been successfully remediated and is free of contamination;
- Its location within the established Industrial Erskine Business Park;
- The permissibility of the proposed facility under the IN1 Industrial General land zoning that applies to the site under the State Environmental Planning Policy (Western Sydney Employment Area) 2009 (SEPP WSEA), and
- The 5.07ha size of the land parcel that can accommodate the scale of facility that is proposed.

MGC's supply agreement with Coles Supermarkets requires the Erskine Park milk processing facility to be operational before July 2014. The alternative is to transport milk, by road from Victoria, which is not a sustainable long term solution.

1.2 The Proponent

MGC is Australia's largest dairy food company receiving and manufacturing approximately three billion litres of milk per annum, which is equivalent to one third of Australia's total annual milk production. MGC was formed in 1950 and remains 100% dairy farmer owned. It is Australia's largest dairy food exporter and its flagship Devondale brand is sold nationally.

MGC is a dairy farmers' co-operative with a sales revenue in the 2011/2012 financial year of $2.4 billion and export sales of $1.1 billion. The company employs 2300 people, principally in regional areas of Victoria, and collects milk from 2025 farms. The company operates major milk processing plants at Leongatha, Kiewa, Rochester, Koroit, Maffra and Cobram in Victoria and at Edith Creek in Tasmania. It also has major warehouses at Laverton and West Melbourne in Victoria.

MGC owns the retail brand Devondale, and produces cheese, dried milk products, specialty protein products, milk fat products and Ultra Heat Temperature (UHT) milk products. The products are marketed in the retail, food service and food ingredient market segments. MGC has overseas offices in Dubai, Vietnam, Singapore, Japan and China and exports to 86 countries and territories.

As a co-operative, it is MGC's objective to return profits directly to farmer shareholders by offering a high farm gate price for milk. Farm gate milk prices are set by MGC annually. This price reflects the average price that MGC expects to receive for all of its products in both international and domestic markets.

1.3 Key features of the Proposal

The Proposal would involve the construction and establishment of a milk processing facility on industrial land at 111-113 Quarry Road, Erskine Park in NSW. The facility would process up to 150 million litres of milk per year, sourced from locally based dairy farms (under normal seasonal conditions).

The facility would contain the following elements:

- A main building comprising:
    - Administration;
    - Energy centre;
    - Manufacturing area (including pasteurising system, filling and packaging areas);
    - Dry goods storage;
    - Chemicals storage, and
    - Cool rooms.
- 3 x 200kL silos used for raw milk storage;
- 2 x 500L water tanks used for fire management;
- Wastewater system;
- Underground drainage and sewerage infrastructure;
- Roads and footpaths used by delivery trucks, light vehicles and staff;
- 53 space car park, and
- An area allocated for a future cool room and blow moulding buildings.

1.4 Approvals required

Schedule 1 of the *State Environmental Planning Policy (State and Regional Development) 2011 (SEPP SRD)* outlines the types of projects that are to be considered State Significant Development (SSD).

The Proposal falls within Schedule 1 of the SEPP SRD, as it is defined as *'Development that has a capital investment value of more than $30 million for any of the following purposes:*

*(a) Abattoirs or meat packaging, boning or products plants, **milk** or butter factories…..'*

The Proposal is a milk processing facility, and has a capital investment value (excluding land costs) of approximately $64 million.

In accordance with SEPP SRD, the Proposal will be assessed by the Minister for Planning and Infrastructure (the Minister) under section 89C, Part 4 of the *Environmental Planning & Assessment Act 1979* (EP&A Act). An EIS must be prepared in accordance with the requirements of the EP&A Act and the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation).

MGC intends to have the Proposal established and operational by July 2014 to meet its supply commitments to Coles Supermarkets. Consequently MGC has sought two approvals:

1. A development consent for the 'Early Works Package' (Early Works) that has been assessed and granted by Penrith City Council; and

2. A SSD application to the Department of Planning & Infrastructure (DP&I) for all works relating to the construction and establishment of the milk processing facility except for the Early Works.

Approval for the Early Works was sought from Penrith City Council and is separate to the SSD application. The Early Works include critical works that must be completed prior to the construction of the Proposal such as the bulk earthworks and piling which are necessary for site preparation. The development application (DA 13/0695) was lodged with Penrith City Council and was determined on 26 July 2013.

Further information regarding the planning and approvals framework is provided in section 3.

On 13 June 2013, MGC lodged an online application to commence the SSD application process, requesting the Director-General provide Environmental Assessment Requirements to enable the Proponent to prepare this EIS. Director-General's Requirements (DGRs) were provided on 22 July 2013 and are reproduced in section 3.

1.5 Purpose and scope of the Environmental Impact Statement

The purpose of this EIS is to provide an assessment of the potential environmental impacts of the Proposal and to identify appropriate management and mitigation measures in support of the SSD application in accordance with section 89C, Part 4 of the EP&A Act.

This document has been prepared in accordance with the EP&A Act, the EP&A Regulations and the DGRs for the Proposal.

The EIS provides the following information:

- Background to the Proposal, including information on the Proponent;
- Description of the Proposal including the scope of works and details on the design, construction and operation of the facility and related infrastructure;
- An assessment of the potential environmental impacts of the Proposal, and
- The Proposed mitigation measures and management options for minimising and managing environmental impacts.

The environmental assessment concludes that the overall environmental impacts of the Proposal are not significant. A number of features of the Proposal contribute to this outcome, including:

- Its location in the heart of an industrial area, surrounded by other industrial land uses, and the distance to the nearest residential areas and other sensitive receptors;
- Its proximity to an established road network including the recently constructed Erskine Park Link Road, providing convenient access to the facility and to the Chilled Distribution Centre at Eastern Creek;
- The 24 hour operation of the facility which distributes traffic movements throughout the day and reduces peak hour impacts on the local road network, and
- The recent remediation of the Proposal site, which is overlain by fill material of up to 8.5 metres in depth, and is devoid of any native vegetation.

Where the assessment identifies potential environmental impacts, it concludes that these can be adequately managed through the incorporation of mitigation measures into the design of the Proposal and the implementation of management measures during its operation.

2 Proposal description

The Proposal for which approval is being sought under Part 4 of the EP&A Act is the construction and operation of the milk processing facility, excluding the Early Works. A separate approval was granted by the Penrith City Council on 26 July 2013 (DA 13/0695) for these Early Works. While the scope of the Early Works is outlined below, the focus of this section of the EIS is the description of the Proposal for which approval is being sought under Part 4 of the EP&A Act.

2.1 Background

The Proposal site is located within a property at 111-113 Quarry Road, Erskine Park in the Erskine Park Business Area (refer to Figure 2.1a). The Proposal site is an irregular shaped allotment of approximately 5.077ha situated within a newly constructed industrial subdivision in the Local Government Area of Penrith.

The Proposal site is situated in Lot 1022 in Deposited Plan (DP) 1175670. The Proposal site and adjoining allotments were part of a Torrens Title subdivision that occurred in 2008 (DA 08/0917), subdividing Lot 102 into 4 allotments.



FIGURE 2.1A THE PROPOSAL SITE

The Proposal site is within Erskine Park Employment Lands, which is defined as subject land under the SEPP WSEA (refer to Figure 2.1b). In accordance with the land use zoning maps sourced from the SEPP WSEA, the Proposal site is zoned IN1 General Industry (refer to Figure 2.1c). An Enviroguard Transpacific operated landfill is located at the northern boundary of the site. The western boundary comprises of the Proposal site's frontage to Quarry Road, and a property managed by the manufacturing company Dincel Construction Systems. The southern boundary of the site adjoins an existing Biodiversity Corridor. It is noted that the land currently operated by Enviroguard Transpacific is also zoned Biodiversity Corridor under the SEPP WSEA and will be remediated for this purpose once the landfill ceases operating from 2021.

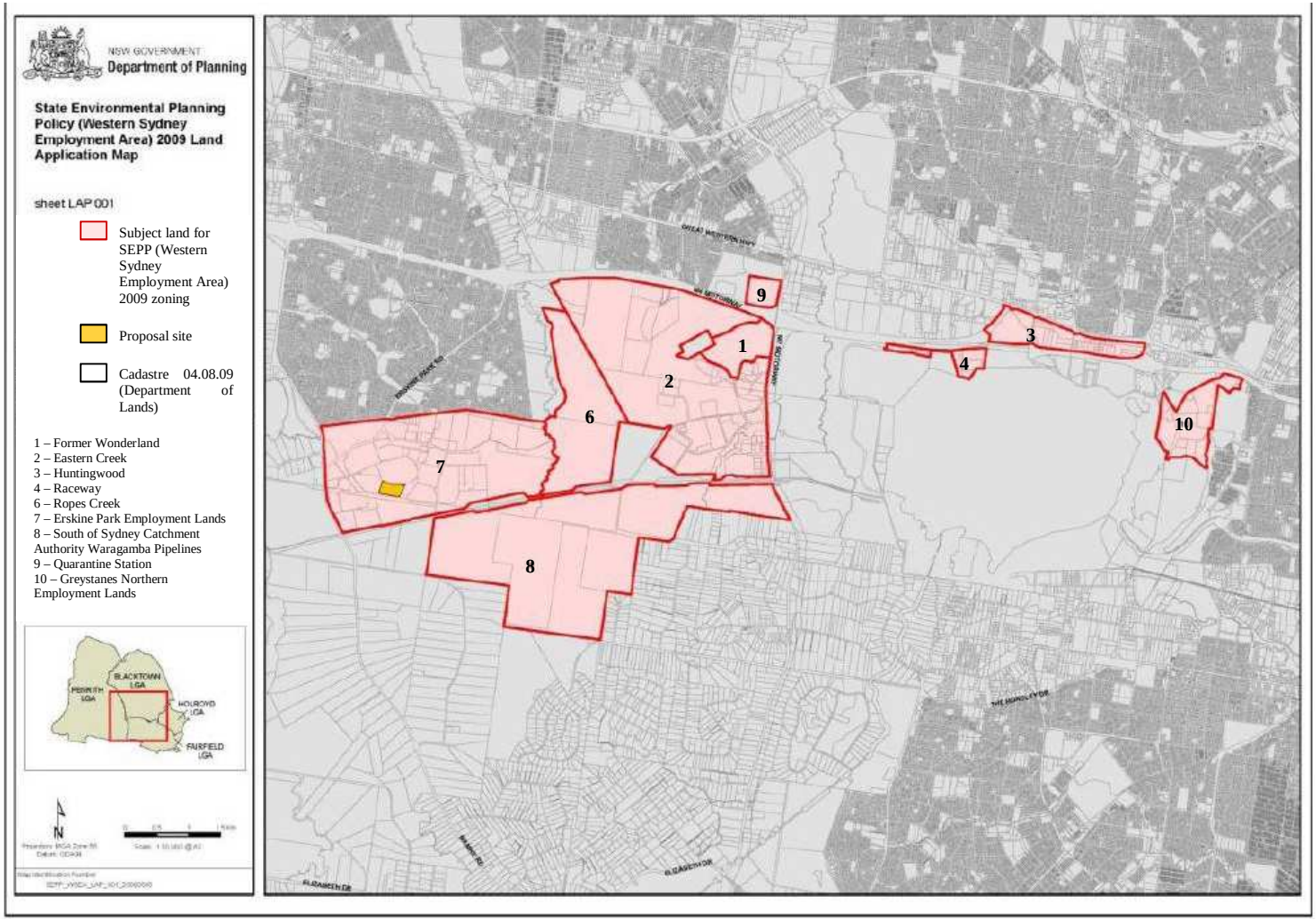


FIGURE 2.1B SUBJECT LAND UNDER THE SEPP WSEA

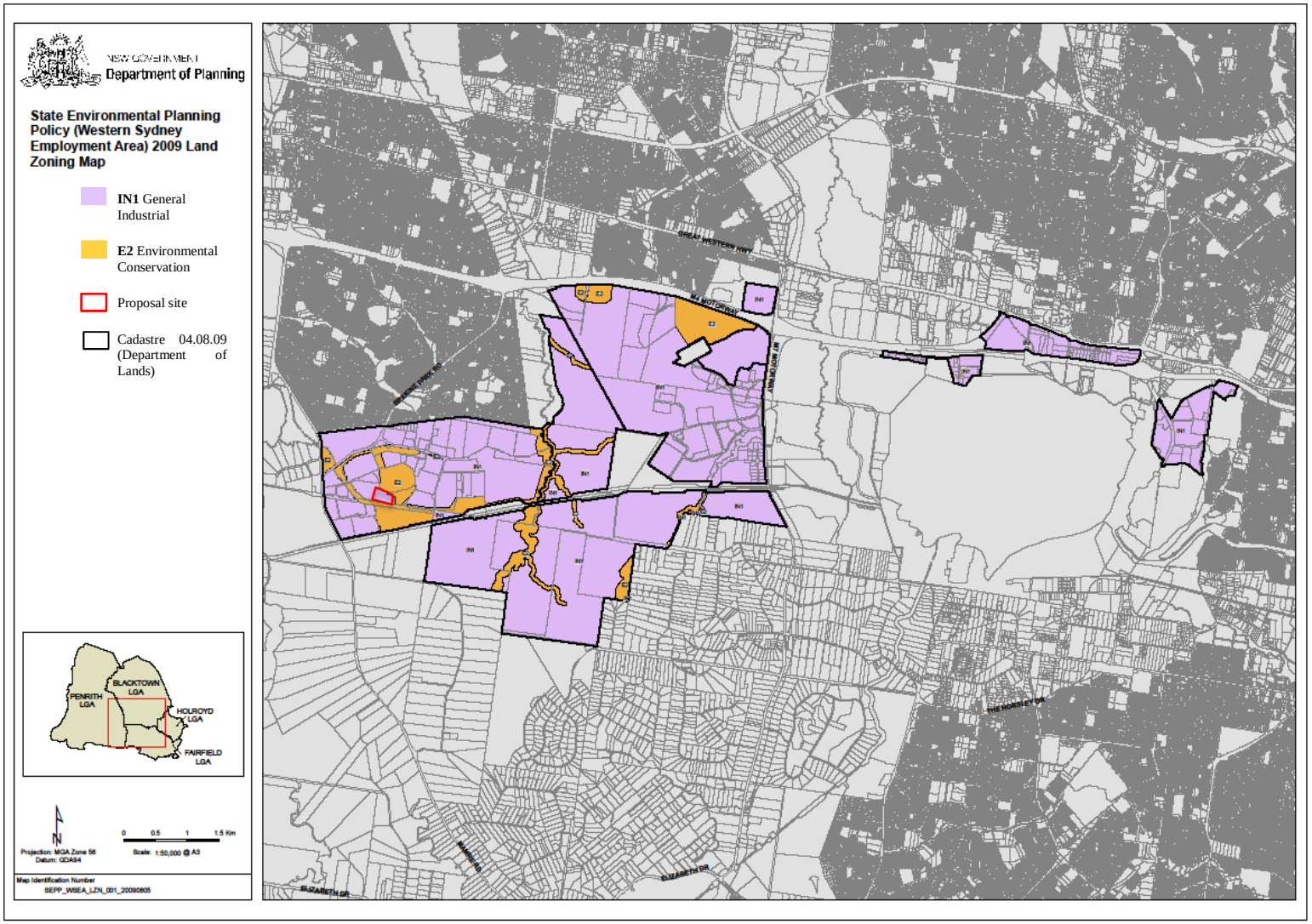


FIGURE 2.1C LAND USE ZONING UNDER THE SEPP WSEA

The Biodiversity Corridor is established under the SEPP WSEA and managed on behalf of the DP&I by Greening Australia.

The Proposal would involve the construction and establishment of a milk processing facility on the site. The facility would contain the following elements:

- Several buildings used for:
  - Administration;
  - Energy centre;
  - Manufacturing area (including pasteurising system, filling and packaging areas);
  - Dry goods storage;
  - Chemicals storage;
  - Cool rooms;
  - Workshops;
  - Amenities, and
  - Various other purposes.
- 3 x 200kL silos used for raw milk storage;
- 2 x 500L water tanks used for fire management;
- Wastewater System;
- Underground drainage and sewerage infrastructure;
- Roads and footpaths used by delivery trucks, vehicles and staff;
- Hard stand areas;
- 53 space car park;
- An area allocated for delivery truck movements, and
- An area allocated for a future cool room and blow moulding buildings.

The following figures describe the Proposal and are reproduced in Appendix 2:

- Figure 2.1d is a site layout plan for the Proposal, illustrating the key built elements described above;
- Figure 2.1e is a floor plan for the Proposal, illustrating the internal areas of the facility;
- Figure 2.1f illustrates the relevant elevations of the facility;
- Figure 2.1g illustrates the factory sections of the facility, and
- Figure 2.1h illustrates the energy centre and milk receiving areas.

The compliance of the milk processing facility with the provisions of the SEPP WSEA and the Penrith Development Control Plan - Erskine Park 2006 is described in Section 3.

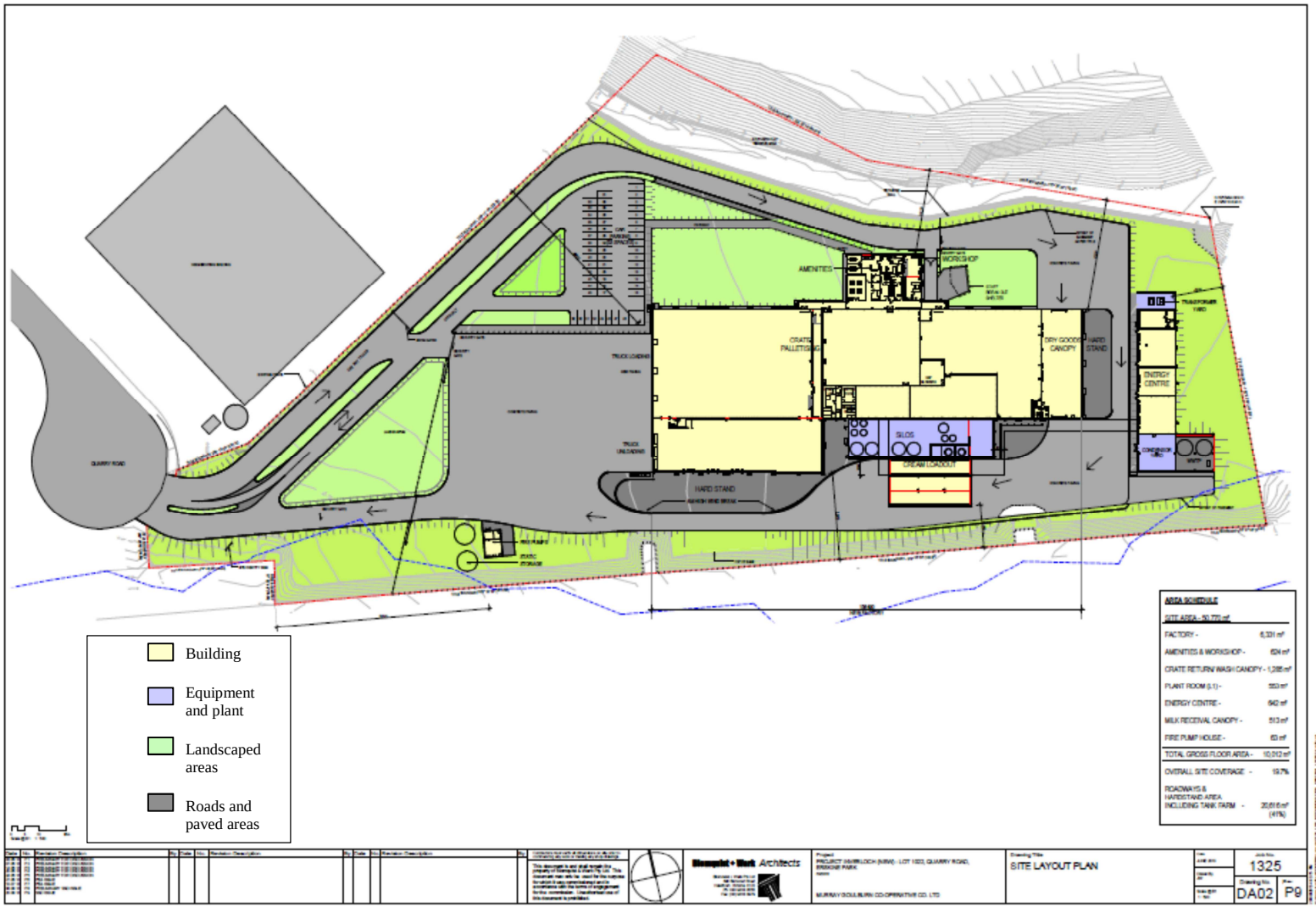


FIGURE 2.1D SITE LAYOUT PLAN

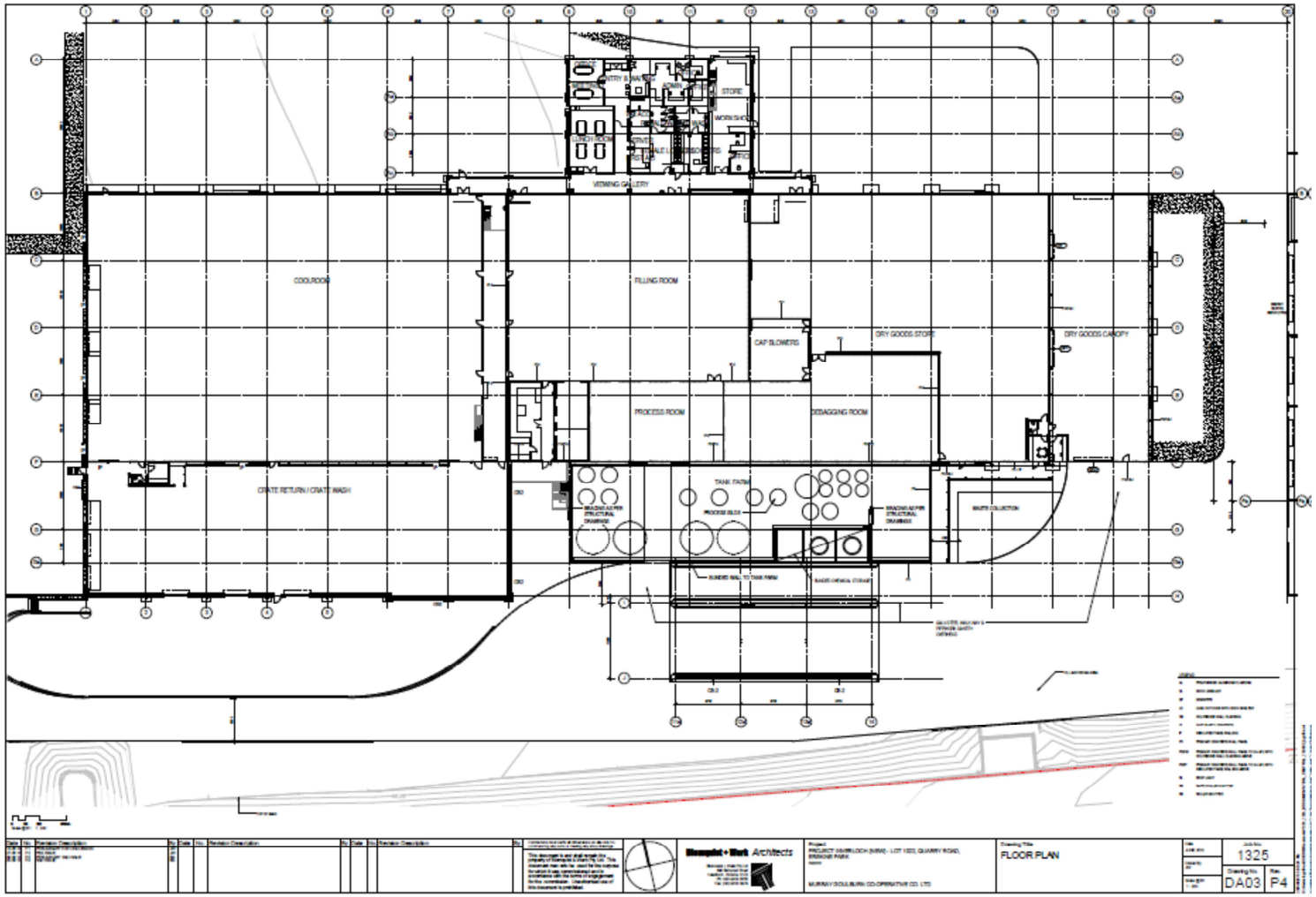


FIGURE 2.1E FLOOR PLAN

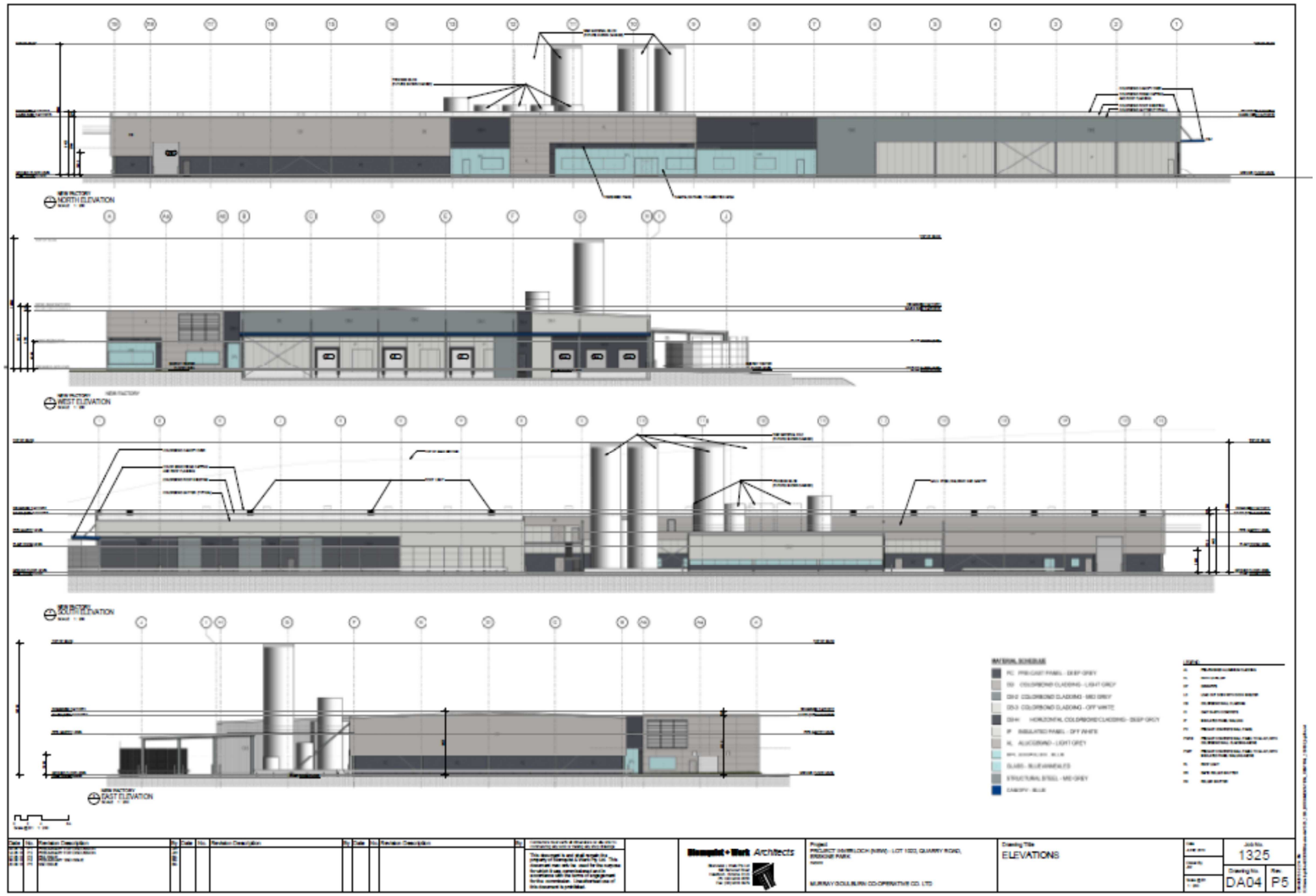


FIGURE 2.1F ELEVATIONS

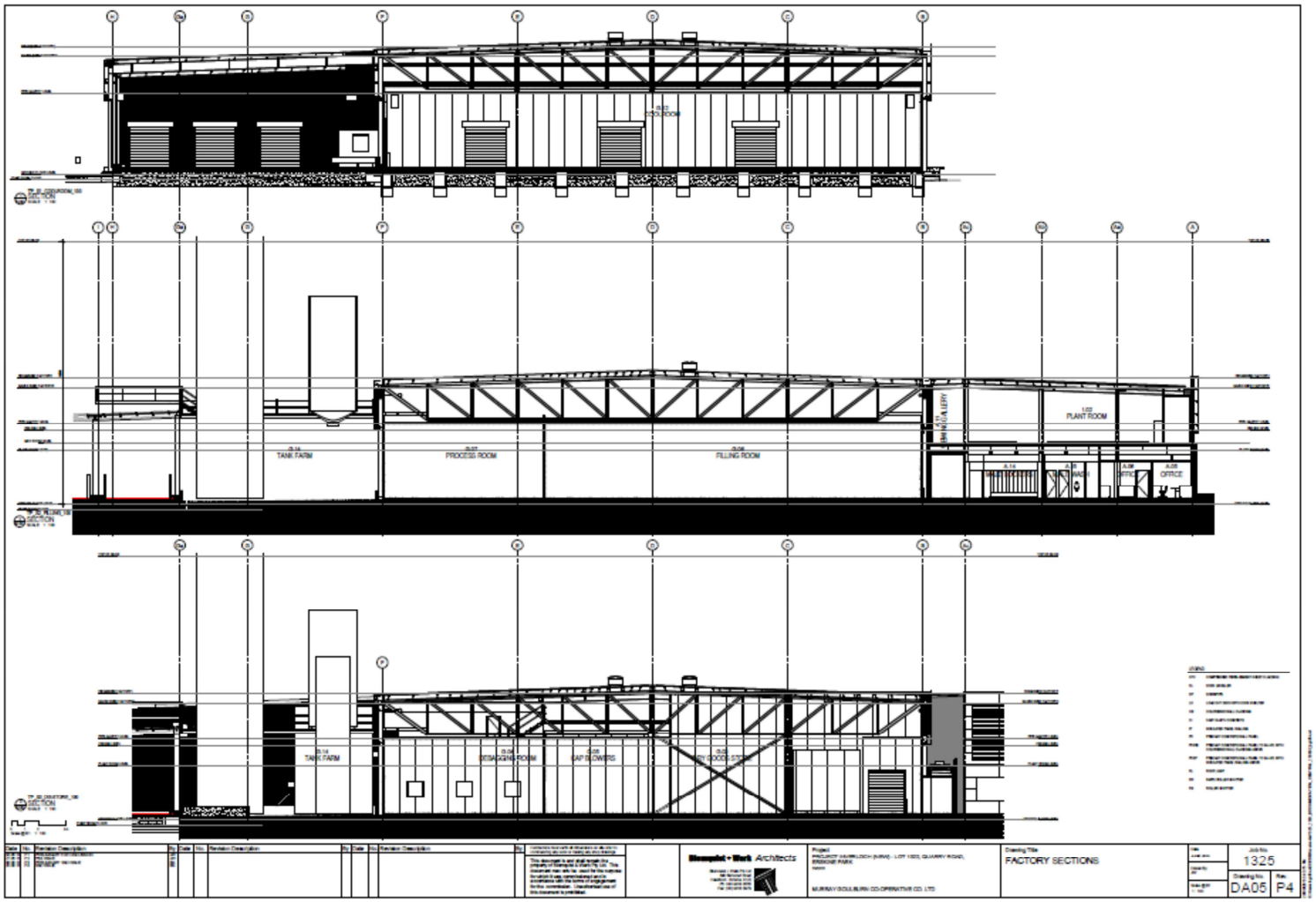


FIGURE 2.1G FACTORY SECTIONS

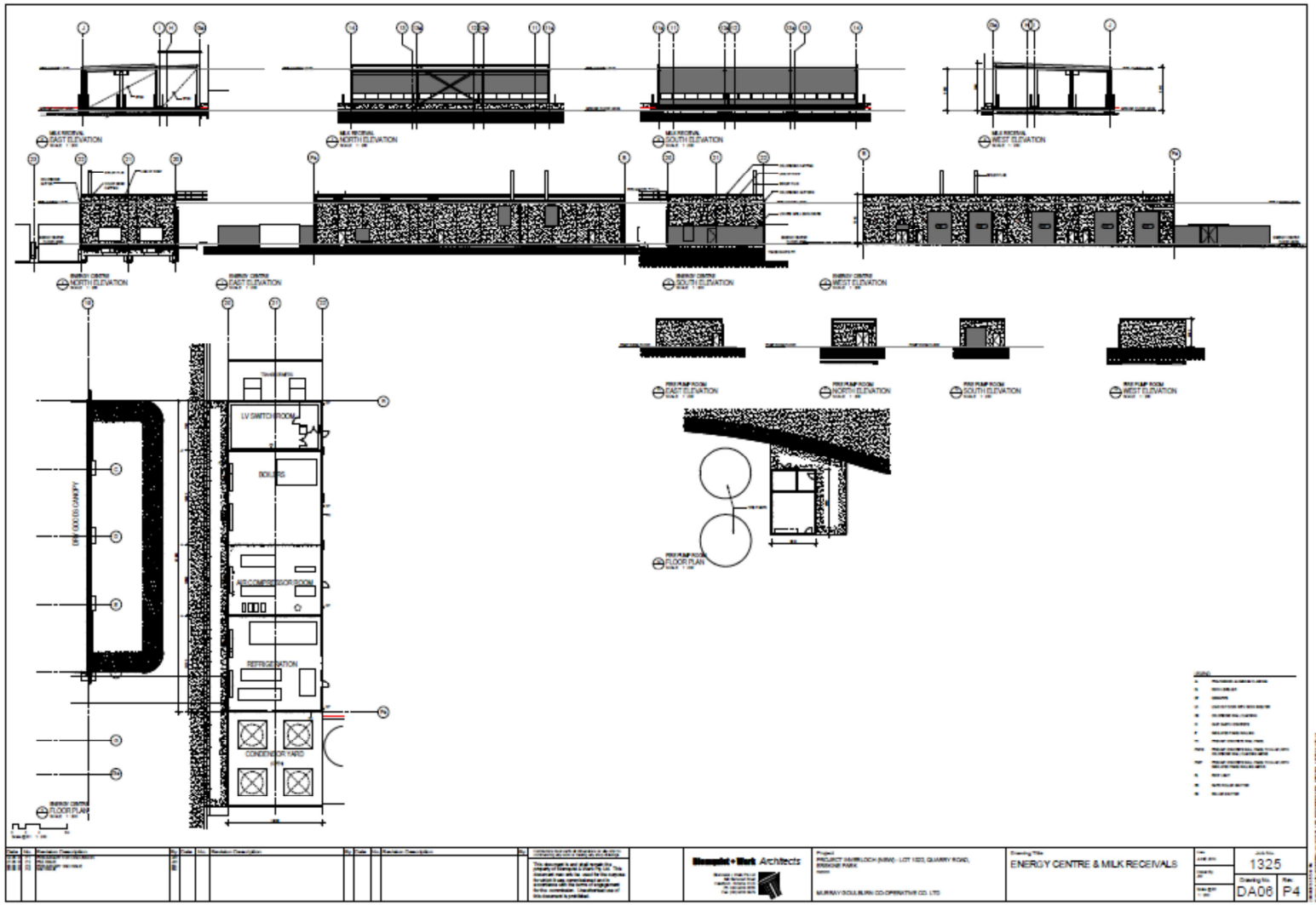


FIGURE 2.1H ENERGY CENTRE AND MILK RECEIVING AREAS

2.2 Construction

2.2.1 Site establishment

The proposed Early Works are discussed in detail under each stage below. Generally, the Early Works would comprise of the following:

- Stage 1: Bulk earthworks;
- Stage 2: Prime foundations;
- Stage 3: Limited drainage works;
- Stage 4: Ancillary works, and
- Stage 5: Site entrance and temporary access road.

Stage 1: Bulk earthworks

This stage would involve earthworks to re-profile the site surface levels to form a level platform for the building footprint. This would be required due to the previous modifications that have been made to the natural landscape arising from the historic use of the site.

Excavation would occur over the more elevated (eastern) portion of the site with materials to be used as fill to raise site levels over the lower (western) portion of the site. Cut and fill depths are expected to be a maximum of approximately 2m. Compaction of the fill would be undertaken as required to meet engineering and geotechnical specifications.

Stage 2: Prime foundations

Due to the poor ground conditions, all main building elements proposed for the milk processing facility would need to be supported on piled foundations. These piled foundations would be constructed as part of the Early Works in readiness for future building.

The foundations would be drilled into the rock using a Continuous Flight Auger and the cavity filled with concrete and steel reinforcement. The depths would depend on the depth of rock. Based on geotechnical investigations undertaken to date, a depth of between 6m and 8m is expected (refer to Section 6.6). Approximately 200 piles, each with a 750mm diameter, would be required.

Once the piles have been installed, they would be ‘capped’ by small (1m x 1m) concrete foundations. These foundations would enable the installation of cast in bolts for the structural steel building framing and would provide a finished surface level.

The proposed locations of the piled foundations are shown in Figure 2.2.1a.

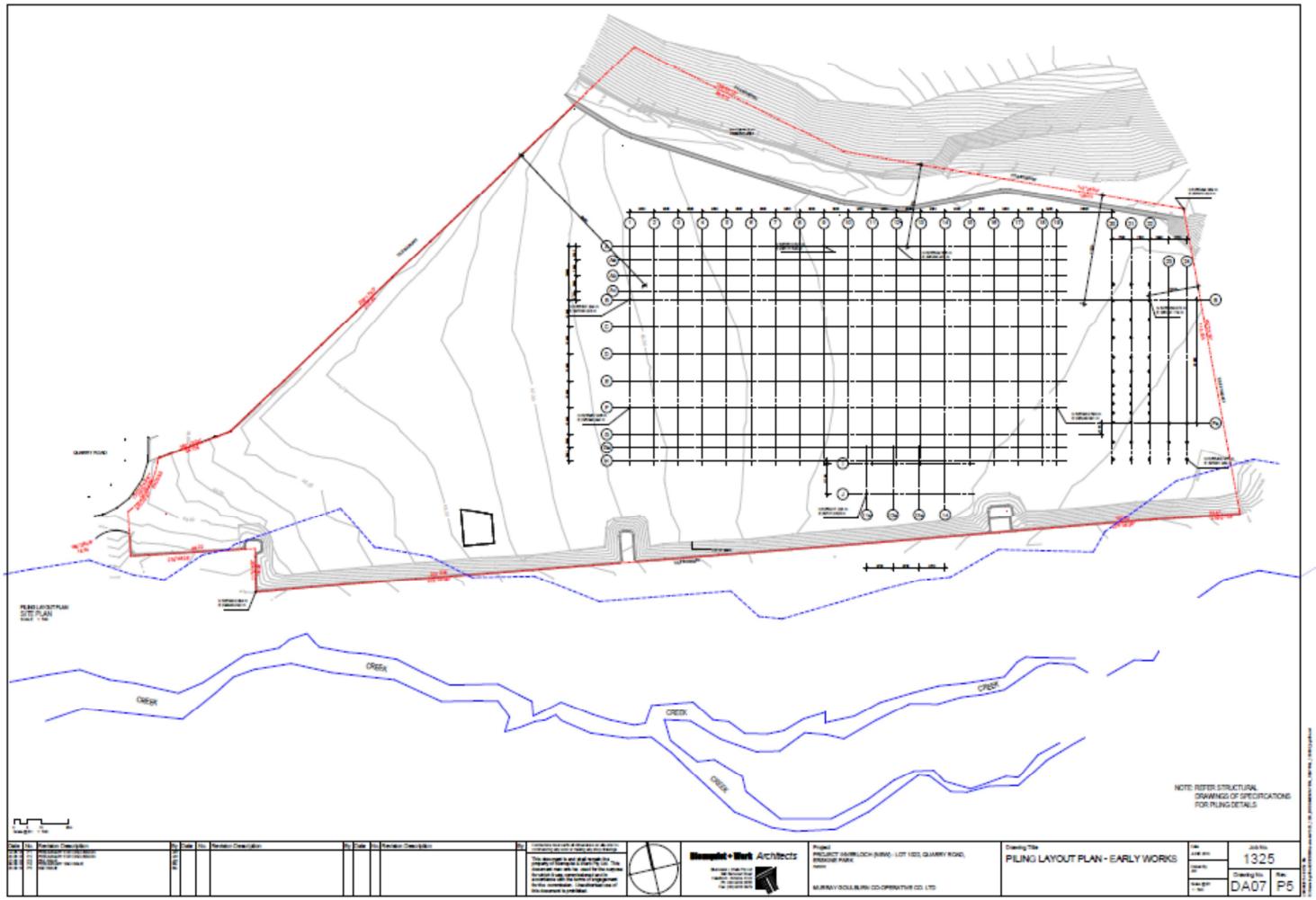


FIGURE 2.2.1A LOCATION OF PILED FOUNDATIONS (EARLY WORKS)

Stage 3: Limited drainage works

During stage 3, limited drainage works would also be undertaken to secure the site for the Early Works. This would include construction of temporary diversion drains or earth bunds to divert "clean" stormwater run-on around the development site. Temporary internal drainage works may also be undertaken to direct the flows of clean and dirty water within the site.

Stage 4: Ancillary works

A construction compound would be provided for the Early Works comprising demountable buildings for offices and amenities. A separate laydown or storage area would also be provided. Establishment of the compound would not require any earthworks as demountable buildings would be placed on levelling blocks.

Stage 5: Site entrance and temporary access road

A single site access to the development area would be installed from Quarry Road. The temporary access road would provide all weather access for construction vehicles to help restrict disturbance to the site conditions.

2.2.2 Construction staging

The Proposal, which is separate to the Early Works, would generally comprise of the following stages:

- Stage 1: Detailed earthworks;
- Stage 2: Installation of drainage systems;
- Stage 3: Assembly of structures and external cladding;
- Stage 4: Internal factory space/room construction;
- Stage 5: Reticulation of utility services;
- Stage 6: Installation of passive services;
- Stage 7: External works, and
- Stage 8: Landscaping and fencing.

2.2.3 Description of works

Stage 1: Detailed earthworks

This stage would involve the precise contouring of the site from the initial bulk excavation levels to produce the final shape of the site, suitable for the placement of drainage systems (both civil and sewer), concrete (internal and external) and asphalt (external).

Construction trades: civil earthworks

Stage 2: Installation of drainage systems

During Stage 2 the extensive in-ground drainage systems located under the buildings would be established. These systems would convey liquid waste (predominantly water) away from the buildings to separate facilities where it would be treated and the quality ameliorated so that it was suitable for discharge from the site.

During rain events, building roof and impermeable pavement run off would be conveyed via a new pit and in-ground pipe network to a common location on site. This water would then be discharged from the site in a flow controlled manner.

Construction trades: plumbing, civil drainage

Stage 3: Assembly of structures and external cladding

The assembly of approximately 400 tonnes of structural steel comprising individual columns, beams and trusses to form the building superstructure would constitute stage 3. The columns would be established on the piles which would be constructed during the Early Works. These piles would be modified to include capped concrete pads into which bolts would be cast. The columns would be locked down onto these bolts.

The building roof would then be laid in order to stabilize the structure and also to provide a protected working environment. Architectural fascia cladding would also be added to further weather proof the building.

The ground and mezzanine levels would feature in situ concrete floors, which form the working platforms on which future equipment is installed.

Construction trades: roof plumbers, concreters, steel fabricators and assembly riggers

Stage 4: Internal factory space/room construction

This stage would involve the establishment of internal walls within the main factory building, creating separate work spaces. Some of these work spaces would be climate controlled for food production and storage purposes, while others would be air-conditioned for general occupancy or ambient for general warehousing needs.

Wall construction would generally comprise preformed insulated interlockable panels, commonly known as sandwich panels. These would be on top of the in situ concrete floors. Where ambient conditions are required perimeter concrete walls would form the areas.

The food production and storage rooms would be capped with the same material which forms the ceilings. These panels would be suspended by means of cabling from the steel superstructure above. This internal ceiling would also form a pedestrian trafficable workspace above the rooms below. This zone is used to house items of plant, equipment, pipe work and service reticulated systems throughout the factory, with "service droppers" penetrating the ceilings to service the work areas.

Construction trades: carpenters

Stage 5: Reticulation of utility services

Stage 5 would involve the reticulation of utility services including electricity, telecommunications, gas and water. The process of producing packaged market milk requires the transformation of raw ingredients into food safe finished products which are then packaged into convenient consumer sized packs.

This is achieved using specialised processing equipment and storage techniques which require primary utilities such as electricity and water (hot and cold). Secondary utilities such as refrigeration, compressed air and steam, which are also vital to operate the factory, would be generated on site using electricity and natural gas.

These primary utility services would be brought into the site underground to central points, from where they would be distributed to satisfy the wide variety of end user requirements. Most services are hidden in the space between the main structural roof and the work space ceiling below. They are distributed along predesigned cable tray routes and pipe gantry systems.

Stage 6: Installation of passive services

This stage would involve the installation of passive services such as fire detection and prevention systems and secondary services reticulation. The buildings would also feature passive utility based systems which are not directly associated with the manufacturing processes. Most commonly these would include fire early detection and suppression systems such as smoke detectors, factory exhaust, sprinklers, fire hydrants and hose reels.

Construction trades: electricians, plumbers (various)

Stage 7: External works

Stage 7 would involve developing the areas external to the factory buildings to allow operation of the facility including access for light and heavy vehicles including refrigerated trucks and milk tankers.

A network of concrete pits with underground interconnected pipe work would be constructed to convey rain water away from the buildings and trafficable areas. This water would be clean and capable of being safely discharged to the local municipal stormwater drainage system.

Internal roadways and small vehicle parking zones would be bounded by concrete kerb with asphalt wearing courses. Areas where heavy vehicles park or turn would require a more durable pavement type, such as concrete.

Light duty pedestrian access only walkways would be constructed from concrete.

Construction trades: concreters, civil drainage plumbers, specialised asphalters

Stage 8: Landscaping and fencing

Stage 8 would be the final building works phase of construction with the purpose of making good the rest of the unimproved site and securing the whole premises for traffic management and general public access control. Internal soft and hard landscaping materials would be placed to infill unused areas of the site and to architecturally conceal and soften the general appearance of the facility.

A whole perimeter, chain mesh fence, incorporating segregated in and out bound driveways is intended to surround the development. There will also be gated access control locations constructed adjacent to the road accessible boundary in Quarry Road.

Construction trades: landscape gardeners, security contractors

2.2.4 Plant, equipment and machinery

The Proposal would require the use of the following plant, equipment and machinery:

- Access equipment;
- Asphalt paving machines;
- Concrete pumps;
- Concrete trucks;
- Cranes;
- Excavators;
- Forklifts;
- Graders;
- Haulage trucks;
- Light vehicles;
- Skidsteer loaders;
- Rollers, and
- Trucks.

2.2.5 Program and construction hours

The Proposal is anticipated to take 40 weeks to complete.

Construction hours for the Proposal are as follows:

- Monday to Friday, 7.00 a.m. to 6.00 p.m.
- Saturday, 8.00 a.m. to 1.00 p.m. and
- No works on Sundays or public holidays.

There is potential for work to be undertaken outside the above hours. However, noise monitoring would be undertaken if necessary, to confirm compliance of the works with the acoustic requirements established for the construction phase of the Proposal.

2.3 Site layout and development components

2.3.1 Main building

The main building would comprise an external portal steel frame founded over the piles and footings proposed to be constructed as part of the Early Works.

The layout of the Proposal site would comprise the main factory building containing the cool rooms, processing area, dry storage, administration offices and staff amenities. This building would be a single storey, steel framed building with a combination of Colourbond™ prefinished steel roofing and wall cladding. The wall cladding would be comprised of prefinished steel insulated panels and 3m high precast concrete panels. A trafficable ceiling (otherwise known as a sandwich panel) would be hung from the steel frame above to create the conditioned spaces and allow for a separate roof void zone, in which both utility and processing services would

be reticulated. The main building is proposed to have a floor level to ridge height of approximately 9.45m.

The main entrance to the building would be via the administration area which is proposed to be located at the northern elevation. As well as providing the focal point for office functions, this unit would also house the staff amenities. Direct access would be provided to the factory floor from this area.

Utilities comprising of sewer, trade waste, hot and cold water, steam, compressed air, natural gas, electricity, telecommunications and refrigeration would be reticulated above the ceiling as well as below the concrete slab to service the processing equipment and administrative areas. These would be arranged on pipe and cable gantry systems to all points above the production areas requiring a particular service.

A breakdown of the gross and net floor area of each building component is detailed in Table 2.3.1a. However, these areas are approximate and subject to final detailed design.

The facility would incorporate the following operational areas (approximate sizes are indicated, as the dimensions may change with the detailed design).

TABLE 2.3.1A GROSS AND NET FLOOR AREA OF EACH BUILDING COMPONENT

Component	Gross areas m^2	Net areas m^2
Site (overall including easements)	50,770	50,770
Factory (including dry goods, process, debagging room and cool room)	6,331	6,331
Admin and amenities (including workshop and store)	624	624
Plant room (above the administration and amenities)	553	Excluded
Crate return and wash canopy	1,286	1,286
Energy centre	642	642
Milk receiving area canopy	513	Excluded
Pump house	63	Excluded
Total buildings	10,012	8,876
Building area as % of overall site (site coverage)	19.72%	17.7%
Tank farm	782 (included in hardstand)	782 (included in hardstand)
Pavement/hardstand	20,616	20,616
Hardstand as % of overall site area	40.61%	40.61%
Area available for landscaping	39.76%	39.76%

2.3.2 Energy centre

A separate energy centre is intended to be located at the rear of the site along the eastern elevation and would house the gas-fired boilers for the facility. A Wastewater System would also be located on site adjacent to the energy centre.

2.3.3 Milk receiving area

The factory would be adjoined at its southern facade by the milk receiving area, which would contain the 19m high stainless steel refrigerated silos (refer to Figure 2.3.3a).



FIGURE 2.3.3A SILOS

2.3.4 External areas

The Proposal site would include approximately 4ha of external pavement, roadways, car parks and landscape areas. External drainage and run-off captured from rooves would be channelled via an underground pit and pipe network to the legal point of discharge.

Trafficable areas would be constructed from impermeable materials including asphalt and concrete selected to suit the applied appropriate vehicular loads.

A staff and visitor car park would be located in the northwest corner of the site, ensuring that all pedestrian movements are separated from the main perimeter truck circulation area and loading dock.

Landscaping to the site perimeter and non-trafficable areas would consist of grassed lawns and borders planted with hardy native plants. The site would be enclosed by a security fence and access gates would control the movement of people and vehicles to and from the site.

2.4 Operation

Generally, the operation of the milk processing facility would entail:

- Milk receiving area – milk is received from various farms around NSW;
- Raw milk storage – milk is stored in silos;
- Pasteurisation, separation and homogenisation – treatment of raw milk to convert into the consumer product;
- Pasteurised milk storage – milk is stored in tanks prior to being bottled;
- Filling and packaging – milk is bottled and labelled prior to distribution;
- Crate loading and palletising – bottled milk is placed on crates and crates are loaded onto pallets, and
- Truck loading and distribution – pallets are placed onto delivery trucks for distribution.

The key steps of the operational process of the Proposal are described below.

2.4.1 Milk receiving area

Milk tankers collect milk from various farms in NSW and deliver the milk to the tanker bay of the milk processing facility. The amount of milk received per tanker would range from 26,000 to 36,000 litres. Milk is then pumped to the raw milk silos. Tankers are rinsed to remove any residual milk and may be cleaned by the Clean in Place re-use system.

The first flush rinse water is transferred to the Milk Solids Recovery Tank.

2.4.2 Raw milk storage

Raw milk from the tankers is stored in stainless steel silos that are agitated and maintained at a temperature of less than 4 degrees Celsius to ensure the milk quality is maintained. Raw milk would be kept in silos for a maximum of 24 hours. Once empty, silos are cleaned using the Clean in Place re-use system.

2.4.3 Pasteurisation, homogenisation and separation

At the start of each production day, raw milk is pumped from the silos and transferred to the pasteurising system where the milk is heat treated and pasteurised to conform with Australian Standard AS3993 (2003) ('Equipment for the pasteurization of milk and other liquid dairy products – Continuous-flow systems').

The pasteuriser is designed to achieve high energy efficiency, in part by recovering a significant amount of the heat used for pasteurising to heat the incoming milk.

To prevent milk fat from separating in the bottle, the milk is homogenised as part of the pasteurising system.

For low fat milk production, the milk is also processed through a separator that removes excess fat (cream) generating a low fat milk stream and a cream stream. The pasteurised milk is pumped into Pre-Filler Storage (PFS) tanks ready to fill bottles. The cream is treated, cooled and then transported to cream tanks.

The pasteurising system is cleaned via the Clean in Place re-use system.

2.4.4 Pasteurised milk storage

The PFS tanks act as a buffer between the processing and filling steps. The pasteurised milk is maintained in the tanks at a temperature of approximately 8 degrees Celsius. The PFS tanks are filled and emptied each operating day.

The PFS tanks are cleaned using the Clean in Place re-use system.

2.4.5 Packaging material supply

Empty bottles are unloaded onto the accumulation table where they are conveyed to the fillers. Labels and dates are placed onto the bottles prior to being moved to the filler. Caps are pneumatically conveyed to the filler from the dry goods area.

2.4.6 Filling

Pasteurised milk stored in the PFS tanks is pumped to the fillers where plastic bottles are filled with product (sized 1, 2 and 3 litres) (refer to Figure 2.4.6a). Caps are then applied as part of the filling activity (refer to Figure 2.4.6b).



FIGURE 2.4.6A MILK FILLING



FIGURE 2.4.6B CAPPING OF MILK FILLED BOTTLES

2.4.7 Crate loading and palletising

Individual bottles are conveyed from the filler to the crate loader where they are mechanically loaded into standard milk crates. The crates are then loaded onto pallets, stretch wrapped and labelled before being moved to the cool room. The entire process of crate loading and palletising is fully automated.

2.4.8 Crate return and washing

Crates are returned to the site via the trucks that transport packaged milk away from the site. Once returned, the crates are removed from the pallets and loaded onto a conveyor feeding the Crate Washing System. The crate washer uses hot water and milk cleaning agents (including dilute caustic soda) to wash the crates before feeding to the crate loader.

All cleaning circuits have closed loop re-use systems to reduce water and chemical usage.

2.4.9 Excess cream production and treatment

Excess cream generated from the production of low fat milk is heat treated and then cooled to maintain quality, after which it is stored in cream tanks. Each production day, the excess cream is loaded out via tankers through the tanker bay and sent to other food processing facilities throughout NSW.

The cream tanks are cleaned using the Clean in Place re-use system.

2.5 Chemical storage

Table 2.5a provides a description of the chemicals proposed to be used on-site including likely storage locations, approximate volumes and classifications (further information on chemicals is provided in Section 6.7 Hazards and Risks).

TABLE 2.5A CHEMICALS USED ON-SITE

Product name	DG class	Sub-risk	Maximum amount	Location
Alkzolv 30 LF (or similar)	8 – Corrosive	-	10,000L	Chemical storage bund
Nitric Acid 60% (or similar)	8 – Corrosive	-	10,000L	Chemical storage bund
Perform (or similar)	5.1 – Oxidising Agent	8 – Corrosive	5,000L	Chemical storage bund
Biosperse 261T (or similar)	5.1 – Oxidising Agent	8 – Corrosive	40kg	Cooling tower
Drew 14-127 (or similar)	9 – Miscellaneous	-	60L	Cooling tower
PC1PFG (or similar)	8 – Corrosive	-	200L	Boiler
Ammonia (or similar)	2.3 – Toxic Gas	8 – Corrosive	350kg	Coolroom

2.6 Clean in Place re-use system

The areas and equipment of the milk processing facility that would be in contact with milk or cream would be frequently cleaned to maintain hygiene.

The milk processing facility has been designed to allow these areas and equipment to be cleaned automatically. The Clean in Place re-use system would be used for this purpose as it does not require any significant manual intervention.

The Clean in Place re-use system is a three tank system that uses a progressive concentrated chemical cleaning system that includes:

- A rinse recovery tank;
- A caustic tank, and
- An acid tank.

In general, the cleaning would be performed in the following sequential steps:

1 Line rinse with water;
2 Line clean with dilute 1.5% caustic soda (Sodium Hydroxide – NaOH) at approximately 70 degrees Celsius;
3 Line rinse with water;
4 Line clean with dilute acid (this is an infrequent event and is used typically to remove mineral scale build-up), and
5 Line sanitiser.

The Clean in Place re-use system is designed to recover and re-use a significant amount of the rinse water and cleaning fluids by having re-use tanks where cleaning fluids are returned after each use. In doing this, the Clean in Place re-use system is able to:

- Minimise effluent loads;
- Minimise chemical use;
- Reduce energy loss (energy in the heated cleaning fluid is recovered and not lost down the drain), and
- Reduce water loss.

2.7 Milk solids recovery system

To reduce the effluent load, a milk solids recovery system would be implemented to take any recovered product unable to be processed into finished products. Diluted milk solids have good nutritional value and would be transported to farms as a feed source. The milk solids recovery tank would be cycled daily, and loaded out through the tanker bay via a load-out line.

2.8 Operating hours

The milk processing facility would operate 24 hours per day, 7 days per week.

2.9 Staffing

Staffing of the proposed facility would be as detailed in Table 2.9a. As the facility operates 3 shifts over a 24 hour period, the total maximum number of staff on site at any one point would be 45 (this equates to a full time equivalent employment of approximately 45).

TABLE 2.9A PROPOSED STAFFING NUMBERS

	Operators per shift	Shifts per Day	Total Employ	Hours per Shift	Days per Week	Start of Week	Start of Day	Weeks /Yr (Avail Days)	Production Hrs/day	Max Staff On site
Processing Area										
Milk Receiving		0	0		7	Sun		52	24	
Milk Processing	1	3	3	8	5	Mon	2.00am	52	24	1
Packaging						Mon	4.00am	52	16	8
Filling						Mon	4.00am	52	16	4
Palletising						Mon	4.00am	52	0	0
Coolroom						Sun	4.00am	52	18	3
Crate Handling						Mon	4.00am	52	16	4
Shift Break Cover						Mon	4.00am	52	16	1
PRODUCTION TOTAL										21
	Staff per Day	Shifts per Day	Total Employ	Per Shift	Days per Week	Start of Week	Start of Day	Weeks /Yr (Avail Days)		Max Staff On site
Site Admin										
Site Production Manager	1		1	9	5	Mon	8.30am			1
Quality	1		1	9	5	Mon	8.30am			1
Maintenance	2	2	4	7	5	Mon	2.00am			2
CI Leader	1		1	9	5	Mon	8.30am			1
Accounts/Admin	1		1	9	5	Mon	8.30am			1
ADMIN TOTAL	6		8							6
	Staff per Day									Max Staff On site
OTHER(non Employees)										
Contractors										
Maintenance (max at any one time)	3	n/a			any					3
Automation	1	n/a			any					1
Sundry										0
Visitors	4	n/a			any					4

	Operators per shift	Shifts per Day	Total Employ	Hours per Shift	Days per Week	Start of Week	Start of Day	Weeks /Yr (Avail Days)	Production Hrs/day	Max Staff On site
Couriers	1	n/a			any					1
Extra 25%	9									9
CONTRACTOR/ SUNDRY TOTAL										18
TOTAL on site at any point										45

Source: MGC 2013

2.10 Utility requirements

A summary of demand for key services by the Proposal is as follows:

- The estimated Maximum Power Demand for the new facility is 4 MVA;
- Up to 450,000 litres of water per day;
- The average sewer flow is expected to be 8L/s with 15L/s peaks up to 4 times a day for 20 minutes each, and
- 30,000 mJ/hr peak flow of Gas.

The details regarding the utility requirements for the Proposal are provided in the following sections.

2.10.1 Power

An application for Connection of Load has been made with Endeavour Energy.

The estimated Maximum Demand for the new facility is 4MVA. The expected energy consumption is estimated to be 24GWh per annum. The closest 11kV zone substation is at Lenore Lane, Erskine Park.

Utility operators have indicated sufficient capacity exists near the site and discussions on the appropriate connection location are ongoing.

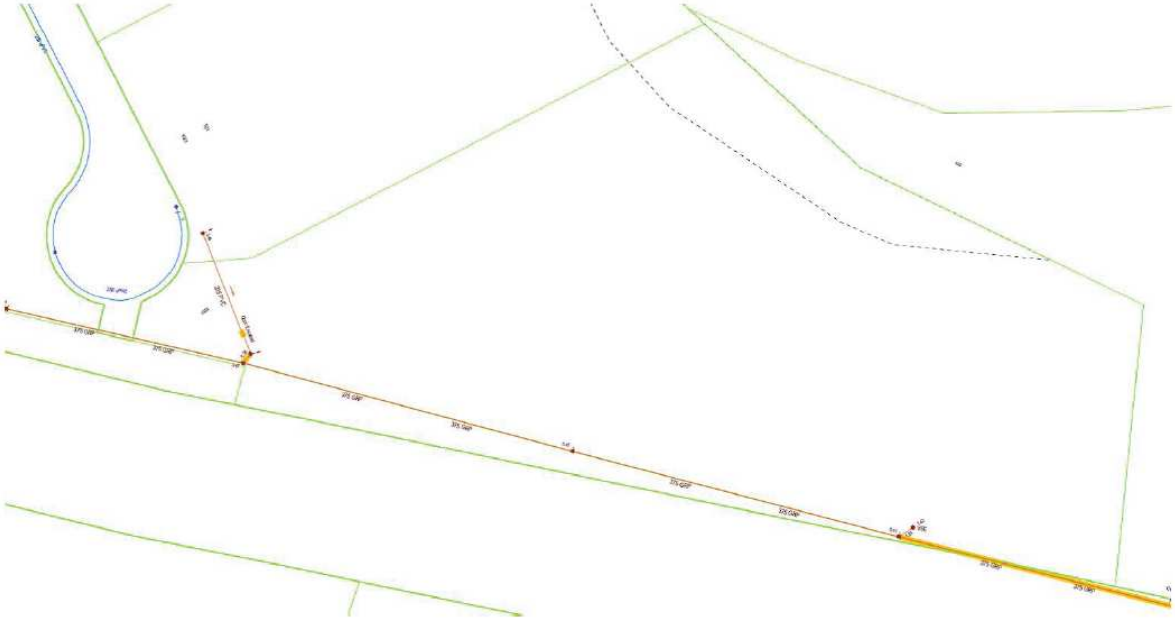
2.10.2 Water

Preliminary discussions have been held with Sydney Water Corporation (SWC) for the supply of mains water to the site from the adjacent water supply network.

Preliminary utility assessments indicate that the milk processing facility can be adequately serviced with the existing infrastructure. This is based on providing up to 450,000 litres per day for process flows which would predominately be used for the Clean in Place re-use system. Water for other purposes, such as for staff amenities, would be negligible compared to the Clean in Place re-use system and the other operational manufacturing functions of the facility.

A statement of the available pressure and flow from SWC indicates that the 250mm main, which leads to the site entrance, has a minimum pressure of 59m of head. An application for preliminary submission for feasibility has also been lodged with SWC to more formally ascertain the capacity of the infrastructure to supply the facility requirements.

Figure 2.10.2a illustrates the location of water assets including the potable water and sewer piping. It is noted that the potable water main is available at the site entrance and terminates at the neighbouring premises.



Source: "Sydney Water-Dial before you dig Plans"

FIGURE 2.10.2A LOCATION OF WATER ASSETS

2.10.3 Wastewater System

The wastewater generated from the Proposal would be up to 450,000 litres per day. The wastewater would be sourced from the milk processing activities, the cleaning activities, kitchen areas and sewage from toilets.

Wastewater from the milk processing activities and cleaning activities would be buffered and pre-treated on-site prior to disposal to the local sewerage network. Wastewater from the common areas (such as kitchens and toilets) would be discharged directly into the sewer.

The Wastewater System would be designed to remove fats, oils and greases (FOG) and adjust the pH in order to meet the trade waste discharge criteria. The system would also be designed with the following objectives:

- Anticipated flows from various areas of the plant to be recorded for process improvement and waste reduction purposes;
- Early FOG removal to keep downstream lines clean;
- Temperature buffering by mixing in the FOG tank and pH mix tank;
- Acceptable output flow for the trade waste is yet to be negotiated, however the production design currently limits it to:
    - flow surges during normal production ($12m^3$) beyond the limited output rate;
    - spill containment for one truck volume ($28m^3$) additional to flow surges, and
    - flow from all areas to the primary collection pit by gravity with piping sized to ensure floors and loading pads are drained under all normal conditions and under most spill conditions.
- All flows are gravity feed independent of power interruptions;
- Provision of capability to divert approximately $200m^3$ to ensure normal operations can continue for approximately 1 production day or approximately 1 Clean in Place (CIP) cycle without requiring discharge to the waste line of the relevant authority (in case of failure of pH adjusting system, out of specification waste or pump, valve or line failures);

- Minimisation of resource use by diversion of very high and low pH streams to the diversion storage allowing for self-neutralisation, and
- Feed forward pH dosing control as well as feedback to ensure pH spikes on output do not occur and that rapid changes in stream content would be dealt with adequately.

An existing sewer main 375 GRP runs through the site and appears to be servicing surrounding areas. Investigations of the sewer's existing capacity to receive additional flows have confirmed that the network would be capable of accepting the sewer flows from the Proposal. It is also noted that the neighbour's connection to sewer via a 225 PVC main is located on-site, which runs under the entrance to the facility.

A Section 73 application for preliminary submission for feasibility has also been lodged with SWC to more formally ascertain capacity to receive wastewater flows.

The site is predominately fill, of up to 8m, and it is likely that the sewer would have adequate protective cover.

2.10.4 Gas

The reticulated gas network operating in the local vicinity has not been rolled out to the site. The closest reticulated gas is a 50mm line at the start of Quarry Road outside the Pickfords facility. This would be insufficient for the 30 MJ/hr @ 70 kPa required by the facility.

Jemena has indicated that an extension of the high pressure and flow network to the facility would be required. This would involve the construction of a new 1050kPa extension from the existing network, most likely from Lenore Drive or Templar Road.

A gas retailer would be selected to allow negotiations to take place between the retailer and the supplier (Jemena) regarding costs of the construction of a new supply line to the site and the proposed route.

If construction of a new gas line cannot be completed in time for the commencement of production, BOC gas has been contacted to provide a proposal to truck and store with KNG or LPG on-site. While it is not the preferred option, given the infrastructure costs and timeframe for installation of a new gas line, it may be a viable alternative.

2.10.5 Stormwater

Currently a 450mm concrete culvert runs along an easement from the north western side of the property adjacent to Lot 1023 and across the entrance of the site connecting to the municipal system which discharges into the creek adjacent to the site boundary. The capacity of the existing culvert to take stormwater from the site has not yet been confirmed by Penrith City Council. Therefore, the Proposal includes a new stormwater pipe located immediately to the east of the existing culvert (a plan showing the exact location is provided in Technical Paper 7).

Stormwater would be captured on-site in underground retention tanks and reused where appropriate (e.g. tanker washing and in landscaped areas). Limited opportunities exist to use stormwater in the process due to hygiene requirements.

Excess stormwater would be stored in underground cells and drip fed into the stormwater network after primary settling.

2.11 Traffic

All traffic would enter the site via Quarry Road using a one-way traffic movement system, to reduce potential for accidents on-site.

At the entrance to the site, heavy vehicles and light vehicles would be segregated by a traffic barrier, with a one way heavy vehicle path around the perimeter of the site to the functional area (milk receiving dry goods, distribution etc). Light vehicles would continue to the parking area. This parking area would also provide pedestrian access to the facility and avoid any cross over between heavy vehicles and pedestrians.

A detailed Traffic Impact Assessment has been undertaken as part of the EIS and is summarised in Section 6.11. The facility is expected to generate the following movements during operations:

- 102 daily heavy vehicle trips per day, and
- 10 light vehicle trips during the morning peak period and 16 light vehicle trips during the evening peak period.

The finished milk product would be dispatched from the Proposal site to the Chilled Distribution Centre at Eastern Creek. The transport of the milk produce would primarily use the recently constructed Erskine Park Link Road as shown in Figure 2.11a.

Quarry Road and the surrounding road networks have sufficient geometry, layout and site distances for the heavy vehicles using the facility.

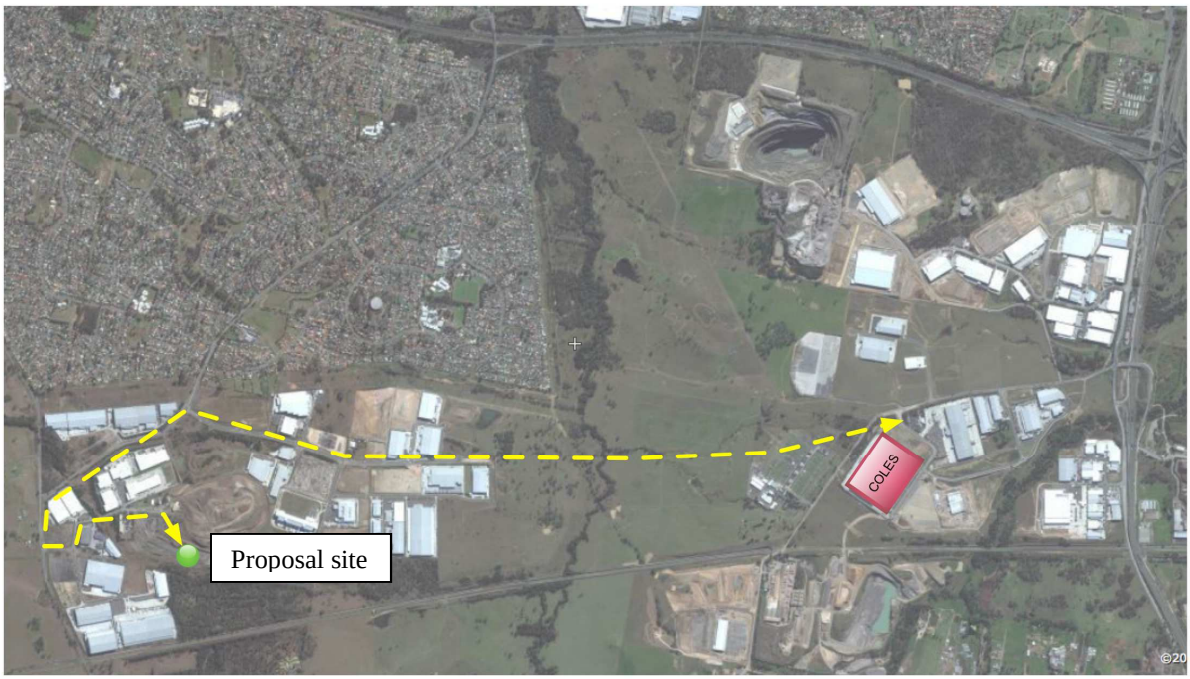


FIGURE 2.11A ROUTE FROM PROPOSAL TO CHILLED DISTRIBUTION CENTRE AT EASTERN CREEK VIA NEWLY CONSTRUCTED ERSKINE PARK LINK ROAD

2.12 Landscaping

The landscape strategy was prepared by GroupGSA, with input from Blomquist + Wark Architects regarding the design intent and overall building character. The aim of the strategy is to complement the architecture of the facility and ensure its compliance with any relevant requirements of the Erskine Park Employment Area. It also aims to minimise any potential impacts of the Proposal on the visual amenity of the surrounding area.

Details of the landscape design are found in Section 6.12.5.

2.13 Signage

A sign identifying the business and facility would be located at the entrance to the facility as shown in Figures 2.13a and 2.13b. An assessment against the requirements of SEPP 64 is provided in Section 6.12.



FIGURE 2.13A LOCATION OF BUSINESS IDENTIFICATION SIGNAGE

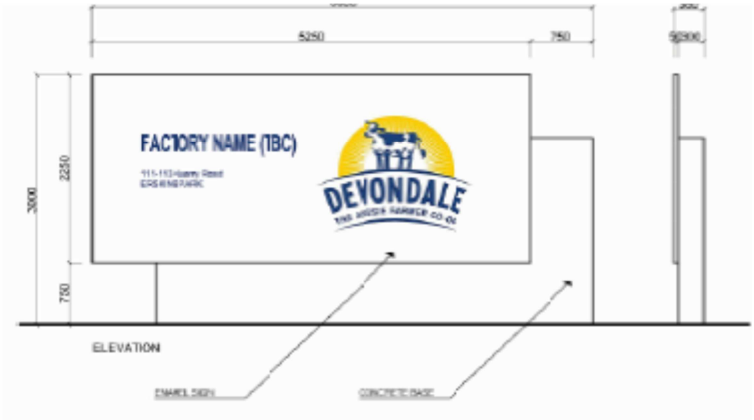


FIGURE 2.13B LAYOUT OF BUSINESS IDENTIFICATION SIGNAGE

3 Statutory Planning Framework

This section provides an overview of the assessment and approvals process for the Proposal, and a consideration of the Proposal with respect to the relevant Commonwealth, NSW and local statutory requirements.

3.1 Overview of the Assessment and Approvals Process

The Proposal will be assessed under section 89C, Part 4 (Development Assessment) of the EP&A Act. The Minister is the approval authority for SSD applications, which must be supported by an EIS. The EIS must be prepared in accordance with the requirements of the EP&A Act and the EP&A Regulation.

The Proposal approval process is summarised in Figure 3.1a.

3.1.1 Preliminary Environmental Assessment

A Preliminary Environmental Assessment (PEA) was prepared to support the SSD application under section 89C of the EP&A Act. The PEA provided:

- A preliminary description of the Proposal including the operation of the facility;
- An overview of the relevant planning legislation and approvals process;
- A summary of the stakeholder engagement process;
- A preliminary assessment of the key and other environmental issues, and
- A preliminary assessment of the surrounding land use and the existing environment.

The PEA assisted the Director-General of the DP&I in formulating the DGRs under Schedule 2 of the Environmental Planning and Assessment Regulation 2000.

3.1.2 Director-General's Environmental Assessment Requirements

The DGRs identify those matters to be addressed in the EIS as well as providing some guidance as to the level of assessment necessary. As part of preparing the DGRs, the DP&I sought input from other government agencies. The following agencies provided input as a result of consultation by the DP&I:

- NSW Department of Primary Industries;
- NSW Office of Water;
- NSW Environmental Protection Authority;
- NSW Food Authority;
- NSW Office of Environment and Heritage;
- NSW Roads and Maritime Services;
- Sydney Water Corporation, and
- Penrith City Council.

On 22 July 2013, the applicant received the DGRs. Table 3.1a provides a summary of the DGRs and where these are addressed in this EIS. Appendix A1 contains the DGRs and any Agency requirements.

Further information on relevant Commonwealth and State legislation and local planning instruments in relation to the Proposal is provided in the subsequent sections.

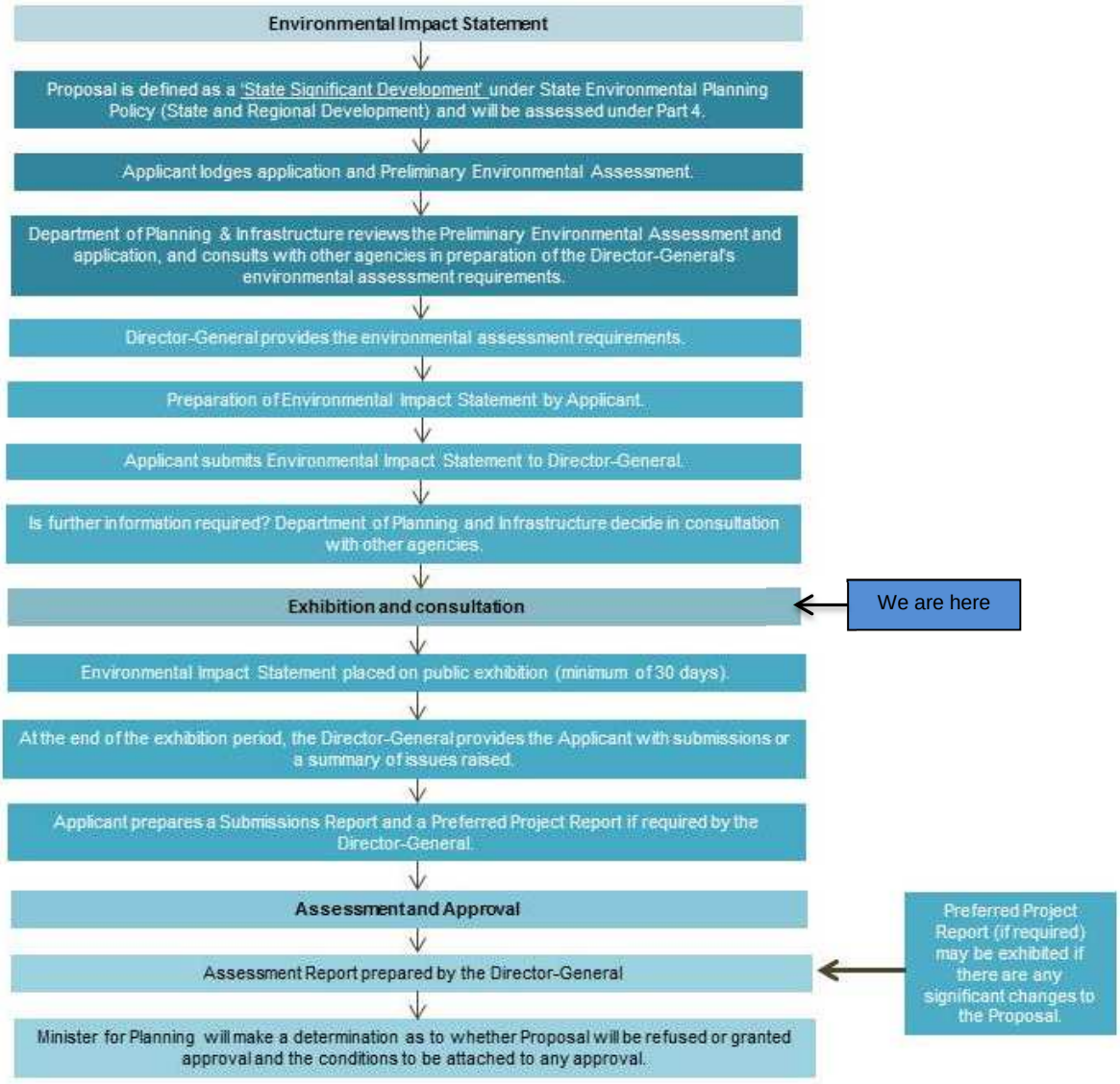


FIGURE 3.1A PROJECT APPROVAL PROCESS

3.1.3 Environmental Impact Statement

This EIS has been prepared in accordance with the DGRs and demonstrates that the applicant has addressed the potential environmental impacts of the Proposal through its design and via appropriate mitigation measures.

3.1.4 Exhibition

The EIS will be placed on public exhibition for a period of at least 30 days.

The DP&I will provide the applicant with a copy of any submissions or a summary of the issues raised in the submissions. The applicant may then be required to respond to those issues. The applicant may also modify the proposal to address any of the issues raised, provided the changes reduce environmental impact and provided the Proposal as modified is not substantially different to the original.

If any modifications are made, a Preferred Project Report will need to be submitted for further assessment. The DG would make this report public.

3.1.5 Assessment and Determination

The DP&I would review the EIS, the submissions received and if applicable, the Preferred Project Report. Following this, an assessment report would be prepared for the DG including a draft set of conditions of approval.

The assessment report would then be referred to the Minister for determination. The Minister would then either grant consent, unconditionally or subject to conditions, or refuse the application. The Minister's determination and the DG's assessment report would be published on the DP&I website following determination.

TABLE 3.1A DIRECTOR-GENERAL'S REQUIREMENTS

Category	Director-General Requirements	Relevant EIS section
General	The EIS for the development must meet the form and content requirements in clauses 6 and 7 of schedule 2 of the *Environmental Planning and Assessment Regulation 2000*.	section 1
	In addition, the EIS must include a: • detailed description of the development, including: - need for the proposed development; - justification for the proposed development; - likely staging of the development; - likely interactions between the development and existing, approved and proposed operations in the vicinity of the site; - plans of any proposed building works; • consideration of all relevant environmental planning instruments, including identification and justification of any	section 2, section 6.15 and section 8 section 3

Category	Director-General Requirements	Relevant EIS section
	inconsistencies with these instruments; • risk assessment of the potential environmental impacts of the development, identifying the key issues for further assessment; • detailed assessment of the key issues specified below, and any other significant issues identified in this risk assessment, which includes: - A description of the existing environment, using sufficient baseline data; - An assessment of the potential impacts of all stages of the development, including any cumulative impacts, taking into consideration relevant guidelines, policies, plans and statutes; and - A description of the measures that would be implemented to avoid, minimise and if necessary, offset the potential impacts of the development, including proposals for adaptive management and/or contingency plans to manage any significant risks to the environment; and • Consolidated summary of all the proposed environmental management and monitoring measures, highlighting commitments included in the EIS. The EIS must also be accompanied by a report from a qualified quantity surveyor providing: • a detailed calculation of the capital investment value (as defined in clause 3 of the Environmental Planning and Assessment Regulation 2000) of the proposal, including details of all assumptions and components from which the CIV calculation is derived; • a close estimate of the jobs that will be created by the development during the construction and operational phases of the development; and • certification that the information provided is	section 5 section 6 section 7 section 6.9

Category	Director-General Requirements	Relevant EIS section
	accurate at the date of preparation.	
Strategic context	• Demonstration that the proposal is generally consistent with the aims and objectives of all relevant environmental planning instruments including, but not limited to, State Environmental Planning Policy (Western Sydney Employment Area) 200g, and relevant Development Control Plans (DCPs); and • Detailed justification for the proposal and suitability of the site to be developed.	section 3 section 2 and section 8
Traffic and transport	• Details of key transport routes and traffic types and volumes likely to be generated during construction and operation; • Assessment of predicted impacts on road safety and the capacity of the surrounding road network including current traffic counts, details of truck routes and modelling of key intersections such as James Erskine Drive and Quarry Road, Sarah Andrews Close, James Erskine Drive and Mamre Road, Erskine park Road and Mamre Road; • Assessment of where off site infrastructure works are required as a result of traffic impacts including detailed plans of any proposed road upgrades; • Access arrangements; and • Provision of parking in accordance with the relevant guidelines.	section 6.11
Air quality and odour	• A quantitative assessment of the potential air quality impacts (particularly odour and dust) of the development on surrounding receivers, including impacts from construction, operation and transport; and • Details of the proposed mitigation, management and monitoring measures.	section 6.2
Noise	• A quantitative assessment of potential construction, operational and transport noise impacts, including potential impacts on nearby sensitive receivers; and • Details of the proposed noise management and monitoring measures.	section 6.8

Category	Director-General Requirements	Relevant EIS section
Soil and water	• A site water balance and an outline of the proposed water requirements, including sources of water, usage and efficiency measures; • Detailed assessment of potential soil, surface, flooding and groundwater impacts; • Potential soil contamination (including acid sulphate soils) and any proposed management measures; • Details of proposed erosion and sedimentation controls (during construction); • Details of proposed stormwater management measures (during construction and operation); and • Wastewater management, spill containment and bunding.	section 6.6 and section 6.10
Waste management	• Details of the quantities and classification of solid and liquid waste to be generated on site; • Details on waste storage, handling, treatment and disposal; and • Details of the measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the NSW Waste Avoidance and Resource Recovery Strategy 2007.	section 6.13
Food safety	• In relation to product handling and processing, how the NSW Food Authority standards and requirements will be met.	section 6.5
Biodiversity	• Identification of species on site, and potential direct and indirect impacts on critical habitats, threatened species and populations, ecological communities, vegetation reserves and wetlands.	section 6.4
Greenhouse gas	• A quantitative assessment of the potential scope 1 & 2 greenhouse gas emissions of the development, and a qualitative assessment of the potential impacts of these emissions on the environment; and • A detailed description of the measures that would be implemented on-site to ensure	section 6.2

Category	Director-General Requirements	Relevant EIS section
	that the development is energy efficient.	
Hazards and risks	• A preliminary risk screening completed in accordance with State Environmental Planning Policy No. 33 - Hazardous and Offensive Development and Applying SEPP 33 (DoP, 2011), with a clear indication of class, quantity and location of all dangerous goods and hazardous materials associated with the proposal. Should preliminary screening indicate that the proposal is "potentially hazardous," a Preliminary Hazard Analysis (PHA) must be prepared in accordance with Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis (DoP, 2011) and Multi-Level Risk Assessment (DoP, 2011).	section 6.7
Visual	• An assessment of the potential visual impacts of the development on the amenity of the surrounding area; and • A detailed description of the measures (e.g. landscaping) that would be implemented to minimise the visual impacts of the development.	section 6.12
Cumulative impacts	• As assessment of the cumulative impacts, particularly in relation to air, noise and traffic associated with other nearby industrial or commercial operations.	section 6.15
Plans and documents	• The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the *Environmental Planning and Assessment Regulation 2000*. These documents should be included as part of the EIS rather than as separate documents.	section 2 and EIS Appendix 2
Consultation	• During the preparation of the EIS, you must consult with the relevant local, state or commonwealth Government authorities, service providers, community groups and affected landowners. • In particular you must consult with the: - Penrith City Council; - NSW Environment Protection Authority	section 4

Category	Director-General Requirements	Relevant EIS section
	(EPA); - NSW Roads and Maritime Services (RMS); - NSW Department of Primary Industries (DPI); - SWC; and - NSW Food Authority. • The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.	

3.2 Commonwealth Legislation

3.2.1 Environmental Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) is administered by the Commonwealth Minister for Sustainability, Environment, Water, Population and Communities (the Commonwealth Minister). The Commonwealth Minister is responsible for the assessment and determination of 'controlled action(s)' under the EPBC Act, which is defined as any action that has, would have or is likely to have a significant impact on "matters of National Environmental Significance" (NES matters). The matters of NES under the EPBC Act are:

- World Heritage properties;
- National Heritage places;
- Wetlands of international importance as listed under the Ramsar Convention;
- Listed threatened species and ecological communities;
- Listed migratory species;
- Commonwealth marine areas;
- Nuclear actions (including uranium mines);
- An action by the Commonwealth or a Commonwealth agency which has, would have or is likely to have a significant impact on the environment, and
- An action on Commonwealth land which has, would have or is likely to have a significant impact on the environment.

On 1 July 2013, a search of the NES matters within a 1.5km radius of the site was undertaken. The findings of the search are summarised in Table 3.2a.

TABLE 3.2A. FINDINGS FROM NES MATTERS SEARCH (01/07/13)

NES matters	Relevance to the Proposal
World Heritage properties	None found within 1.5km of the Proposal.
National Heritage places	None found within 1.5km of the Proposal.
Wetlands of international importance as listed	None found within 1.5km of the Proposal.

NES matters	Relevance to the Proposal
under the Ramsar Convention	
Listed threatened ecological communities	2 ecological communities have been recorded, or are predicted to have habitat within 1.5km of the Proposal.
Listed threatened species	24 threatened species have been recorded, or are predicted to have habitat within 1.5km of the Proposal.
Listed migratory species	12 migratory species have been recorded, or are predicted to have habitat within 1.5km of the Proposal.
Commonwealth marine areas	None found within 1.5km of the Proposal.
Nuclear actions (including uranium mines)	None found within 1.5km of the Proposal
An action by the Commonwealth or a Commonwealth agency which has, would have or is likely to have a significant impact on the environment;	N/A.
An action on Commonwealth land which has, would have or is likely to have a significant impact on the environment.	N/A.

The search indicated the potential presence of two threatened ecological communities, 24 threatened species and 12 migratory species listed under the EPBC Act.

An ecological assessment was undertaken to assess the likelihood of any NES matters occurring within the site and the potential impacts of the Proposal on flora and fauna (refer to section 6.4 and Technical Paper 3: Ecology). The survey confirmed that it is unlikely that any NES matter or potential habitat for NES matter would occur within the site.

A Biodiversity Corridor south of the site does contain remnant Cumberland Plain Woodlands and River-flat Eucalypt Forest, which are listed as endangered ecological communities under the EPBC Act. It has been determined that the Proposal would not have any direct or indirect environmental impacts on the Biodiversity Corridor or the ecological communities. The Proposal would, therefore, have no impact on matters of NES and accordingly, a referral or an application for a 'controlled action' approval is not required under the provisions of the EPBC Act.

3.2.2 Native Title Act 1993

The *Native Title Act 1993* (NT Act) is the Australian Government's primary legislation for the recognition and protection of native title and any affairs with native title land. Native title refers to the rights and interests of Aboriginal and Torres Strait Islander peoples in relation to land and water in Australia and its territories. The main objects of the NT Act are:

(a) to provide for the recognition and protection of native title;

(b) to establish ways in which future dealings affecting native title may proceed and to set standards for those dealings;

(c) to establish a mechanism for determining claims to native title, and

(d) to provide for, or permit, the validation of past acts, and intermediate period acts, invalidated because of the existence of native title.

A search of the National Native Title Register, the Register of Native Claims, and the Register of Indigenous Land Use Agreements has been completed. No lands were determined to have native title and no registered native claims or Indigenous land use agreements were located within the site.

3.3 NSW Legislation

3.3.1 NSW Environmental Planning and Assessment Act 1979

The EP&A Act is the primary legislation regulating land use planning and development and provides the framework for strategic planning processes in NSW. The EP&A Act contains three parts relevant to the environmental assessment and determination of development approvals:

- Part 4 sets out the procedures and matters for consideration in development assessment. As the Proposal is SSD, Part 4 states the NSW Minister will be the consent authority;
- Part 5.1 provides for the control of development that is defined as State Significant Infrastructure (SSI) in the SEPP SRD, and requires approval from the Minister, and
- Part 5 provides for the control of development that does not require development consent and, therefore, does not fall under Part 4 or Part 5.1.

The Proposal is classified by Schedule 1 of SEPP SRD as SSD, as it is defined as *'Development that has a capital investment value of more than $30 million for any of the following purposes:*

(a) Abattoirs or meat packaging, boning or products plants, milk or butter factories…..'

The Proposal is a milk processing facility that has a capital investment value (excluding land costs) of approximately $64 million.

Clause 8 of SEPP SRD declares certain development to be SSD for the purposes of section 89C of the EP&A Act:

'(1) Development is declared to be State significant development for the purposes of the Act if:

(a) the development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and

(b) the development is specified in Schedule 1 or 2.

(2) If a single proposed development the subject of one development application comprises development that is only partly State significant development declared under subclause (1), the remainder of the development is also declared to be State significant development (except so much of the remainder of the development as the Director-General determines is not sufficiently related to the State significant development).

(3) This clause does not apply to development that was the subject of a certificate in force under clause 6C of State Environmental Planning Policy (Major Development) 2005 immediately before the commencement of this Policy.'

In accordance with SEPP SRD, the Proposal will be assessed by the Minister as SSD.

section 78(A) (8A) of the EP&A Act states that a development application for SSD is to be accompanied by an EIS prepared by or on behalf of the applicant.

On 13 June 2013, the Proponent made a written request to the Director-General (DG) of the DP&I to issue the Director-Generals Requirements (DGRs) for the Proposal. The DGRs were issued on 22 July 2013 and establish the specific criteria that must be addressed in the EIS.

This EIS has been prepared in accordance with the DGRs, the requirements of the EP&A Act and the EP&A Regulations.

3.3.2 Approvals that are not required for SSD

section 89J, Part 4 of the EP&A Act states that the following additional approvals / permits / licences / authorisations are not required for an approved SSD:

(a) the concurrence under Part 3 of the Coastal Protection Act 1979 of the Minister administering that Part of that Act,

(b) a permit under section 201, 205 or 219 of the Fisheries Management Act 1994,

(c) an approval under Part 4, or an excavation permit under section 139, of the Heritage Act 1977,

(d) an Aboriginal heritage impact permit under section 90 of the National Parks and Wildlife Act 1974,

(e) an authorisation referred to in section 12 of the Native Vegetation Act 2003 (or under any Act repealed by that Act) to clear native vegetation or State protected land,

(f) a bush fire safety authority under section 100B of the Rural Fires Act 1997,

(g) a water use approval under section 89, a water management work approval under section 90 or an activity approval (other than an aquifer interference approval) under section 91 of the Water Management Act 2000.

Division 8 of Part 6 of the Heritage Act 1977 (Division 8 of Part 6 deals with 'Controlling and restricting harm to buildings, works, relics and places not subject to interim heritage orders or State Heritage Register listing') does not apply to the carrying out of SSD that has been approved.

3.3.3 Approvals that must be applied consistently to SSD

section 89K, Part 4 of the EP&A Act states that the following additional approvals / permits / licences / authorisations for carrying out an approved SSD cannot be refused and must be substantially consistent with the approval under this Part:

(a) an aquaculture permit under section 144 of the Fisheries Management Act 1994;

(b) an approval under section 15 of the Mine Subsidence Compensation Act 1961;

(c) a mining lease under the Mining Act 1992;

(d) a production lease under the Petroleum (Onshore) Act 1991;

(e) an environment protection licence under section 3 of the Protection of the Environment Operations Act 1997 (for any of the purposes referred to in section 43 of that Act;

(f) a consent under section 138 of the Roads Act 1993, and

(g) a licence under the Pipelines Act 1967.

3.3.4 Environmental Planning Instruments

Environmental Planning Instruments (EPIs) are statutory plans prepared under Part 3 of the EP&A Act to provide guidance and management of land use and development. EPIs consist of State Environmental Planning Policies (SEPPs) and local environmental plans (LEPs).

Under section 89E, Part 4 of the EP&A Act, development consent (for SSD) may not be granted if the development is wholly prohibited by an environmental planning instrument. Development consent may be granted despite the development being partly prohibited by an environmental planning instrument. Consideration of the applicable SEPPs and LEPs has been undertaken as part of the EIS and as part of the DGRs.

State Environmental Planning Policy (State and Regional Development) 2011

As previously outlined above, SEPP SRD identifies development that is determined as being SSD, SSI or Critical State Significant Infrastructure (CSSI). Clause 8, Part 2 of SEPP SRD states that a project is SSD if it is listed in Schedule 1 or 2 of the policy. Clause 3 of Schedule 1 relates to:

(3) Agricultural produce industries and food and beverage processing

Development that has a capital investment value of more than $30 million for any of the following purposes:

(a) abattoirs or meat packing, boning or products plants, milk or butter factories, fish packing, processing, canning or marketing facilities, animal or pet feed production, gelatine plants, tanneries, wool scouring or topping or rendering plants,

(b) cotton gins, cotton seed mills, sugar mills, sugar refineries, grain mills or silo complexes, edible or essential oils processing, breweries, distilleries, ethanol plants, soft drink manufacture, fruit juice works, canning or bottling works, bakeries, small goods manufacture, cereal processing, margarine manufacturing or wineries,

(c) organic fertiliser plants or composting facilities or works.

The Proposal is captured by Clause 3 of Schedule 1 as it would involve the capital expenditure of more than $30 million for a milk factory. Therefore, the Proposal is SSD under the provisions of the SEPP SRD and will be assessed in accordance with section 89C, Part 4 of the EP&A Act.

State Environmental Planning Policy (Infrastructure) 2007

The *State Environmental Planning Policy (Infrastructure) 2007* (SEPP Infrastructure) aims to facilitate the effective delivery of infrastructure across NSW. SEPP Infrastructure contains a range of controls for various forms of development. The Proposal is defined as *'Traffic-generating development'* in Schedule 3 of SEPP Infrastructure as it is a *'commercial premises and industry'* type of premises that has a floor area greater than 15,000m² and has frontage to a road.

Under the provisions of section 104 in SEPP Infrastructure before determining a DA that is defined as 'Traffic-generating development' the consent authority must:

(a) give written notice of the application to the RTA within 7 days after the application is made, and

(b) take into consideration:

(i) any submission that the RTA provides in response to that notice within 21 days after the notice was given (unless, before the 21 days have passed, the RTA advises that it will not be making a submission), and

(ii) the accessibility of the site concerned, including:

(A) the efficiency of movement of people and freight to and from the site and the extent of multi-purpose trips, and

(B) the potential to minimise the need for travel by car and to maximise movement of freight in containers or bulk freight by rail, and

(iii) any potential traffic safety, road congestion or parking implications of the development.

(4) The consent authority must give the RTA a copy of the determination of the application within 7 days after the determination is made. Schedule 3 under this SEPP identifies traffic generating development that should be referred to the RTA.

The Proposal will need to be referred to the NSW Roads and Maritime Service (RMS).

State Environmental Planning Policy (Western Sydney Employment Area) 2009

SEPP WSEA provides a consistent zoning system for existing employment lands and zones, as well as new employment lands in various parts of Western Sydney. The main objective of SEPP WSEA is to protect and enhance these areas, particularly in regard to employment. The specific aims of SEPP WSEA are as follows:

(a) to promote economic development and the creation of employment in the Western Sydney Employment Area by providing for development including major warehousing, distribution, freight transport, industrial, high technology and research facilities,

(b) to provide for the co-ordinated planning and development of land in the Western Sydney Employment Area,

(c) to rezone land for employment or environmental conservation purposes,

(d) to improve certainty and regulatory efficiency by providing a consistent planning regime for future development and infrastructure provision in the Western Sydney Employment Area,

(e) to ensure that development occurs in a logical, environmentally sensitive and cost-effective manner and only after a development control plan (including specific development controls) has been prepared for the land concerned,

(f) to conserve and rehabilitate areas that have a high biodiversity or heritage or cultural value, in particular areas of remnant vegetation

section 4 of SEPP WSEA states the following areas to which the policy is applicable:

(a) Precinct 1 (Former Wonderland);

(b) Precinct 2 (Eastern Creek);

(c) Precinct 3 (Huntingwood);

(d) Precinct 4 (Raceway);

(e) Precinct 6 (Ropes Creek);

(f) Precinct 7 (Erskine Park Employment Lands);

(g) Precinct 8 (South of Sydney Catchment Authority Warragamba Pipelines);

(h) Precinct 9 (Quarantine Station), and

(i) Precinct 10 (Greystanes Northern Employment Lands).

SEPP WSEA applies to the site as it is within *Precinct 7 (Erskine Park Employment Lands).* The site is zoned IN1 General Industrial (IN1 zone) according to the land use zone map of SEPP WSEA. Industries are permissible with consent in the IN1 zone (except “offensive and hazardous” industry).

Industries are defined in SEPP WSEA as:

‘the manufacturing, production, assembling, altering, formulating, repairing, renovating, ornamenting, finishing, cleaning, washing, dismantling, transforming, processing or adapting, or the research and development of any goods, chemical substances, food, agricultural or beverage products, or articles for commercial purposes, but does not include extractive industry or a mine.’

The description of the proposal meets the above definition and, therefore, is permissible with consent in the IN1 zone under the provisions SEPP WSEA.

The aims of the IN1 zone are:

- *To facilitate a wide range of employment-generating development including industrial, manufacturing, warehousing, storage and research uses and ancillary office space;*

- *To encourage employment opportunities along motorway corridors, including the M7 and M4.*
- *To minimise any adverse effect of industry on other land uses;*
- *To facilitate road network links to the M7 and M4 Motorways;*
- *To encourage a high standard of development that does not prejudice the sustainability of other enterprises or the environment, and*
- *To provide for small-scale local services such as commercial, retail and community facilities (including child care facilities) that service or support the needs of employment-generating uses in the zone.*

The proposed use of the site is consistent with the objectives that underpin the IN1 zone.

Under Clause 18 of SEPP WSEA, consent must not be granted to development on any land unless a DCP has been prepared for that land. Clause 18(6) of SEPP WSEA states that:

'For the purposes of this clause, a development control plan is taken to have been prepared for so much of the land to which this Policy applies as is identified as the "Erskine Park Employment Area" under the Penrith Development Control Plan 2006 (approved 21 August 2006 and as in force on 15 December 2006).'

Therefore, the development controls for the site are contained within the Penrith DCP. An assessment of the Proposal with respect to those relevant controls within Penrith DCP has been undertaken as part of this EIS (refer to section 3.4.2). Part 5 of SEPP WSEA prescribes additional development standards to those detailed under the Penrith DCP. The compliance of the Proposal with these standards is described in Table 3.3a.

TABLE 3.3A PROPOSAL'S COMPLIANCE WITH RELEVANT DEVELOPMENT STANDARDS IN SEPP WSEA

Reference	Principal development standards	Proposal compliance (reference to EIS section)
Clause 20 Ecologically sustainable development	The consent authority must not grant consent to development on land to which this Policy applies unless it is satisfied that the development contains measures designed to minimise: (a) the consumption of potable water, and (b) greenhouse gas emissions.	Parts of the production process such as Pasteurisation and the Clean in Place (CIP) system are designed to capture and reuse 'waste' heat, thereby minimising energy consumption and reducing greenhouse gas emissions. The CIP system is also the main source of water demand and is designed to minimise the use of water. Further information describing the CIP system is provided in section 2 and energy efficiency measures in section 6.2.
Clause 21 Height of buildings	The consent authority must not grant consent to develop land to which this Policy applies unless it is satisfied that: (a) building heights will not adversely impact on the amenity of adjacent residential areas, and	The Proposal is consistent with this standard (refer to section 6.12 Visual).

Reference	Principal development standards	Proposal compliance (reference to EIS section)
	(b) site topography has been taken into consideration.	
Clause 22 Rainwater harvesting	The consent authority must not grant consent to develop land to which this Policy applies unless it is satisfied that adequate arrangements will be made to connect the roof areas of buildings to such rainwater harvesting scheme (if any) as may be approved by the Director-General.	A rainwater harvesting scheme is not provided in the Proposal. The storage of rainwater on site may present risks to the quality and hygiene standards of the production process and would be inconsistent with the Proponent's Quality Standard for Water (refer to section 6.10 Surface Water). This includes vermin control for which MGC have specific Company Standards. It is considered that a roof garden would potentially attract birds, rats and other vermin, and would be contrary to the site's operating requirements.
Clause 23 Development adjoining residential land	(1) This clause applies to any land to which this Policy applies that is within 250 metres of land zoned primarily for residential purposes. (2) The consent authority must not grant consent to develop land to which this clause applies unless it is satisfied that: (a) wherever appropriate, proposed buildings are compatible with the height, scale, siting and character of existing residential buildings in the vicinity, and (b) goods, plant, equipment and other material resulting from the development are to be stored within a building or will be suitably screened from view from residential buildings and associated land, and (c) the elevation of any building facing, or significantly exposed to view from, land on which a dwelling house is situated has been designed to present an attractive appearance, and (d) noise generation from fixed sources or motor vehicles associated with the development will be effectively insulated or otherwise minimised, and	This standard does not apply to the Proposal. The closest land zoned primarily for residential purposes is over 250m away from the Proposal.

Reference	Principal development standards	Proposal compliance (reference to EIS section)
	(e) the development will not otherwise cause nuisance to residents, by way of hours of operation, traffic movement, parking, headlight glare, security lighting or the like, and (f) the development will provide adequate off-street parking, relative to the demand for parking likely to be generated, and (g) the site of the proposed development will be suitably landscaped, particularly between any building and the street alignment.	
Clause 24 Development involving subdivision	The consent authority must not grant consent to carry out of development involving the subdivision of land unless it has considered the following: (a) the implications of the fragmentation of large lots of land, (b) whether the subdivision will affect the supply of land for employment purposes, (c) whether the subdivision will preclude other lots of land to which this Policy applies from having reasonable access to roads and services.	This standard does not apply to the Proposal. The Proposal will not involve the subdivision of land.
Clause 25 Public utility infrastructure	(1) The consent authority must not grant consent to develop land to which this Policy applies unless it is satisfied that any public utility infrastructure that is essential for the proposed development is available or that adequate arrangements have been made to make that infrastructure available when required. (2) In this clause, public utility infrastructure includes infrastructure for any of the following: (a) the supply of water; (b) the supply of electricity; (c) the supply of natural gas, and (d) the disposal and management of sewage. (3) This clause does not apply to development for the purpose of providing, extending, augmenting, maintaining or repairing any public utility infrastructure	The Proposal is consistent with this standard (refer to section 2.10).

Reference	Principal development standards	Proposal compliance (reference to EIS section)
	referred to in this clause.	
Clause 26 Development on or in the vicinity of proposed transport infrastructure routes	(1) This clause applies to any land to which this Policy applies that is situated on or in the vicinity of a proposed transport infrastructure route as shown on the Transport and Arterial Road Infrastructure Plan Map. (2) The consent authority must refer to the Director-General of the Department of Planning any application for consent to carry out development on land to which this clause applies. (3) The consent authority must, before determining any such development application, consider any comments made by the Director-General as to the compatibility of the development to which the application relates with the proposed transport infrastructure route concerned.	This standard does not apply to the Proposal. The Proposal is not situated on or in the vicinity of the proposed transport infrastructure route as shown on the Transport and Arterial Road Infrastructure Plan Map.

It is noted that Clause 27 of SEPP WSEA allows for flexibility in the application of the development standards including those under Part 5. The Proposal is complaint with most of the requirements of SEPP WSEA. However, the provisions of Clause 22 (rainwater harvesting) are deemed to be unreasonable in the case of the Proposal as the storage of water on-site is not consistent with the hygiene and quality standards required for a food production facility. Further information is provided in section 6.10.

Under Clause 29 of SEPP WSEA, for any development within the Industrial Release Area (in accordance with the Industrial Release Area Map of SEPP WSEA), the DG must certify in writing to the consent authority that satisfactory arrangements have been made to contribute to the provision of regional transport infrastructure and services (including the Erskine Park Link Road Network).

The Proposal will be supported by the following current transport infrastructure:

- Quarry Road, a local road, which would be the only road used to access the site;
- Mamre Road, a Classified Main Road (MR 536), which is predicted to be the primary route for the majority of the traffic in relation to the Proposal;
- Erskine Park Road, a Classified Main Road (MR 629), which is another identified route for traffic in relation to the Proposal, and
- M4 Motorway and M7 Motorway, both Declared Freeways, which are predicted to be used by traffic in relation to the Proposal.

It is noted that the Erskine Park Link Road has recently been open to traffic. The Link Road provides an east-west connection between Erskine Park Road and the M7 Motorway at Eastern Creek.

A Traffic Impact Assessment was undertaken as part of this EIS, which established the frequency of traffic movements to and from the site and the potential impacts of the Proposal upon the existing transport infrastructure. The assessment confirmed that the existing regional transport infrastructure

and services would sufficiently support the Proposal based on the predicted traffic generation and routes (refer to section 6.11 Traffic and Transport and Technical Paper 8).

State Environmental Planning Policy No. 55 – Remediation of Land

The State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55) provides a broad planning approach to the remediation of contaminated land. SEPP 55 aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment. The EP&A Act and SEPP 55 require a planning authority to consider the suitability of land for a proposed development (DP&I and EPA, 1998). Ultimately, a planning authority needs to be satisfied that a site is suitable for its proposed use or can and would be made suitable, based on historical data and current use of the site and surrounding areas. If the land is determined to be unsuitable, remediation must take place before the land is developed. SEPP 55 encourages remediation of areas:

'(a) by specifying when consent is required, and when it is not required, for a remediation work, and

(b) by specifying certain considerations that are relevant in rezoning land and in determining development applications in general and development applications for consent to carry out a remediation work in particular, and

(c) by requiring that remediation work meet certain standards and notification requirements.'

The PEA involved investigation of the ground conditions and considered the likelihood for contamination to exist on the site. The PEA determined that the site is suitable for the proposed land use in this SSD application.

3.3.5 Other Relevant Legislation

Table 3.3b provides a summary of other relevant legislation.

TABLE 3.3B SUMMARY OF OTHER RELEVANT LEGISLATION

Legislation	Key requirements	Relevance to the Project
Contaminated Land Management Act 1997	section 60 of the Act requires property owners to report any contamination that represents a significant risk of harm to human health or the environment to the EPA.	A preliminary investigation has confirmed that the site is suitable for the Proposal with respect to potential land contamination. Refer to section 6.6 Ground Conditions, which summarises the Proposal's compliance with the Act.
Crown Lands Act 1989	Governs the use of Crown land.	The Proposal would have no impact on any property of the Crown.
Fisheries Management Act 1994	Under this Act, approval is required from the Industry and Investment NSW (Fisheries), for activities involving dredging and reclamation (section 201), blockage of fish passage (section 219) and harming of certain marine vegetation in a protected area (section 205).	The Proposal is not defined as an activity that involves dredging and reclamation. The Proposal is unlikely to cause a blockage to any existing fish passage or harm marine vegetation. Pursuant to section 89J of the EP&A Act, permits under sections 201, 205 or 219 of the Act are not required for an 'approved project' defined as SSD under section 89C of Part 4.
	A licence is required under	An ecological assessment has confirmed

Legislation	Key requirements	Relevance to the Project
	section 220ZW of the Act for activities likely to harm or damage threatened species, populations or ecological communities.	that threatened species, populations and ecological communities and habitat requirements that are listed in the Act are not likely to occur on the site or within its vicinity (refer to section 6.4 Ecology and Technical Paper 3). Therefore, no further assessment is required.
Heritage Act 1977	Consent is required under Part 4 of the Heritage Act for development which alters, moves or damages any part of a listed heritage item.	Pursuant to section 89J of the EP&A Act, an approval under Part 4 of the *Heritage Act 1977* is not required for an 'approved project' defined as SSD under section 89C of Part 4. An assessment of the Proposal with respect to heritage items within the vicinity of the site is provided in section 6.15 assessment of other issues.
	An excavation permit is required under section 139 of the *Heritage Act 1977* to 'damage, despoil, move or alter' a relic.	Following a review of current databases, no listed heritage items or places are found on the site. An assessment of heritage items within the vicinity of the proposed Project is provided in section 6.14 assessment of other issues. Pursuant to section 89J of the EP&A Act, an excavation permit under section 139, of the *Heritage Act 1977* is not required for an 'approved project' defined as SSD under section 89C of Part 4.
National Parks and Wildlife Act 1974 (NPW Act)	Under section 90 of the NPW Act, consent is required to destroy, deface or damage an Aboriginal object or Aboriginal place.	Following a review of current databases, no listed Aboriginal heritage items or places were found on the site. An assessment of heritage items within the vicinity of the proposed Project is provided in section 6.14 assessment of other issues Pursuant to section 89J of the EP&A Act, consent under section 90 of the NPW Act is not required for an 'approved project' defined as State Significant Development under section 89C of Part 4.
	Under Part 4 of the NPW Act, the Minister may enter into a conservation agreement with a landowner.	The land affected by the Proposal is not known to be covered by a conservation agreement or by a plan of management adopted under the NPW Act.
Noxious Weeds Act 1993 (NW	Under section 12 of the NW Act, "private occupiers of land must	Refer to section 6.4 Ecology and Technical Paper 3 for discussion on

Legislation	Key requirements	Relevance to the Project
Act)	control noxious weeds on land."	Noxious Weeds. Any noxious weeds would be disposed of and managed in accordance with the assigned control categories under the NW Act.
Protection of the Environment Operations Act 1997 (POEO Act)	The objectives of the POEO Act are to promote environmental protection in NSW, including the reduction in pollution, to promote ecologically sustainable development and to reduce risks to human health. Under section 48 of the POEO Act, an environment protection licence (EPL) relating to air, water and noise pollution and waste management is required for development should it be identified as a scheduled activity in Schedule 1.	Schedule 1 of the POEO Act, lists Dairy Processing as scheduled activity defined as: dairy processing, meaning the processing of dairy produce as part of the production of milk, evaporated or condensed milk, buttermilk, cream, cheese, butter, ice-cream or similar products. Where the activity will process more than 30 megalitres of dairy produce per year. The Proposal would process approximately 150 mega litres of milk per year and therefore is a scheduled activity requiring an EPL.
Roads Act1993 (Roads Act)	section 138 of the Roads Act requires a person to obtain the consent of the appropriate roads authority for the erection of a structure, or the carrying out of a work in, on or over a public road, or the digging up or disturbance of the surface of a public road.	The Proposal would not involve the erection of a structure, or the carrying out of a work in, on or over a public road, or the digging up or disturbance of the surface of a public road.

Legislation	Key requirements	Relevance to the Project
Rural Fires Act 1997	The *Rural Fires Act 1997* aims to provide: (a) for the prevention, mitigation and suppression of bush and other fires in local government areas (or parts of areas) and other parts of the State constituted as rural fire districts, and (b) for the co-ordination of bush fire fighting and bush fire prevention throughout the State, and (c) for the protection of persons from injury or death, and property from damage, arising from fires, and (d) for the protection of the environment by requiring certain activities referred to in paragraphs (a)–(c) to be carried out having regard to the principles of ecologically sustainable development described in section 6 (2) of the *Protection of the Environment Administration Act 1991*.	The majority of the site is located on land categorised as "Vegetation Buffer 100 metres and 30 metres" in the Bushfire Prone Land Map by Council. This land category refers to the buffering distance of 100m from Vegetation Category 1, and 30m from Vegetation Category 2. However, as the Proposal is not for subdivision and is not a special fire protection purpose, approval is not required under the *Rural Fires Act 1997*.
Threatened Species Conservation Act 1995 (TSC Act)	The TSC Act requires any threatened plant or animal species, populations or ecological communities associated with a proposed development to be identified and that acceptable recovery and management strategies be implemented when a significant impact would be likely to occur.	An ecological assessment has confirmed that no threatened species, populations and ecological communities are located on the proposal site (Refer to section 6.4 Ecology and Technical Paper 3: Ecology). A Biodiversity Corridor is located to the south of the site containing remnant Cumberland Plain Woodland and River-flat Eucalypt Forest. The stormwater plan for the site has been designed to minimise potential run-off related impacts to the Corridor (refer to section 6.10). Therefore, the provisions of the Act do not apply and no further assessment is required.
Waste Avoidance and Resource Recovery Act	The WARR Act establishes a hierarchy of waste management (avoid, recover, dispose) for	Waste materials generated during construction and operation of the Proposal would be managed in

Legislation	Key requirements	Relevance to the Project
2001 (WARR Act)	businesses and development, encouraging efficient use of resources and minimising waste.	accordance with the principles of the waste management hierarchy referred to in the WARR Act (refer to section 6.13 and Technical Paper 10).
Water Act 1912	Groundwater licencing required.	The Proposal would not involve extraction of groundwater.
Water Management Act 2000 (WM Act)	Under section 56 of the WM Act, an access licence is required for water extraction.	The Proposal would not involve extraction of water from other sources other than the existing Sydney Water main. Negotiations for connecting to this utility are progressing. The Proposal would not require a water extraction licence.
	section 89 of the WM Act relates to water use approvals, which confer a right on their holder to use water for a particular purpose at a particular location.	Pursuant to section 89J of the EP&A Act, a water use approval is not required for a project defined as SSD under section 89C of Part 4.
	section 91E of the WM Act relates to controlled activity approvals required when undertaking certain activities in, on or under waterfront land. Waterfront land is defined in the WM Act as: (a) the bed of any river, together with any land lying between the bed of the river and a line drawn parallel to, and the prescribed distance inland of, the highest bank of the river, or (a1) the bed of any lake, together with any land lying between the bed of the lake and a line drawn parallel to, and the prescribed distance inland of, the shore of the lake, or (a2) the bed of any estuary, together with any land lying between the bed of the estuary and a line drawn parallel to, and the prescribed distance inland of, the mean high water mark of the estuary, or (b) if the regulations so provide, the bed of the coastal waters of the State, and any land lying	The Proposal would not involve undertaking activities in, on or under waterfront land (refer to section 6.10). The Proposal is not defined as an aquifer interfering activity. Controlled activity approvals and aquifer interfering approvals would not be required by the Proposal.

Legislation	Key requirements	Relevance to the Project
	between the shoreline of the coastal waters and a line drawn parallel to, and the prescribed distance inland of, the mean high water mark of the coastal waters, section 91F of the WM Act provides aquifer interference approvals for aquifer interference activities. An aquifer interference activity means an activity involving any of the following: (a) the penetration of an aquifer, (b) the interference with water in an aquifer, (c) the obstruction of the flow of water in an aquifer, (d) the taking of water from an aquifer in the course of carrying out mining, or any other activity prescribed by the regulations, (e) the disposal of water taken from an aquifer as referred to in paragraph (d).	
Wilderness Act 1987 (Wilderness Act)	The Wilderness Act provides the legislative framework for the nomination, assessment, identification and declaration of wilderness and its subsequent management. Under section 15 of the Wilderness Act: (1) A statutory authority shall not carry out development in a wilderness area subject to a wilderness protection agreement or a conservation agreement unless: (a) it has given written notice of the proposed development to the Minister, any other party to the agreement, any statutory authority on behalf of which the agreement was entered into and, in the case of a conservation agreement, any successor in title to the owner who entered into the conservation agreement, and	The Proposal is not located within or near a wilderness area. Therefore, the Wilderness Act does not apply.

Legislation	Key requirements	Relevance to the Project
	(b) it has received written notice from the Minister consenting to the development. (2) The Minister may consent to the development only if: (a) the Minister is of the opinion that the proposed development will not adversely affect the area, and (b) in the case of an area subject to a wilderness protection agreement—the Minister responsible for the statutory authority which entered into the agreement, or on behalf of which the agreement was entered into, has consented to the development.	

3.4 Local Planning Policies and Instruments

3.4.1 Penrith Local Environmental Plan 2010

The Penrith Local Environmental Plan 2010 (PLEP 2010) is the primary local environmental planning instrument for the Penrith Local Government Area (LGA), in which the site is located. The primary objectives of the PLEP are:

- *'To promote development that is consistent with the Council's vision for Penrith, namely, one of a sustainable and prosperous region with harmony of urban and rural qualities with a strong commitment to environmental protection and enhancement;*
- *To ensure development incorporates the principles of sustainable development through the delivery of balanced social, economic and environmental outcomes;*
- *To encourage development to be designed in a way that assists in reducing and adapting to the likely impacts of climate change;*
- *To protect the environmental values and heritage of Penrith, including places of historic, aesthetic, architectural, natural, cultural, visual and Aboriginal significance;*
- *To provide for an urban environment that is active, attractive and safe for residents and visitors;*
- *To foster viable employment, transport, education and future investment opportunities that are suitable to the needs and skills of the residents and the workforce;*
- *To protect views and vistas from main roads and other public vantage points; and*
- *To reinforce Penrith's urban growth limits by allowing rural living opportunities where they will promote the intrinsic rural values and functions of Penrith's rural lands and the social well-being of its rural communities.'*

The site is unzoned under PLEP 2010 as it is subject to the provisions of SEPP WSEA. However, PLEP 2010 and its development standards have been used as a guide in the site planning and design

of the facility. Where inconsistency exists between PLEP 2010 and SEPP WSEA the controls in the latter have been applied.

Table 3.4a provides a summary of potentially relevant clauses in the PLEP 2010 and the application of these clauses to the Proposal.

TABLE 3.4A PROPOSAL'S COMPLIANCE WITH RELEVANT CLAUSES IN PLEP 2010.

Clause	Key requirements	Application of the clause to the Proposal
Clause 4.3 Height of buildings	This clause provides a restriction to the height of buildings for each zone in order to: • ensure that buildings are compatible with the height, bulk and scale of the existing and desired future character of the locality; • minimise visual impact, disruption of views, loss of privacy and loss of solar access to existing development and to public areas, including parks, streets and lanes; • minimise the adverse impact of development on heritage conservation areas and heritage items; and • nominate heights that will provide a transition in built form and land use intensity.	Although this development standard is not applicable to the site, its objectives have been taken into account through the design in order to minimise potential visual impacts of the building.
Clause 4.4 Floor space ratio	Clause 4.4 is a development standard which states the maximum FSR permitted on a site. The clause aims to: • ensure that buildings are compatible with the bulk and scale of the existing and desired future character of the locality; • minimise the adverse impact of development on heritage conservation areas and heritage items; and • regulate density of development and generation of vehicular and pedestrian traffic.	Although this development standard is not applicable to the site, the control has been given consideration to ensure the building bulk and scale is consistent with the form of development anticipated under PLEP 2010.
Clause 5.6 Architectural roof features	Clause 5.6 in PLEP 2010 sets out the matters for consideration in respect of the proposed building roof design. The objectives of this clause are as follows to ensure that: • architectural roof features to which this clause applies are decorative elements only, • the majority of the roof features	Both the objectives and matters of consideration have been addressed as part of the overall building design (refer to section 6.12 Visual).

Clause	Key requirements	Application of the clause to the Proposal
	are contained within the prescribed building height. Development consent must not be granted to any such development unless the consent authority is satisfied that: • The architectural roof feature: - comprises a decorative element on the uppermost portion of a building, and - is not an advertising structure, and - does not include floor space area and is not reasonably capable of modification to include floor space area, and - will cause minimal overshadowing, and - any building identification signage or equipment for servicing the building (such as plant, lift motor rooms, fire stairs and the like) contained in or supported by the roof feature is fully integrated into the design of the roof feature.	
Clause 5.9 Preservation of trees or vegetation	The objective of clause 5.9 in PLEP 2010 is to preserve the amenity of the area, including biodiversity values, through the preservation of trees and other vegetation.	The Proposal would be undertaken on land that is void of vegetation. Therefore, this clause is not relevant to the Proposal.
Clause 5.10 Heritage conservation	Clause 5.10 in PLEP 2010 aims to protect and preserve items of state and local heritage significance from new development. The objectives of this clause are as follows to: • conserve the environmental heritage of Penrith; • conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views; • conserve archaeological sites; and • conserve Aboriginal objects and Aboriginal places of heritage	The site does not accommodate an item of state or local heritage significance, is not within a heritage conservation area and is not within the vicinity of any item of heritage significance (refer to section 6.14). The Proposal, therefore, will have no adverse impacts on any items of heritage significance or their settings.

Clause	Key requirements	Application of the clause to the Proposal
	significance.	
Clause 6.2 Salinity	Clause 6.2 in PLEP 2010 states that development consent must not be granted to any development unless the consent authority has considered: • whether or not the proposed development is likely to have an impact on salinity processes, and • whether or not salinity is likely to have an impact on the proposed development, and appropriate measures that can be taken to avoid or reduce any undesirable effects that may result from the impacts.	The Proposal has had regard for the potential salinity issues (refer to section 6.6 Ground Conditions).
Clause 6.3 Flood Planning	Clause 6.3 in PLEP 2010 deals with development in flood prone areas, which is land identified as the "Flood Planning Area". Flood prone lands are indicated on the Flood Planning Area maps in PLEP 2010.	The site is not within the "Flood Planning Area". Therefore, this clause is not applicable.
Clause 6.4 Development on Natural Resources Land	The site is not within Natural Resources Land as indicated in the Natural Resources Sensitivity Land Map, however, a small section of land (also identified as being part of the Biodiversity Corridor) is located immediately south of the site. Clause 6.4 states that development consent must not be granted to development unless the consent authority is satisfied that: • the development is designed and will be located and managed to avoid any potential adverse environmental impact, or • if a potential adverse environmental impact cannot be avoided, the development: • is designed and located so as to have minimum adverse impact, and • incorporates effective measures to remedy or mitigate any adverse impact caused.	It has been determined that the Proposal would have no adverse impacts on the adjacent Biodiversity Corridor (refer to section 6.4 Ecology and section 6.10 Surface Water).
Clause 6.5 Protection of	The site is not identified in PLEP 2010 as being Land with Scenic and Landscape	Although this clause is not applicable to the site, the design of

Clause	Key requirements	Application of the clause to the Proposal
Scenic Character and Landscape Values	Values. However, such land is located approximately 85m southwest of the site. Clause 6.5 in PLEP 2010 states that development consent must not be granted for any development on land to which this clause applies unless the consent authority is satisfied that measures will be taken, including in relation to the location and design of the proposed development, to minimise the visual impact of the development from major roads, identified heritage items and other public places.	the Proposal has had regard for these matters. That is, the design has taken into account and minimised potential visual impacts on the existing amenity of the surrounding area. This includes those areas defined in PLEP 2010 as having Scenic and Landscape Values (refer to section 6.12).
Clause 6.6 Servicing	Clause 6.6 in PLEP 2010 states that before granting development consent for development on any land to which this Plan applies, the consent authority must be satisfied that: • the development will be connected to a reticulated water supply, if required by the consent authority, and • the development will have adequate facilities for the removal and disposal of sewage, and • if the development is for seniors housing, the development can be connected to a reticulated sewerage system, and • the need for public amenities or public services has been or will be met.	The Proposal has acknowledged that connection to the required utilities is currently being progressed with ongoing negotiations with the relevant authorities (refer to section 2.10).

3.4.2 Penrith Development Control Plan 2006

Under Clause 18 of SEPP WSEA, the Penrith Development Control Plan 2006 (PDCP 2006) applies to the Erskine Park Employment Area (which includes the site).

The objectives of the PDCP 2006 are to:

- Provide a framework that will lead to a high standard of development by encouraging local employment and creating an area which is pleasant, safe and efficient to work in;
- Ensure that development takes account of the physical nature of the local environment, particularly Ropes Creek, ridgelines and the natural landscape;
- Ensure that development does not result in pollution of waterways and in particular of Ropes Creek and South Creek;
- Promote the development of a visually attractive physical environment where the form, scale, colour, shape and texture of urban elements are managed in a way which will achieve an

aesthetically pleasing balance which does not adversely affect the amenity of the existing residential areas;

- Identify and provide for public amenities and service infrastructure to accommodate development;
- Promote the creation of a landscaped area within the electricity transmission easement to act as a buffer between the employment zones and the residential communities;
- Establish environmental criteria and controls for development within the area to ensure that the environmental quality of adjoining areas is not compromised;
- Ensure that development is consistent with the objectives of the Threatened Species Conservation Act with particular regard to the endangered ecological communities, flora and fauna present on the site;
- Facilitate conservation of urban bushland, and
- Protect, restore and enhance riparian corridors within the Erskine Business Park.

Relevant Numerical Controls

Table 3.4b summaries the Proposal with respect to the relevant numerical controls in the PDCP 2006. A non-compliance with a control is noted by an asterix (*) with justification for any variation provided in the further discussions outlined in Table 3.4c.

TABLE 3.4B RELEVANT NUMERICAL CONTROLS IN PDCP 2006

Issue	Numerical control	Proposal	Compliance
Building Height	15m	9.5m – 19m	No*
Site Coverage	50%	20%	Yes
Setbacks Front Side Rear	 15m 5m 5m	 50m 15m 15m	 Yes Yes Yes
Car parking spaces	1 space/ 75m^2 or 1 space/2 employees, whichever is the greater	53 car spaces	No*

Table 3.4c provides a detailed assessment of the Proposal with respect to all relevant controls in the PDCP 2006 and provides justification on any variations.

TABLE 3.4C PROPOSAL'S COMPLIANCE WITH RELEVANT CONTROLS IN PDCP 2006

section	Summary of Controls and Application to the Proposal
6 Drainage	The section provides a number of controls relating to drainage and stormwater management for development in the Erskine Park Employment Area. These controls aim to protect existing waterways and to minimise

section	Summary of Controls and Application to the Proposal
	pollution, salinity and erosion issues in the surrounding catchment area. The site is located within the "Western" Catchment, which discharges into South Creek and the larger South creek Catchment. The options for managing the stormwater quality within the two sub-catchments shall conform to the overall guiding framework contained within the South Creek Managements Plan. Key considerations for the site in regard to drainage include: • Additional drainage infrastructure would be required to be provided upstream, to achieve the desired stormwater management objectives. Infrastructure is to be constructed by the developer of the land concerned; • Existing creek lines within areas of significant vegetation also form major trunk drainage functional elements and are not expected to be modified by development, and • The Erskine Business Park Development Contributions Plan 2008 provides details of works to be funded by contributions levies under this plan together with the status of lands required for drainage purposes. These considerations have been taken into account in this EIS (refer to section 6.6 Ground Conditions and section 6.10 Stormwater).
3 Subdivision	The controls under this section are not relevant to the Proposal does not involve any subdividing of land.
7 Transport and Parking	This section includes a number of controls relating to the local transport network and an overview of the staged construction of local roads. The Proposal would not involve the construction of local roads and would rely on the existing road network, namely Quarry Road, Mamre Road, Erskine Park Road and the M4 and M7 Motorways, as well as the newly opened Erskine Park Link Road. The impacts to traffic are outlined in this EIS (refer to section 6.11 Traffic and Transport). Under section 7.2 of the PDCP 2006, factories are required to provide whichever is the greater of 1 car space for every 75m^2 or 1 car space for every 2 employees. The total gross area for the facility is approximately 10,000 m^2. The total number of employees at any one time is 45. To comply with the control, the Proposal would require at least 110 car spaces. Based on the number of employees and visitors requiring daily parking, it is proposed that the facility have 53 car spaces. Compliance with control is deemed unnecessary in the case of the Proposal as the provision of 53 car parking spaces is sufficient for the number of staff that would be present on site at any one time. As a result, parking related impacts are not expected..
4.1 Height	This section contains height requirements for development within the Erskine Park Employment Area. Height is defined in the PDCP 2006 as: 'in relation to a building means the vertical distance measured between natural ground level at any point at which the building is sited, and the roof of the topmost floor of the building above that point.'

section	Summary of Controls and Application to the Proposal
	The following height requirements apply to the Proposal site: • The maximum height for buildings and structures in the Southern Area of the Business Park should not exceed 15 metres; • Generally, buildings should be sited on mid-slope to avoid visual impact on ridges and to be in harmony with the existing landscape, and • On sloping sites, the building or buildings should be designed where possible, so as to "step'' physically up or down the site to avoid visual impact on ridges. The majority of the building for the Proposal is approximately 9.5m high (above the natural ground level). The raw milk silos are 19m high and, therefore, depart from the control. This variation however has been determined as acceptable for the following reasons: • The majority of the built form will sit well below the maximum height permitted on the site. The silos represent a small percentage of the overall development and, therefore, will not present any adverse visual impacts upon the locality (refer to section 6.12 Visual); • The location of the silos on the site are such that they will not be the dominant built form feature on the site, and • The existing Biodiversity Corridor and the distance of the site from any sensitive land use receivers will ensure that non-compliance with the height control is negated through existing screening and the extent of spatial separation of the site respectively.
4.2 Site Coverage	This section details the requirements for site coverage for development within the Erskine Park Employment Area. Site coverage is defined as: *'the percentage ratio of the total area of a given allotment covered by buildings to the total area of that allotment and does not include parking areas or driveways. For the purposes of determining the allotment area, drainage basins and/or channels as required by this section and other easements, biodiversity corridors or areas (retained as part of the allotment) may be included in the calculation of allotment area. Site coverage is calculated from the building "footprint" which includes external walls, roof overhangs, pergolas, etc.'* The following site coverage requirements apply to the Proposal site: • Site coverage shall not exceed 50%, and • Where land is included in Biodiversity Conservation Areas or Electricity Transmission Line Easements, that land can be included in site coverage calculations. Site coverage for the Proposal is 20% and therefore complies with the control.
4.3 Setbacks	This section has controls regarding setbacks for development within the Erskine Park Employment Area. The following setback requirements apply to the Proposal site: • Other Road frontages (including Quarry Road) require a setback of

section	Summary of Controls and Application to the Proposal
	15 metres; • Rear and side lot boundaries require a setback of 5 metres; • Transmission line easements require a setback of 8 metres; • Water supply pipelines require a setback of 5 metres. • No development other than the following is permitted within the defined setback for any road: - Car parking; - Landscaping; - Maintenance/ rehabilitation of biodiversity corridors; - Approved signage; - Street furniture, and - Drainage works. • Council will consider the type and scale of the development when assessing any request for variation to either building or car parking setbacks, and • Existing and remnant vegetation within front, rear and side setback areas shall be retained and enhanced as an integral part of the landscaping proposals for each development. The development is setback 50 metres from the Quarry Road frontage, and the rear and side boundary setbacks are in excess of 15 metres. The Proposal complies with the site setbacks specified in this control.
4.4 Urban Design	This section includes provisions for urban design and architectural treatments for development within the Erskine Park Employment Area. The objectives for urban design include the following: • To encourage a high standard of architectural design, utilising quality materials and finishes; • To establish varied and articulated frontages facing or visible from public roads; • To minimise perceived scale and mass to prevent monotonous building forms resulting from poor design of walls or rooflines, and • To ensure that new development contributes to the creation of a visually cohesive urban environment. A range of architectural treatments would be incorporated as part of the overall design of the Proposal, which would be sympathetic to the surrounding visual amenity and would take into consideration this control (refer to section 6.12 Visual).
4.5 Signage and Estate Entrance Walls	This section contains provisions for all signage, advertising and estate entrance walls for development within the Erskine Park Employment Area. The following requirements apply to the Proposal site: • All advertising is required to be: - constructed of high quality, durable materials; - considered in conjunction with the design and construction of

section	Summary of Controls and Application to the Proposal
	buildings; - restricted generally to one sign identifying the name of the occupants; and/or products manufactured or produced on the site, and - contained wholly within the site. Signage and advertising proposed for the facility would comply with this control.
4.6 Lighting	This section details the controls specific to lighting for development within the Erskine Park Employment Area. The following requirements apply to the Proposal site: • External lighting shall be designed to ensure that light is wholly contained within the property boundaries and • Full details of proposed lighting shall be submitted with the development application. The Proposal would comply with this control. The lighting features for the facility are detailed in this EIS (refer to section 6.12 Visual).
4.7 Fencing	This section contains provisions associated with fencing for development within the Erskine Park Employment Area. The following provisions apply to the Proposal site: • No fencing other than a low ornamental type may be erected at the front site boundary. Should an applicant elect to use high security fencing, such fencing must be located either behind the landscape setback or alternatively within the landscaped area midway between the site front boundary and the building line and • Security fencing shall generally be of an "open" nature. Consideration should be given to dark colours, such as green plastic coated mesh fencing, which blend better with screening vegetation than galvanised wire. The Proposal would comply with this control.
4.8 Services	This section includes controls relating to utilities and services for development within the Erskine Park Employment Area. Council shall require as conditions of any development consent that arrangements satisfactory to: • SWC would be made for the provision of water and sewerage services; • Integral Energy would be made for the supply of electricity; • the relevant telecommunications authority would be made for the provision of telecommunications services; • Council would be made for the drainage of the land; • Council would be made requiring as a condition of consent, that electricity and telecommunication mains be placed underground; • Council would be made requiring the co-location of services where this is technically feasible, and

section	Summary of Controls and Application to the Proposal
	• Council would be made requiring that all new premises within the Erskine Park Employment Area be provided with state of the art telecommunications infrastructure utilising optic fibre or DSL technology to enable companies to access broad band services using high speed, high reliability telecommunications. The Proposal would comply with these conditions. A description of the required utilities and services is found in section 2.10.
5.1 Noise Pollution	Noise attenuation is required to reduce the impact of noise. It is noted that an acoustic design report is not required, as the site does not immediately adjoin residential areas. The potential noise impacts of the Proposal have nevertheless been assessed in this EIS (refer to section 6.8 Noise).
5.2 Waste Management	A Waste Management Plan is required to be submitted. Further requirements include: • Adequate storage for waste materials shall be provided on the site and this waste must be removed at regular intervals and not less frequently than once a week, and • Proposed arrangements for the removal of waste shall be submitted with Development Applications. The potential impacts from waste generation by the Proposal have been assessed in this EIS (refer to section 6.13 Waste Management and Technical Paper 10).
5.3 Soil Erosion and Sediment Control	The development must comply with Part 2, section 6.3 Erosion and Sediment Control of the PDCP 2006 accompanying the Code of Practice for Soil Erosion and Sediment Control. Appropriate sediment controls must also be provided during construction. The potential impacts on ground conditions and surface water and corresponding mitigation measures have been included in this EIS (refer to section 6.6 Ground Conditions and section 6.10 Stormwater).
5.4 Air Pollution	All development within the Erskine Park Employment Area must control the emission of air impurities in accordance with the standards allowed by the POEO Act. Applicants need to demonstrate that the most efficient means of minimising emissions are being used. The potential impacts relating to air quality, odour and greenhouse gas emissions from the Proposal have been assessed in this EIS (refer to section 6.2 Air Quality, Odour and Greenhouse Gas).
5.5 Storage, Transportation and/or Processing of Chemical Substances	The Proposal must consider the following requirements relating to the storage, transportation and/or processing of chemicals. The following information is to be submitted with any Development Application: • Detailed description of the use and all methods/procedures associated with the use, including flow diagrams; • A floor plan of the subject premises depicting the dimensions of the building and indicating the internal layout of all equipment, storage and display areas;

section	Summary of Controls and Application to the Proposal
	• A comprehensive list of all chemicals/goods and quantities proposed to be utilised in the activity and actually stored on the subject premises; • A description of the method of storage of chemicals/goods on the premises, and the type of containment or packaging to be used; • A description of the method of transportation of chemicals/goods to/from the premises (including the size and nature of vehicles, proposed routes and frequency of delivery to and from the site); • Details regarding the number of vehicles likely to be involved with the use at any one time and the provision and allocation of storage/standing areas for such vehicles; • Details of onsite water quality control, and • Details of waste treatment and transportation. The Proposal complies with this control as all of the above information relating to the Proposal is stipulated in this EIS (refer to section 2: Proposal Description and section 6.7 Hazards).
5.6 Stormwater Pollution Control	This section states that all developments in the Erskine Park Employment Area must be designed so that all liquid waste and spillage is contained and properly disposed of. Only clean and unpolluted water is allowed to enter Council's stormwater disposal system. The design of the Proposal's permanent stormwater drainage system takes this requirement into consideration. The potential risks and impacts relating to stormwater pollution have been assessed in this EIS (refer to section 6.10 Stormwater and section 6.7 Hazards).
5.7 Energy Conservation	Development must demonstrate that the design considers potential for effluent re-use, water minimisation techniques such as water recycling, waste minimisation techniques and recycling. The Proposal would utilise a variety of energy saving methods, particularly in regard to the operations of the processing facility. These include: • The pasteuriser process is designed with high energy efficiency, reusing heat from pasteurising to heat incoming milk, and • Cleaning processes are closed loop systems to reduce water requirements and chemical use. Details of the Proposal's compliance with this control and adherence to Ecologically Sustainable Development (ESD) principles are in section 8 Justification and Conclusion.
5.8 Contaminated Land	This section contains a number of requirements for managing contaminated land within the Erskine Park Employment Area. The following requirements apply to the Proposal site: • Contaminated land is land which represents or potentially represents an adverse health or environmental impact because of the presence of potentially hazardous substance; • Development applications for contaminated land would be assessed in accordance with the SEPP 55—Remediation of Land

section	Summary of Controls and Application to the Proposal
	and Managing Land Contamination Planning Guidelines (Department of Urban Affairs and Planning and Environment Protection Authority, 1998), and • Contaminated land shall be required to be remediated prior to development proceeding on site. Remediation shall involve the treating and / or mitigation of the contaminants. A preliminary assessment has indicated that the site does not contain significant traces of hazardous substances and is therefore, not classified as contaminated land (refer to section 6.6 Ground Conditions).
5.9 Trading/Operating Hours of Premises	This section provides the restrictions on trading/operating hours of premises within the Erskine Park Employment Area. The following restrictions apply to the Proposal site: • Construction works (all development) shall generally be restricted to the following hours: - Monday to Friday, 7.00 a.m. to 6.00 p.m. - Saturday, 8.00 a.m. to 1.00 p.m. - No work on Sundays or Public Holidays The hours of operation for premises involved in any type of employment generating activity shall be dealt with on a merits basis. Council appreciates that because of the nature of certain activities, shift work may be essential to the viability of the development. In considering applications Council shall have regard to the likely impact of the trading hours of a particular activity on the amenity of adjoining residential and rural areas. The construction hours for the Proposal would be limited, in accordance with the above requirements, however, there is potential for works to be undertaken outside these hours. Should the need arise, mitigation measures would be implemented to reduce the potential impact of these works to the nearest sensitive receivers (refer to section 6.8 Noise and Vibration). The operating hours for the Proposal would be 24 hours, 7 days a week (refer to section 2.8).
8 Biodiversity	This section contains a number of key requirements for protecting and conserving the biodiversity values within the Erskine Park Employment Area, specifically the existing Biodiversity Corridor and remnant bushland surrounding the industrial and commercial precincts. The following controls must be considered by the Proposal: • Where a development is located within, or may otherwise affect an area of native vegetation, the following information would be required to accompany a development application: - vegetation survey of the land undertaken by a qualified person; - fauna survey of the site undertaken by a qualified person, and - an “eight-part test” as identified in section 5A of the EP&A Act. • Council would determine whether a Species Impact Statement is required, if the development is likely to significantly affect a

section	Summary of Controls and Application to the Proposal
	threatened species; • A Plan of Management for the land containing the native vegetation outlining how it is proposed to be conserved and managed in the future. • Council may specify additional requirements or guidelines for undertaking adequate fauna or vegetation surveys, and • All buildings and improvements adjoining biodiversity areas should be located so as to minimise risk of loss from wildfire. Findings from an ecological assessment have confirmed that the Proposal would not have any significant impacts on fauna, flora, ecological communities or critical habitat (refer to section 6.4 Ecology). As the Proposal would be located adjacent to the Biodiversity Corridor, consideration has been given to ensure the facility and related infrastructure are located away from bushfire prone areas to reduce bushfire risk.
9.1 Landscape Design	This section includes a number of controls for landscape design (specifically, vegetation clearing) for development in the Erskine Park Employment Area. The following requirements are to be considered by the Proposal: • Existing trees are to be preserved wherever possible. The siting and layout of a development at the initial concept stage must consider the location of trees with a view to their preservation; • Existing trees shall not be removed prior to the written consent of Council being obtained; • The existing vegetation to be retained must be protected from soil compaction, root, trunk and limb damage, soil contamination and changes in surface level that would affect the health of the specimen, and • Protection measures are to be installed prior to the commencement of any earthworks. A manproof, sturdy and durable chainwire fence of sufficient height shall be erected 1 metre beyond the dripline of each specimen for the full circumference of all vegetation to be protected. The Proposal would not involve the removal of trees. Therefore, this control is not relevant to the Proposal.
9.2 Landscape Areas	PDCP 2006 defines 'landscaped area' as: 'in relation to a site, means that part of the site not occupied by any building, but including the landscaped areas over any covered car park, except for open air recreation facilities or paved pedestrian areas, which is to be landscaped by way of the planting of gardens, lawns, shrubs and trees and is to be available for the use and enjoyments by the occupants of the building to be erected on the site but does include so much of the site as is to be used for driveways, parking, loading or manoeuvring areas.' The Proposal would be landscaped in a manner consistent with the immediate surrounding environment. Details of the landscape strategy and the mitigation measures for management of visual impacts of the Proposal are included in this EIS (refer to section 6.12 Visual).

3.5 NSW Plans and Strategies

3.5.1 NSW State Plan

In September 2011, the NSW Government launched *NSW 2021: A Plan To Make NSW Number One.* This Plan replaced the State Plan as the NSW Government's strategic business plan. The intent of the 10 year plan is to rebuild the economy, return quality services, renovate infrastructure, restore accountability to government and strengthen local environments and communities.

This plan contains 32 goals and identifies the immediate priorities for action that would help achieve these goals. Table 3.5a contains a list of applicable key objectives under each goal and how the Proposal would contribute in realising these objectives.

TABLE 3.5A PROPOSAL'S CONTRIBUTION TO KEY OBJECTIVES OF NSW STATE PLAN.

Goal	Key objectives	Proposal's contribution
Grow employment by an average of 1.25% per year to 2020.	Reduce the gap in employment outcomes between Aboriginal and non–Aboriginal people within a decade. Increase the proportion of young people in employment or learning (15–24 years). Increase the proportion of people over 55 participating in employment. Increase the proportion of women employed in non–traditional occupations in NSW.	The Proposal would employ approximately 45 people during the operation of the processing facility (at least 10 years).
Protect strategic agricultural land and improve agricultural productivity.	Strategic land use plans completed within set timeframes. Improved productivity on NSW farms.	The Proposal would support a significant portion of the dairy industry in NSW, as it would source raw milk from local farmers. The Proposal is expected to be operational for at least 10 years.
Increase expenditure on critical NSW infrastructure.	Increase investment in regional infrastructure. Increase share of Commonwealth funding for NSW infrastructure. Major strategic infrastructure delivered as a priority as promised.	The Proposal is defined as a SSD that would support the NSW Government's strategic direction in providing commercial infrastructure for improving the NSW economy.

3.5.2 NSW Long Term Transport Masterplan

In December 2012, Transport for NSW launched the *NSW Long Term Transport Masterplan*, which integrates NSW transport strategies with land use planning, providing policy direction for road, rail, bus, ferries, light rail, cycling and walking infrastructure.

The Masterplan identifies transport challenges facing Greater Sydney including:

- Equipping Greater Sydney for jobs growth to support the development of Sydney's regional economies with sustainable transport solutions nearer to population centres, and
- Developing new transport connections for greenfield areas as they grow to support the North West and South West Growth Centres and the Western Sydney Employment Area.

Actions listed to address the challenges, relevant to freight travel include:

- Motorway infrastructure: Including the M5 West widening and Managed Motorway systems on the M4 Motorway to improve real-time management of traffic;
- Greater Sydney's employment centres: Work with local councils and communities to support jobs and tailor transport and congestion solutions in the regional cities Parramatta, Penrith and Liverpool;
- Precinct Action Plan for Port Botany and Sydney Airport: Reduce congestion by targeting traffic pinch points, increasing rail services, investigating additional bus service options to and from Sydney Airport and improving the infrastructure that supports freight flows to and from Port Botany;
- Growth centre roads: Develop the road network in new growth centres to link the Greater Sydney workforce to employment opportunities and to national and international gateways, and
- Supporting Efficient and Productive Freight.

The Masterplan identifies transport challenges facing freight transport including:

- Increasing network efficiency by fixing bottlenecks on road and rail networks, improving coordination, ensuring better regulation, better use of the existing network and removing obstacles to improved freight productivity;
- Growing freight network capacity to meet the future freight task through targeted investment that expands road and rail capacity and supports economic growth, and
- Managing the community and environmental impacts of freight to promote sustainability.

Actions listed to address the challenges relevant to freight travel include:

- Finalise and implement the new NSW Freight and Ports Strategy;
- Identify future demand for network capacity so that revenue streams can be identified to fund expansion of the network or new infrastructure;
- Undertake a pilot of next generation Higher Productivity Vehicle (HPV) access on the Hume Highway (M31) aimed at safely managing growing freight volumes on NSW's most heavily used road corridor, and improve last mile access for critical freight journeys;
- Implement rail freight infrastructure enhancements to increase the share of freight carried on the rail network, with new investment in rail pinch points, measures to improve rail competitiveness and the development of a metropolitan intermodal terminal network;
- Protect strategic freight corridors to support growing population centres and production regions in NSW, increase separation between passenger and freight movements, and integrate land use and transport development;
- Implement a new measurement and reporting framework to promote transparency and allow assessment of network performance by providers and users;

- Develop a package of measures to grow off-peak freight movements to better use the transport network and reduce congestion and conflicts with passenger movements, and
- Protect strategic freight corridors from urban encroachment to enable the freight network to grow alongside population centres and productive regions in NSW.

Given the Proposal's dependence on road freight transport, the investment towards improving freight infrastructure in NSW would benefit the Proposal. The development of a purpose built facility that would process and bottle fresh milk in Western Sydney is seen as preferable to the long haul of bottled milk product between Melbourne and Sydney, which would otherwise be required. The Proposal supports the NSW State Long Term Transport Master Plan in relation to freight transport.

3.5.3 Draft Metropolitan Strategy for Sydney to 2031

The Draft Metropolitan Strategy for Sydney 2031 (Metropolitan Strategy) 2013, identified nine key areas for change referred to as 'city shapers', importantly including the Western Sydney Employment Area (WSEA).

The Metropolitan Strategy mentions the intention of the DP&I to investigate opportunities within 10,000 hectares of the WSEA between the M4 and the M7 Motorways to support job growth in manufacturing and new technology. In addition, improvements would be provided to important connections to the M4 and M7 Motorways to improve Sydney's freight and logistics network.

This Metropolitan Strategy is currently on public exhibition and is anticipated to be finalised in late 2013 and would supersede the 2010 Metropolitan Plan for Sydney. The 2010 Metropolitan Plan similarly identifies Erskine Park as a major area contributing to Sydney's employment growth in the industrial sector.

The Proposal is consistent with the strategic direction of the 2010 Metropolitan Plan and the aims of Metropolitan Strategy in providing employment opportunities.

4. Consultation and Communications

4.1. Introduction

This chapter details the communication process undertaken by Urban Concepts to satisfy the Consultation DGRs. It presents the information that has been produced to promote community and stakeholder understanding about the proposal and the consultation methodology employed to facilitate a two way exchange of information about the Proposal. The Chapter describes the issues that have been raised through the communication initiatives that have been staged and concludes with an explanation of how these concerns have been addressed by the Proponent, The Chapter should be read in conjunction the Consultation Report prepared by Urban Concepts and referenced in Appendix 5.

4.2. Legislative and Policy Context

The DGR's issued to the Proponent by the DP&I establish the community consultation requirements for this project. The consultation requirements state:

"[DP&I wishes] to emphasise the importance of effective and genuine community consultation and the need for proposals to proactively respond to the community's concerns. Accordingly a comprehensive, detailed and genuine community consultation and engagement process must be undertaken during preparation of the EIS. This process must ensure that the community is both informed of the proposal and is actively engaged in issues of concern to them. Sufficient information must be provided to the community so that it has a good understanding of what is being proposed and of the potential impacts.

During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners.

In particular you must consult with:

- *Penrith City Council;*
- *Environmental Protection Agency;*
- *Roads and Maritime Service;*
- *Department of Primary Industries;*
- *Sydney Water Corporation, and*
- *NSW Food Authority.*

The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided."

4.3. Communication Aims and Objectives

The communication aims and objectives that have underpinned the consultation process are to:

- Launch the expansion of MGC into NSW and the economic benefits that this will deliver, both for NSW dairy farmers and the local and regional economy of Western Sydney;
- Commence a dialogue with local residents and integral stakeholders that will remain in place throughout the SDD assessment process and for the construction of the project;
- Define parameters for community and stakeholder involvement so participants can provide meaningful comment. This is particularly important as the project does not allow for discussion about alternative land uses of the site or significant changes in the internal design and operation of the facility. In this regard, the design of the facility is dictated by its operational function, food safety and environmental protection licence requirements;
- Ensure the views of all interested residents and stakeholders are represented and reported through the communication process. Depending on their role in the process, each stakeholder group or target audience will have its own specific information requirements that reflect their role or area of statutory responsibility. It is important that a timely flow of information is provided to these audiences throughout the consultation process. This flow of information should be handled by the appropriate member of the project team to ensure that there is no distortion of factual information;
- Encourage community involvement by ensuring communication initiatives are accessible and professionally run reflecting MGC's genuine concern for the local community;
- Position the project positively within the local community, recognising that the Proposal will contribute and support the local and regional economy;
- Explain the statutory compliance of the Proposal under the relevant environmental and planning legislation and any specific areas of concern identified in the DGR's issued for this project by NSW DP&I;
- Ensure all material produced for public circulation is presented in a clear and concise 'Plain English' manner, and
- Interpret concerns and ideas as effectively and concisely as possible and to ensure that they are addressed in the EIS documentation in accordance with the DGR's for community consultation.

4.4. Target Audiences

To assist with the management of information, its dissemination and the recording of community feedback, Urban Concepts classified the range of stakeholders into target audiences or user groups.

The key target audiences that have been consulted for this project are:

- Adjoining Landowners;
    - Council identified the following neighbouring landholders and occupiers within the Erskine Business Park Area:
        - The Property Manager, BGAI2 Pty Ltd;
        - The Occupier, 28 Sarah Andrews Close;
        - The Owner, Department of Planning and Infrastructure;
        - The Owner, Transpacific Industries Pty Ltd;
        - The Occupier, 85-87 Quarry Road;
        - The Occupier, 38 - 50 Quarry Road;
        - The Owner, CSR;
        - The Occupier, 52 -74 Quarry Road;
        - The Owner, Gaonor Pty Ltd;
        - The Occupier, 89-99 Quarry Road, and
        - The Property Manager, Enviroguard Pty Ltd.
    - Greening Australia;

- Penrith Valley Business Community:
  - Penrith Valley Chamber of Commerce, and
  - Penrith Business Alliance.
- Local Residential Community – a notification area was defined for the project. The residential area is located north of Erskine Park Road, between Lenore Drive and Mamre Road, including the suburbs of St Clair and Erskine Park. Figure 4.1 details the residential notification area.
- Special interest and local community groups:
  - Dairy NSW;
  - Local Schools - Blackwell Public School, Emmaus Catholic College, Erskine Park High School, Mamre Anglican School, Trinity Catholic Primary School, and
  - Care Provider - Emmaus Catholic Health Care Village.
- NSW Department of Planning & Infrastructure;
- Penrith City Council Staff Officers and Elected Representatives;
- State and Federal Elected Representatives;
- DGR Identified State Government Agencies and Statutory Authorities:
  - RMS;
  - DPI including NSW Office of Water (NOW) and NSW Food Authority;
  - EPA, and
  - SWC;
- Utility Providers:
  - Telstra;
  - Ausgrid Australia, and
  - Jemena,
- Emergency Services:
  - NSW Police;
  - NSW Fire and Rescue, and
  - Ambulance Service of NSW.



FIGURE 4.1 - RESIDENT NOTIFICATION AREA

4.5. Communication Methodology

The consultation for this project has been undertaken in 2 Stages:

- Stage 1 - Consultation initiatives were undertaken to align with the preparation of the Preliminary Environmental Assessment (PEA). These included:
  - Introducing MGC to Penrith City Council and the NSW DoPI;
  - Promoting an understanding of the design and operation of the milk processing facility, including:
    - Architectural design requirements;
    - Staff numbers and car parking;
    - Treatment of waste product;
    - Environmentally sustainable design practices, and
    - Energy and resource requirements.
  - Explaining the benefits of the milk processing facility in meeting strategic planning objectives for industry and employment growth in the Western Sydney Employment Area, and
  - Explaining the Council planning controls, urban design parameters and objectives for the site, and demonstrating how the proposal supports these controls.

The Stage 1 consultation initiatives were detailed in the PEA report that was submitted to the DoPI on 4 July 2013.

- Stage 2 Consultation initiatives were designed to facilitate the preparation of the EIS by:
  - Enhancing understanding of the specialist investigations to inform the EIS;
  - Identifying community and stakeholder concerns specific to the development of the Proposal site for a milk processing facility;
  - Explaining mitigation measures to address community and stakeholder concerns;
  - Explaining the planning approval processes, and
  - Ascertaining community attitudes to the milk processing facility proposed.

The Stage 2 initiatives and the feedback received is the focus of this Chapter of the EIS. The Stage 2 consultation process was detailed in a Communication Plan presented to both the NSW DP&I and Penrith City Council prior to its implementation. A copy of the Plan is presented in Appendix 5.

It is noted that consultation with State Government Agencies and Penrith City Council has been ongoing through Stage 2 and has been undertaken by the relevant technical specialists and is detailed in the specific technical reports that form part of the EIS documentation in Volumes 3 and 4.

4.6. Stage 2 - Communication Collateral

Essential to the implementation of the Stage 2 communication process was the production of information collateral that was used to foster community and stakeholder understanding about the proposal and invite participation to the Stage 2 consultation events. The communication collateral utilised for Stage 2 is described below.

Establishment of Freecall 1800 Number, Project PO Box and Email Address

Urban Concepts established communication lines to centralise and coordinate all enquiries about the communication program for this project. These contact details appear on all information prepared about the project and include:

- 1800 freecall number: 1800TalkToUs which is serviced by Urban Concepts during business hours;
- Project mail address:
  MGC Erskine Park Milk Processing Facility
  C/- Urban Concepts,
  PO Box 615
  Milsons Point NSW 1565
- Project email address: info@mgcerskinepark.com.au which is serviced by Urban Concepts.

All telephone calls and emails are logged by Urban Concepts. In the first instance, specific project enquiries are forwarded to the Development Manager of S2D (Space 2 Develop) and are then directed to the appropriate specialist consultants, if necessary.

A Project Website

A project website was developed and went live on 16 August 2013. The website address is www.mgcerskinepark.com.

The website carries the following project information:

- Breaking News;
- The Site;
- Introducing Murray Goulburn Co-Operative;
- Project Overview:
  - What does the milk facility involve?
  - What will the facility look like?
  - Traffic
  - Operating Noise
  - Sustainability and Waste Management
  - Potential for Odour
  - Environmental Protection of the Biodiversity Corridor
  - Economic Benefits
- The Planning Process:
  - An Early Works Development Application
  - A State Significant Development (SSD) Application
- Community Consultation Events and Registration;
- Downloads, and
- Feedback.

Screen images of the website are reproduced in Appendix 5.

Community Consultation Newsletter

The community newsletter was a four page A4 brochure, which was distributed the week commencing Monday 21 August 2013. A total of 2500 newsletters were distributed by a private mail distributor to the residential notification area detailed at Figure 4.1 and to interested stakeholders identified in the Communication Plan.

The newsletter provided an introduction to MGC, an overview of the proposed milk processing facility and invited residents and interested stakeholders to participate in the community consultation events held on Tuesday 27 August 2013. The first community newsletter is provided at Appendix 5.

It is the Proponent's intention to issue a second edition of the community newsletter to coincide with the public exhibition of the EIS by the DP&I.

Media Advertising

Three regular display advertisements were placed in the main local newspapers that service the Erskine Park and broader Penrith Valley area. These papers are the Mt Druitt, St Marys Standard and the Penrith City Star. The advertisements announced the arrival of the project and invited participation in the August 2013 consultation events. These advertisements appeared the week commencing Monday 19 August 2013. The media advertisements are reproduced at Appendix 5.

Additional advertisements will be placed in these newspapers to provide newsworthy information about the project as it progresses and to coincide with key milestone events such as the public exhibition of the EIS documentation.

4.7. Stage 2 - Consultation Events

During Stage 2, two consultation events were staged to provide residents and interested stakeholders with the opportunity to obtain more information about the Proposal and raise questions and concerns with the Proponent's specialist advisers. The presentation given at this event is reproduced at Appendix 5.

Stakeholder Round Table Lunch

A Stakeholder Round Table Lunch was held on Tuesday 27 August 2013 from 12.00 – 2.00pm at the Twin Creeks Golf and Country Club, Luddenham.

A letter was issued during the week commencing Monday 12 August 2013 inviting participation in the event. The following target audience groups received this invitation:

- State and Federal Members of Parliament for Penrith;
- Penrith City Council officers and elected representatives;
- Executive representatives of Penrith Valley Chamber of Commerce and Penrith Business Alliance;
- Representatives from Dairy NSW, Greening Australia and Special Interest Groups identified in section 4.4 of the Communication Plan;
- Representatives of the adjoining landowners within the Erskine Business Park Area (identified by Council);
- Representatives from State Government Agencies identified by the DGRs;
- Representatives from utility providers;
- Representatives from emergency service providers, and
- Executive representatives for the Proponent.

The Stakeholder Round Table Lunch was attended by 6 participants, representing the Penrith Business Alliance (PBA), Penrith Valley Chamber of Commerce (PVCC), Penrith City Council, the neighbouring site Dincel Constructions, and utility providers Jemena and Sydney Water Corporation.

The Record of Comments detailing the comments arising from the event is provided in the Consultation Report at Appendix 5. A summary of the key issues and ideas raised at this event and the Proponents response is presented in Section 4.8.

Community Consultation Evening

A Community Consultation Session was held on Tuesday 27 August 2013, from 7.00 – 9.00pm at the Twin Creeks Golf and Country Club, Luddenham.

In preparing for this event, Urban Concepts distributed 2,500 community newsletters to the notification area defined in Figure 4.1 which included the residential areas of St Clair and Erskine Park. Media advertisements in the Penrith City Star, The Mount Druitt - St Marys Standard, and the St Marys-Mount Druitt Star also invited participation at the event.

The Community Consultation Session was attended by 11 participants who are residents of the suburbs of Erskine Park and St Clair.

The Record of Comments detailing the comments raised at the event is provided in the Consultation Report at Appendix 5. A summary of the key issues raised at this event and the Proponents response is presented in Section 4.8.

4.8. Summary of Community and Stakeholder Concerns

The range of issues and comments arising from the Stakeholder Round Table Lunch and Community Consultation Evening are discussed below. It is noted that the concerns raised did not require any design amendment to be made to the proposal. The findings of the specialist technical reports have addressed each of the specific issues raised as part of their rigorous evaluation of any environmental impacts.

4.8.1 Cumulative Traffic Impact

Participants Concerns

Participants sought to understand the peak times of traffic movement for the facility, given the facility is operational over 24 hours and whether any future expansion of the facility would further increase traffic flows on the local and state road network.

Of particular interest were the vehicle movements that would occur from the site on a daily basis and the impact trucks would have on the local road network in regard to traffic noise and the capacity of the existing local roads to cater for large vehicles. Concern was expressed over the ability of Mamre Road and Kemps Creek Road, considered by residents to be 'country roads', to withstand further heavy vehicle movements. It was suggested by participants that Mamre Road should be upgraded.

Concern was expressed about the noise impact large gas tankers would generate providing gas to the facility in the event that a permanent reticulated arrangement for gas supply is not in place with Jemena by July 2014.

The comments and questions relating to the cumulative traffic impact the Proposal included the following:

- *Will the operation of the facility be 24 hours? Will this also mean that traffic will be operational 24 hours?*
- *The project team mentioned that there will be around 105 vehicle trips a day for the facility. Is this number correct? When will the peak traffic movements for the facility occur? These peak traffic movements will change as the facility expands.*
- *Mamre Road is still only a country road. What route will the facility's trucks take when they exit Mamre Road? Kemps Creek and Bakers Lane are country roads and are badly affected when it rains.*
- *Is it correct that 204 trucks will be accessing the facility per day?*
- *Has any consideration been given to upgrading Mamre Road?*
- *The project team mentioned that trucks will provide gas to the facility until the gas line supply is secured. How will these truck movements impact on the local road network?*
- *Will gas be supplied by the bottle or by a tanker vehicle?*
- *Our house backs onto Mamre Road. There has never been anything done for traffic noise mitigation in this area. Could you please clarify what will happen if the traffic noise increases in the area?*
- *At what point does the traffic noise cap stop?*
- *So residents will need to accept additional noise from trucks on top of the existing noise condition, which is already unpleasant? At what point will the traffic noise be mitigated?*

Proponent Response

The Proponent explained that a traffic impact statement formed part of the EIS documentation and that the findings of the traffic and safety assessment indicated that the truck and vehicle generation rates for the facility were acceptable.

It was confirmed that traffic movements would occur on a 24 hour basis. It was explained that if the supply of gas was to occur by tanker it would be a temporary arrangement until a reticulated pipeline was established with Jemena.

The Proponent gave a commitment that trucks would use the Lenore Drive Link Road to access the M7 Motorway and the Eastern Creek Coles Chilled Distribution Centre which is the supply hub for the facility. It was indicated that the proximity of the site to the Lenore Drive Link Road was a key attribute of the site and was fundamental to the acquisition of the site by the Proponent.

It was clarified that traffic noise mitigation is the responsibility of the Local Council and the NSW Roads and Maritime Services. It was also confirmed that the noise impact assessment undertaken as part of the EIS included an assessment of traffic noise. The noise assessment indicated that no adverse noise impact could be attributed to the facility and its ongoing operation.

4.8.2 Neighbouring Impacts

Participants' Concerns

The neighbouring industrial site, Dincel Constructions, sought to understand the noise level and odour that would be experienced on their site from the operation of the milk processing facility. The noise modeling undertaken by Todoroski Air Sciences, and the credibility of the data used were of particular interest.

Dincel Constructions also sought to understand how access to their site would be impacted during construction. The comments and questions raised included the following:

- *How does the noise model used for this facility, compare to other projects?*
- *How does this facility compare to existing MGC milk processing facilities?*
- *What data was included in the model? I am interested in knowing the credibility and accuracy of the data used.*
- *During construction of the facility, will access to our site be affected by construction vehicles?*

Proponent Response

The Proponent explained that noise and odour generated from the facility would be of low or negligible impact, and the data used for modeling was adopted from an existing MGC milk processing facility.

Pending approval of the facility, the Proponent undertook to liaise with Dincel about the construction management traffic arrangements. It was stated that it is not anticipated that there will be any restrictions on access to the Dincel site during construction.

4.8.3 Opportunities for Employment

Participants' Concerns

Participants sought to understand the employment opportunities the Proposal would generate from construction through to operation. Participants wanted to know whether the staff shifts would be staggered over a 24 hour period.

A positive comment was made about the number of employment positions (45) that would be created by the Proposal, as the majority of large industrial developments that have occurred in Penrith only provide a small number of jobs, as they are warehousing based. The view was expressed that the Proposal would be a positive contribution for the region, and that the Coles agreement having a ten year term would provide security for local farmers.

A number of participants were interested to know whether the Proponent would provide further opportunities for business partnerships within the Penrith Valley area, and whether MGC would use local suppliers and materials.

Participants also asked whether raw milk would be sourced from NSW or Victoria dairy farmers.

The comments and questions relating to the economic opportunities included the following:

- *Will this facility only provide milk to Coles Supermarkets?*
- *What is the capacity of the facility?*
- *How does this capacity compare to other dairy facilities, manufacturers in the area, such as the one in (Dairy Farmers) Wetherill Park? Will this facility be larger or smaller?*
- *Does this facility produce milk only?*
- *How many jobs will this facility provide once operational? Is it 45 positions?*
- *What types of employment positions will be generated for the facility?*
- *I would like to make a comment. I am pleased with this proposal unlike other developments that have occurred in Erskine Park, provides a reasonable number of jobs per floor space. I also like the Co-Operative function of the facility, creating partnerships with local milk producers in the region, and the security that a 10 year contract will provide to those farmers. The location for this facility is well suited, being distantly located from residential areas. I am concerned about the compressed timeframe for the development to be operational in early 2014, and I wish you luck with this.*
- *Where is the MGC based? Where are the farms based?*
- *Within a short distance from the site there is a chicken farm and soon to be a meat packing manufacturer, so this facility is well suited to its location.*
- *I would just like to reiterate how pleased I am at the number of employment positions generated by the facility. As there are a number of developments occurring with a large amount of floor space but only with a limited numbers of jobs. We support a greater number of jobs close to Penrith.*
- *Large organisations such as MGC should utilise local Penrith business partnerships. Business should be kept local using local suppliers and to generate jobs. Local businesses should be provided with an opportunity to tender for services. I understand that this may not always be possible.*
- *An interesting part about Penrith is that even though it has a large population, it is still very much like a country town in its support of local business.*
- *As the facility is operational over 24 hours, will work shifts be staggered over this time period? Could you please clarify the work shift arrangement?*

Proponent Response

It was confirmed that the Proponent would be interested in developing a local supply hub, sourcing Penrith based employment services and materials wherever possible for the Erskine Park facility. It was explained that NSW milk supply partnerships are still to be confirmed, but that it is the intention of MGC that NSW dairy farmers supply the raw milk product. It was confirmed that the project would generate 45 jobs. MGC also confirmed that the facility would only produce bottled milk product.

4.8.4 Project Timeframe

Participants' Concerns

Participants sought to understand the statutory timeframe for the proposal and when the facility would be operational.

Participants expressed concern that the project timeframe was compressed and ambitious, yet they showed support for the advancement of the project.

The comments and questions relating to the project timeframe included the following:

- *What is your schedule/ timeframe for this project?*
- *Could you provide clarification on the timeframe for your development, including the statutory assessment timeframe and how this will be met?*
- *In the presentation you mentioned that the Laverton Milk Processing Facility is a mirror facility. Is the timeframe a mirror too?*
- *I think the proposal is fantastic. I am only concerned for the limited timeframe that needs to be met for operation.*

Proponent Response

It was explained that the Proponent requires the facility to be operational by 14 July 2014 and acknowledged that this is a tight timeframe. To minimise any further time delay, the Proponent has been working to address all EIS documentation requirements comprehensively to ensure a smooth assessment of the State Significant Application. In addition to undertaking detailed assessments, the Proponent has been liaising consistently with the relevant State Government Agencies that have an approval or concurrence role and Penrith City Council.

The Proponent reinforced their commitment to consultation both community, stakeholder and Agency consultation. A consultative approach is intrinsic to how MGC operates as a Co-operative.

To assist the timeframe it was explained that the development has been advanced in two stages. The first being the Early Works Development Application for bulk earth works and foundations which was approved by Penrith City Council on 26 July 2013, for which work has commenced on site. The second stage being the State Significant Development application being for the balance of the facility.

4.8.5 Community Consultation and Further Project Information

Participants' Concerns

Participants sought to understand whether additional community consultation will be undertaken for the Proposal following the assessment and exhibition of the State Significant Development Application, and whether the Power point presentation would be made available to participants.

The questions relating to community consultation and further project information included the following:

- *Will this PowerPoint presentation slides be provided on the project website?*
- *Will you provide further consultation to this event following the DP&I exhibition of the proposal?*

Proponent Response

The Proponent explained that it is the statutory role of the NSW DP&I to oversee the exhibition and assessment of the Proposal. Urban Concepts will supplement this statutory process by providing media display advertising, a follow-up newsletter on the project and website updates to advise the community of the public exhibition of the EIS. The event presentation is available for download on the project website.

4.8.6 Odour Impact on Residential Amenity

Participants' Concerns

Residents living in proximity to the Proposal site were interested in knowing whether southerly winds would carry odour from the site to their residences.

The question relating to odour impact on residential amenity:

- *The project team mentioned that there will be minor odour impacts from the site. What happens if wind comes from south of the site? We are interested in this issue as I live close by, behind the power station, which is about 1km away.*

Proponent Response

The Proponent explained that rigorous modeling of odour has been undertaken as part of the EIS by Todoroski Air Sciences. The result of this odour assessment indicates that there is minimal potential for odour arising from the operation of the facility. If odour was to occur it would be as a result of an accident and associated milk spillage. The design of the Proposal significantly reduces the potential for this to occur as it adopts a Closed Loop System. Stringent management control systems will also assist in mitigating the potential for odour.

4.9. Conclusion

In addressing the consultation requirements for the Proposal, the Proponent has adopted a staged approach. The first stage of consultation involved extensive liaison with State and Local Government Agencies that play an approval or concurrence role in the State Significant Development approval process. The results of this consultation were documented in the PEA.

The second stage of consultation has occurred in accordance with the Communication Plan that was issued to the DOPI in July 2013. The consultation for Stage 2 has broadened its focus to include local residents and a wider range of stakeholders such as the Penrith Valley Business Community, elected representatives, adjoining land owners and special interest groups.

It is noted that consultation with State Government Agencies and Penrith City Council has been ongoing through Stage 2 and has been undertaken by the relevant technical specialists and is detailed in the specific technical reports that form part of the EIS documentation in Volumes 3 and 4.

This Chapter has presented the outcomes arising from the Stage 2 community and interested stakeholder consultation. The issues that have been identified from this process have focused on:

- Heavy vehicle traffic generation and cumulative impact on the local road network;
- Traffic noise;
- Potential for odour;
- Construction impact on adjoining land owners;
- Local employment and supply opportunities for the Penrith Valley Business Community;
- Ongoing community consultation, and
- The timeframe of the project.

The concerns raised have not required any design amendment to be made to the proposal. The findings of the specialist technical reports have addressed each of the specific issues as part of their rigorous evaluation of any environmental impacts. While community perceptions relating to traffic generation and noise may still prevail, the EIS findings support that the Proposal will generate a negligible impact in these areas as detailed in Chapter 6 of the EIS.

5 Environmental Risk Analysis

This section describes the methodology for assessing the key environmental risks related to the Proposal and the outcomes of the risk analysis. The environmental risk analysis informs the scope of the EIS by ensuring all potential environmental impacts are identified and assessment is focused on the key risk areas.

It responds to the following DGR: 'the EIS must include a risk assessment of the potential environmental impacts of the development, identifying the key issues for further assessment'.

5.1 Objective

An environmental risk analysis was undertaken to identify the potential environmental impacts of the Proposal and to assign a risk rating to each potential impact. The environmental risk analysis was further reviewed and revised following several consultation sessions with key stakeholders, evaluation of the DGRs and receipt of specialist reports and other relevant documentation.

The main objectives of the environmental risk analysis are to:

- Determine the key environmental impacts of the Proposal and assist stakeholders to focus on the issues for assessment;
- Identify any additional key issues not specified in the DGRs that would require investigation;
- Verification of the key environmental risks, and
- Encourage a level of investigation that is commensurate with the risk of the potential environmental impacts which may result from the Proposal.

5.2 Methodology

The environmental risk analysis was conducted in accordance with the principles of the Australian and New Zealand standard AS NZS ISO 31000:2009 Risk Management – Principles and Guidelines.

The general methodology of risk analysis comprises of 7 steps:

1. Identifying the level of consequence for each potential impact;
2. Identifying the likelihood of each impact occurring;
3. Determining the risk of each impact based on the consequence level and likelihood;
4. As per consultation and recommendations from specialists, identify the mitigation and management measures for each impact;
5. Assessing the anticipated effectiveness of the mitigation and management measures and identifying the level of consequence of each impact following implementation of these measures;
6. Identifying the likelihood of each impact occurring following implementation of these controls, and
7. Determining the probable residual risk of each impact.

Definitions for the level of consequence and likelihood are outlined in Table 5.2a and Table 5.2b respectively.

TABLE 5.2A RISK ANALYSIS CONSEQUENCE DEFINITIONS

Consequence level	Definition
Catastrophic	Long term (greater than 3 months) and irreversible impacts. Resulting in a major prosecution under relevant environmental legislation.
Major	Medium term (between 1 and 3 months) and potentially irreversible impacts. Resulting in a fine or equivalent penalty under relevant legislation.
Moderate	Moderate and reversible impacts, or medium term (between 1 and 3 months).
Minor	Minor and reversible impacts, or short term impacts (less than 1 month).
Insignificant	Minor, negligible impacts.

TABLE 5.2B RISK ANALYSIS LIKELIHOOD DEFINITIONS

Likelihood	Definition	Probability
Almost certain	The event is almost certain to occur in the course of normal or abnormal construction or operational circumstances.	>90%
Likely	The event is more likely than not to occur in the course of normal or operational circumstances.	51% to 90%
Possible	The event may occur in the course of normal construction or operational circumstances.	26% to 50%
Unlikely	The event is unlikely to occur in the course of normal construction or operational circumstances.	5% to 25%
Very unlikely	The event may occur in exceptional construction or operational circumstances only.	<5%

For step 3 and 7, the calculation of the risk or residual risk is based on the identified consequence and likelihood of each impact, via a risk matrix (refer to Table 5.2c).

TABLE 5.2C RISK MATRIX

Consequence	Likelihood				
	Very unlikely	Unlikely	Possible	Likely	Almost certain
Catastrophic	15	19	22	24	25
Major	10	14	18	21	23
Moderate	6	9	13	17	20
Minor	3	5	8	12	16
Insignificant	1	2	4	7	11

Each potential environmental impact was systematically reviewed by the EIS authors with reference to the current scope of the Proposal, the findings and recommendations (for management and mitigation measures) from the specialist reports and other documentation, as well as outcomes from previous stakeholder engagement.

5.3 Environmental risk analysis outcomes

Discussion of the existing environmental features and potential environmental impacts related to the Proposal was undertaken by the EIS authors as part of the first environmental risk analysis workshop. This discussion resulted in targeting specific environmental issues determined to be most relevant to the Proposal, based on the information gathered for the Preliminary Environmental Assessment (PEA). These issues were assessed in the environmental risk analysis and, using the methodology described above (based on the Australian and New Zealand standard AS NZS ISO 31000:2009 Risk Management – Principles and Guidelines) a risk level was allocated to the potential impacts identified for each issue.

The issues that were addressed in the environmental risk analysis were:

- Air quality, odour and greenhouse gases;
- Bushfire;
- Ecology;
- Ground conditions;
- Hazards;
- Noise;
- Surface water;
- Visual;
- Waste management;
- Traffic and transport;
- Socioeconomic;
- Aboriginal heritage, and
- Non-Aboriginal heritage.

Conclusion

The environmental risks analysis identified 4 additional key environmental issues other than those identified in the DGRs. These issues were:

- Bushfire;
- Socioeconomic;
- Aboriginal heritage, and
- Non-Aboriginal heritage.

The complete risk analysis is in provided in Appendix 4.

Overall, the environmental risks presented by the Proposal are not significant. A number of features of the Proposal contribute to this outcome, including:

- Its location in the heart of an industrial area, surrounded by other industrial land uses, and the distance to the nearest residential areas and other sensitive receptors;
- Its proximity to an established road network including the recently constructed Erskine Park Link Road, providing convenient access to the facility and to the Chilled Distribution Centre at Eastern Creek;

- The 24 hour operation of the facility which distributes traffic movements throughout the day and reduces peak hour impacts on the local road network, and
- The recent remediation of the site, which is overlain by fill material of up to 8.5 metres depth, and is devoid of any native vegetation.

Where the analysis identifies potential environmental impacts, it concludes that these can be adequately managed through the incorporation of mitigation measures into the design of the Proposal and the implementation of management measures during its operation.

6 Environmental Impact Assessment

6.1 Existing environment

This section provides a description of the Proposal site and the surrounding environment including key environmental features and constraints.

6.1.1 Proposal site

The approximate boundaries of the site are as follows:

- Quarry Road: 22.97m;
- Southern boundary (irregular): 445.32m;
- Eastern boundary: 115.35m;
- Northern boundary (irregular): 214.68m, and
- Western boundary (irregular): 235.12m.

The site is devoid of any trees and shrubs. Dominant vegetation is a mixture of exotic and native grass and weeds scattered throughout the site (refer to Figure 6.1.1a). It is noted that environmental weeds such as Castor Oil Plant (*Ricinus communis*) occur on the site particularly at the boundaries adjoining the Enviroguard Transpacific quarry and landfill operation and the Biodiversity Corridor (refer to Figure 6.1.1b).



FIGURE 6.1.1A PROPOSAL SITE CONTAINS MOSTLY GRASS AND WEEDS



FIGURE 6.1.1B CASTOR OIL PLANT (RICINUS COMMUNIS) OCCUR ON THE PROPOSAL SITE

The site is within a recently established industrial estate on a landscape that has been heavily modified by past extractive industry, land filling and earthworks. The site is relatively flat, with the western part grading gently to the west and southwest, and the eastern part grading gently to the southeast.

A large keystone retaining wall (approximately 5.5m to 6.5m high) occurs along the site's northern boundary, with a road and large fill stockpile occurring above this to the north (refer to Figure 6.1.1c). Another large stockpile occurs to the east of site, the toe of which abuts the eastern site boundary. The southern boundary comprises a small keystone block retaining wall (approximately 1.2m to 1.5m high) and supports a fill embankment several metres high within the site (refer to Figure 6.1.1d). The western boundary is relatively level and adjoins a neighbouring industrial development.



FIGURE 6.1.1C WESTERN BOUNDARY AND RETAINING WALL AT NORTHERN BOUNDARY



FIGURE 6.1.1D RETAINING WALL AT SOUTHERN BOUNDARY

6.1.2 Existing land uses

Figure 6.1.2a illustrates the Proposal site in context of the surrounding land uses. The site is surrounded by predominantly industrial land uses, and scattered remnant bushland comprising the Biodiversity Corridor, which is zoned Environmental Conservation under SEPP WSEA 2009. The nearest residential areas are located beyond the Erskine Park Employment Area, at Erskine Park and St Clair, and at Orchard Hills and Kemps Creek. The nearest special uses are the Trinity Catholic Primary School and the Catholic Health Care Services at Kemps Creek.

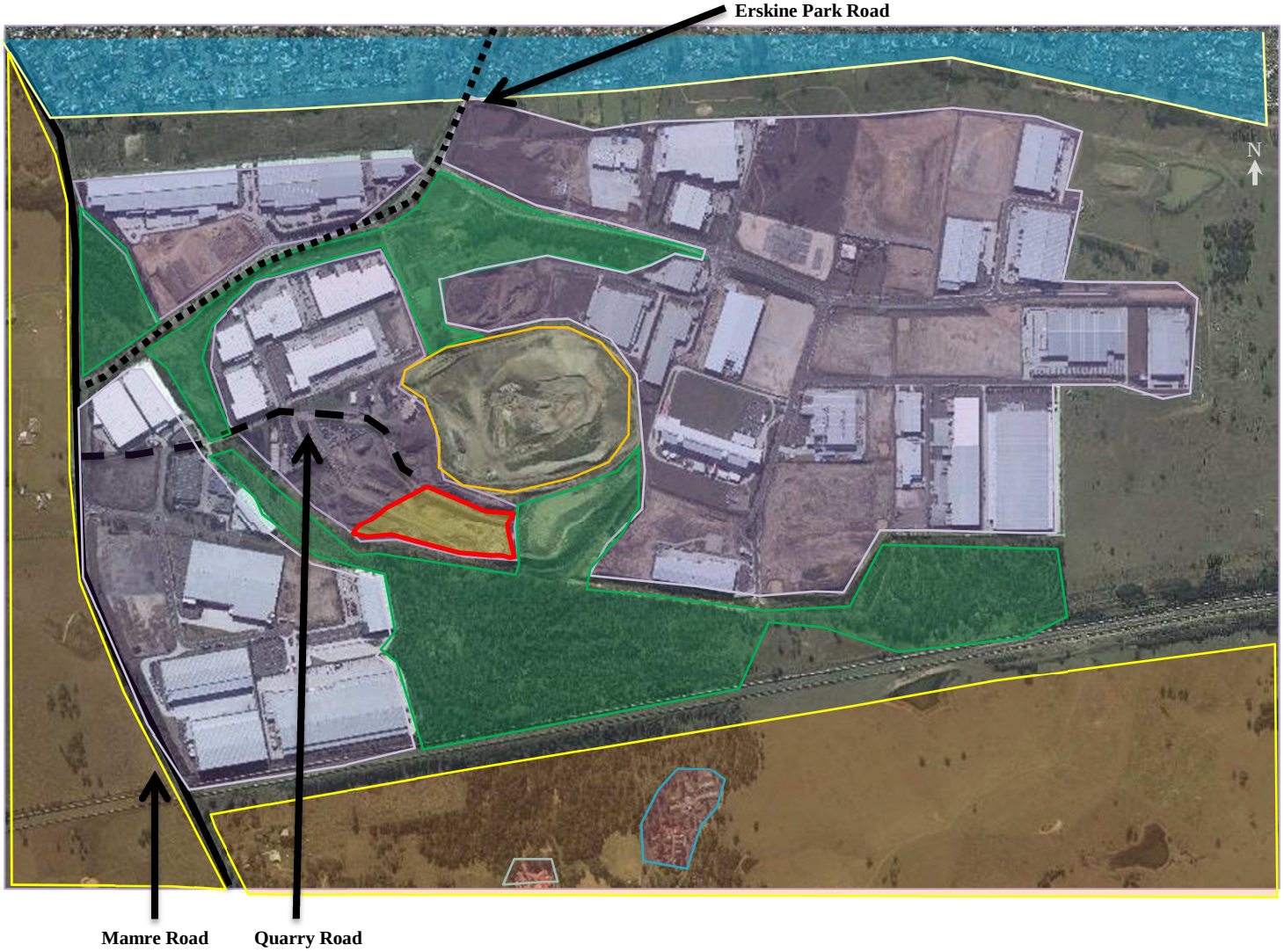
The nearby surrounding land uses are:

- A waste management facility and quarry operation managed by Enviroguard Transpacific (refer to Figure 6.1.2b). The quarry is owned by the CSR Property Group;
- Quarry Road cul-de-sac;
- An office/warehouse and manufacturing facility operated by Dincel Construction Systems (refer to Figure 6.1.2c). This lot formed part of the subdivision of Lot 102 into 4 allotments. Dincel Construction Systems produces polymer formwork for walls and columns, which is filled with concrete and used as a durable construction material, and
- Natural areas (remnant bushland, riparian vegetation and creeks/tributaries) comprising the Biodiversity Corridor and incorporates a creek (unnamed but part of the South Creek catchment), managed by Greening Australia (refer to Figure 6.1.2d).

It is noted that the land currently operated by Enviroguard Transpacific is also zoned Environmental Conservation under SEPP WSEA 2009. This site will be remediated for this purpose following cessation of operations in 2021.

Other existing development in the vicinity includes warehouse and distribution facilities for CSR, Coil Steels, Blue Scope Steel and Corporate Express.

FIGURE 6.1.2A LOCAL CONTEXT MAP



Proposal site

St Clare
Zoned: **R2** (Low Density Residential),
RE1 (Public Recreation) (Penrith LEP 2010).

State Environmental Planning Policy
(Western Sydney Employment Area) 2009
Zoned: **IN1** (General Industrial)
Erskine Park Employment Area
(Penrith DCP 2006 and 2010)

State Environmental Planning Policy
(Western Sydney Employment Area) 2009
Zoned: **E2** (Environmental Conservation)
Biodiversity areas and proposed biodiversity corridors
(Penrith DCP 2006 and 2010)

Erskine Park/Orchard Hills Rural
and Rural Residential Land

Mamre Road

Erskine Park Road

Quarry Road

General Solid (Non-Putrescible)
Waste Management Facility

Trinity Catholic Primary School, Emmaus Catholic College

Catholic Health Care Services

1:9,028
0 100 200m
Scale

Source: SIX Maps, NSW Department of Finance and Services, Land and Property Information (19/06/2013)



FIGURE 6.1.2B ENVIROGUARD TRANSPACIFIC WASTE MANAGEMENT FACILITY



FIGURE 6.1.2C DINCEL CONSTRUCTION SYSTEMS MANUFACTURING PROPERTY



FIGURE 6.1.2D BIODIVERSITY CORRIDOR

The Erskine Park Employment Area is broadly bound by Erskine Park Road to the north, Lenore Drive to the east, Bakers Lane to the south and Mamre Road to the west.

The Erskine Park Employment Area comprises a range of large scale industrial complexes. The Proposal site is centrally contained within the industrial park and is not highly visible from residential areas as a result of the sloping topography of the land, vegetative screening and the location of existing warehouses which screen the site from the surrounding roads.

The existing Erskine Park Employment Area is divided into two precincts, being the Northern Area and Southern Area, with the Proposal site being located within the Southern Area of the Erskine Park Employment Area (refer to Figure 6.1.2e).



FIGURE 6.1.2E NORTHERN AND SOUTHERN AREAS OF ERSKINE PARK EMPLOYMENT AREA

6.1.3 Historical land use

A desktop review and Access to Information search was undertaken for the site using Penrith City Council information resources. The property search provided an overview of past land uses and subdivisions of the site by its previous owner CSG, with the most recent subdivision approval occurring in 2012. It is noted that the 2012 approval involved the subdivision of Lot 1021 and the subject Lot 1022 to create 4 individual lots. With the sale of Lot 1022 this approval will no longer proceed and CSR will modify this consent accordingly. It is noted that DA 08/0917 was the application that created Lot 1022 which is the subject of this application.

The development history for the site is as follows:

- DA970261 - Temporary Facilities for Concrete Products Manufacture;
- DA980128 - Increase in Production of Concrete Plant;
- DA950018 - Stone Storage Depot;
- DA05/2137 - Advertising Sign;
- DA04/1051 - Increase in Batch Plant Production;
- DA994260 - Claypipe Depot and Current Sales;
- DA08/0884 - Subdivision of Proposed lot 2 into 2 Torrens Title Lots;
- DA08/0917 - Torrens Title Subdivision of proposed Lot 102 - 4 Lots;
- DA09/0159 - Torrens Title Subdivision x 2 Lots;
- DA11/0636 - Industrial Building - Use of Polymer Formwork Manufacturing;
- DA08/0917.02 - Torrens Title Subdivision of proposed Lot 102 - 4 Lots, and

- DA12/0096 - Staged Torrens Title Subdivision x 4 Lots approved 5th December 2012.

6.1.4 Local road network

Mamre Road is a Classified Main Road (MR 536) and provides single lane flow in each direction to the south of Erskine Park Road. The intersection of Erskine Park Road with Mamre Road is under traffic signal control, with turn bays provided and with two lanes in each direction north of this intersection.

Mamre Road provides an interchange with the M4 Motorway about 4 kilometres to the north of the site, which incorporates off-ramps from the M4 Motorway in both directions. Erskine Park Road is also a classified main Road (MR629) which connects to the M4 Motorway to the east of Mamre Road, about 4.4 kilometres north-east of the site. This also provides an interchange with the M4 Motorway, incorporating an eastbound on-ramp and a westbound off-ramp.

Erskine Park Link Road, recently opened to traffic, provides an east-west connection between Erskine Park Road and the M7 Motorway at Eastern Creek.

Access to the site is via Quarry Road, which is located off James Erskine Drive. The site is accessed at the end of Quarry Road where it forms a cul-de-sac. At this point there is approximately 23m of frontage which is sufficient for dual roadways for heavy vehicles.

6.1.5 Easements

It is noted that a number of interests, easements and conditions also apply to the site, as listed within the Certificate of Title issued in May 2013. CSR, the former owners of the site, as a condition of sale have removed these encumbrances from the title as they related to the prior and historic use of the site and are no longer required.

Two notable easements on the site reduce the site's developable area and include:

- An area measuring 3,668 m² located along the site's northern retaining wall. This land is currently being utilised by Enviroguard for vehicle circulation purposes and a right of carriageway applies to their land, and
- The long earth batter, measuring 2,668m², which separates the Proposal site from the adjoining biodiversity corridor.

6.1.6 Biodiversity Corridor

The Biodiversity Corridor is a key environmental constraint for the Proposal as it is the only significant natural area located at close vicinity to the Proposal (refer to Figure 6.1.6a). The section of the Biodiversity Corridor located directly adjacent to site comprises remnant bushland, riparian vegetation and a creek. It is noted that the area contains River-flat Eucalypt Forest and Cumberland Plain Woodland, both of which are Endangered Ecological Communities (EECs) under the *Threatened Species Conservation Act 1995*. An ecological assessment has been undertaken to assess the potential impacts of the Proposal on the Biodiversity Corridor (refer to section 6.4).

The Biodiversity Corridor is owned by the DP&I and is managed by Greening Australia. The objectives of the corridor, as detailed within section 8.1.1 of the PDCP 2006 are as follows:

(a) To promote the conservation of urban bushland;
(b) To protect and preserve native vegetation and biological diversity in accordance with the principles of ecologically sustainable development;
(c) To retain native vegetation in parcels of a size and configuration which will enable the existing plant and animal communities to survive in the long term;
(d) Protect and enhance habitat for threatened species and endangered ecological communities;
(e) To provide a biodiversity corridor linking system linking remnant native vegetation across the site with the riparian biodiversity system within South Creek, the remnant native vegetation in Erskine Business Park and the Ropes Creek Riparian Biodiversity system, and

(f) To provide funding and management arrangements to enable the establishment of a biodiversity corridor and its ongoing maintenance.



FIGURE 6.1.6A BIODIVERSITY CORRIDOR WITHIN THE ERSKINE PARK EMPLOYMENT AREA

The site is within the South Creek catchment. The catchment is a shale-based catchment with no gorges or sandstone dominated landscapes. The closest watercourse to the Proposal is a small, unnamed second-order watercourse to the south of the site, within the Biodiversity Corridor. This watercourse drains to the northwest through the developing industrial estate, prior to entering South Creek. A detailed description of this creek and the adjacent riparian environment is provided in section 6.10.

6.2 Air quality, odour, greenhouse gas

An Air Quality, Odour and Greenhouse Gas Assessment has been undertaken. It is summarised in this section and provided in full in **Technical Paper TP1: Air Quality**. The assessment identifies the types of pollutants likely to be generated by the Proposal and potential impacts on sensitive receptors such as residential areas.

As the Proposal is situated in the middle of an industrial area and is a considerable distance from residential areas, the impact on air quality is significantly reduced. As a result the assessment concludes that emissions of air pollutants are within criteria established by the Environmental Protection Agency (EPA). The design and operation of the Milk Processing plant has minimised the potential to impact on air quality, odour and greenhouse gasses.

Table 6.2a outlines the DGRs relevant to Air Quality, Odour and Greenhouse Gas and where they have been addressed.

TABLE 6.2A DGRS FOR AIR QUALITY, ODOUR AND GREENHOUSE GAS

Director-General's Requirements	Location addressed
Air Quality and Odour – including: • *A quantitative assessment of the potential air quality impacts (particularly odour and dust) of the development on surrounding receivers, including impacts from construction, operation and transport, and* • *Details of the proposed mitigation, management and monitoring measures.*	section 6.2
Greenhouse Gas – including: • *A quantitative assessment of the potential scope 1 and 2 greenhouse gas emissions of the development, and a qualitative assessment of the potential impacts of these emissions on the environment, and* • *A detailed description of the measures that would be implemented on-site to ensure that development is energy efficient.*	section 6.2

6.2.1 Legislative and policy framework

Protection of the Environment Operations Act 1997

The air quality provisions of the POEO Act which are relevant to the Proposal relate to:

- The operation and maintenance of plant and equipment during construction to minimise potential for air pollution;
- The management of materials during construction and operation to minimises potential for air pollution;
- The operation of the facility so as not to exceed standards set for air quality emissions, and
- The operation of the facility so as not to exceed standards set for odour emissions.

Protection of the Environment Operations (Clean Air) Regulation 2010

Schedule 4 of the *Protection of the Environment Operations (Clean Air) Regulation 2010* (POEO CA Regulation) provides the standards of concentration for a range of air pollutants for scheduled premises relating to general activities and use of plant. Under the POEO Act, the Proposal is classified as a scheduled activity as the facility would process more than 30 megalitres of dairy produce annually. Therefore, Schedule 4 applies to the Proposal and an assessment of the air quality impacts would be in accordance with the specific standards of concentration set out in Schedule 4.

Technical framework: assessment and management of odour from stationary sources in NSW (DEC, 2006)

The approach to odour assessment is set in the Technical Framework and has provided the basis for the odour assessment for the Proposal.

Erskine Park Development Control Plan 2006 (EPDCP)

Section 6.4 of the EPDCP contains a number of requirements relating to air quality specifically for the Erskine Business Park, which has the effect of linking the Erskine Park Development Control Plan (EPDCP) DCP to the standards allowed by the POEO Act.

The Air Quality, Odour and Greenhouse Gas Assessment has considered the above requirements to ensure that the relevant impacts for the Proposal are identified and assessed and that the proposed mitigation measures ensure the above requirements are met.

6.2.2 Sources of air quality emissions

The source of potential air quality impacts related to the Proposal would be:

- Combustion: emissions of air pollutants would arise from the operation of the boiler equipment which generates the energy required for the Proposal. The emissions that would be relevant include Nitrogen Dioxide (NO_2), particulate matter and carbon monoxide (CO). In relation to Particulate Matter, the main pollutant of interest is PM_{10}, i.e. particulates with a diameter of less than ten micrometres. Other combustion air pollutants are too low to be of any tangible risk to the environment, and are not considered further. Emissions associated with traffic generated from the Proposal are not assessed further as the additional traffic generated would have a negligible impact on the local road network and would not lead to measurable changes in air quality.

- Odour: the Proposal includes a wastewater system to treat wastewater from the production process before discharge to sewer. The wastewater has the potential to generate odour emissions primarily in the form of Hydrogen Sulphide (H_2S).

- Construction Dust: during construction, there would be potential for dust to be generated temporarily. The impact due to such construction activities is difficult to accurately quantify due to the intermittent and often brief time frame over which the individual construction activities occur. Generally, however such effects are minor and would be localised to the construction site and immediate surrounding area.

The emissions criteria which apply to each air pollutant are described in Technical Paper 1.

6.2.3 Existing Environment

Sensitive Receptors

The locations of the nearest identified sensitive receptors (locations which are sensitive to changes in noise level, particularly areas where people are located such as residential or community areas) are shown in Figure 6.2.3a. The location of the Proposal within an industrial area and the distance to nearest sensitive receptors reduces the potential for air quality related impacts at these locations.



FIGURE 6.2.3A NEAREST SENSITIVE RECEPTORS

Existing Air Quality

Background air quality conditions for the Proposal site were established using air quality monitoring data from the NSW EPA St Marys monitoring site (St Marys monitoring site). Detailed information regarding the air quality monitoring program can be found in Technical Paper 1. Based on this data, existing pollutant levels for the Proposal site are estimated to be within EPA criteria, as described in the following sections.

Nitrogen dioxide

Data from the St Marys monitoring site indicate that there were no exceeded levels of the NSW EPA 1-hour average goal of 246µg/m^3 for nitrogen dioxide (NO_2) from January 2008 to July 2013 (the period for which data is available). The levels of NO_2 are relatively low compared to the EPA criterion level.

Particulate matter

Data for particulate matter indicate a number of occasions when EPA criteria (based on the maximum 24 hour average criteria) were exceeded. However, the majority of these occasions are associated with regional dust storms. Using the annual average criteria, the data indicates particulate matter levels within EPA levels.

Carbon Monoxide

It is noted that the St Marys monitoring site does not record background concentrations of CO. Ambient air quality goals for CO are generally set at higher concentration levels than NO_2 goals. Given that the recorded NO_2 levels are lower than the NO_2 goals, and in consideration of the typical mix of ambient pollutant levels, it was predicted that the ambient levels of CO would also be below the CO goals.

6.2.4 Assessment – Air Quality

The results of the air quality assessment at each sensitive receiver for NO_2, CO, PM_{10} and H_2S emissions are summarised in Tables 6.2.4a, 6.2.4b and 6.2.4c (note: the assessment is based on air dispersion modelling which is described in detail in Technical Paper 1). The tables compare predicated incremental air quality impacts at each sensitive receptor, as a result of the Proposal, with EPA criteria for the relevant air pollutant. In all cases, the predicted incremental impact is within EPA criteria.

TABLE 6.2.4A PREDICTED INCREMENTAL IMPACT AT SENSITIVE RECEPTORS (NO2 AND CO)

NO2			CO		
Averaging period					
Sensitive Receiver ID	1-hour average (µg/m³)	Annual average (µg/m³)	15-minute average (mg/m³)	1-hour average (mg/m³)	8-hour average (mg/m³)
EPA criteria	246	62	100	30	10
1	16.5	0.2	0.014	0.010	0.007
2	15.8	0.4	0.013	0.010	0.007
3	15.2	0.4	0.013	0.009	0.006
4	12.2	0.3	0.010	0.008	0.005
5	8.1	0.2	0.007	0.005	0.003
6	7.8	0.1	0.006	0.005	0.003
7	6.2	0.1	0.005	0.004	0.003
8	5.5	0.1	0.005	0.003	0.002
9	10.2	0.2	0.008	0.006	0.004
10	10.7	0.2	0.009	0.007	0.004
11	10.5	0.3	0.009	0.007	0.004
Max	16.5	0.36	0.014	0.010	0.007

TABLE 6.2.4B PREDICTED INCREMENTAL IMPACT AT SENSITIVE RECEPTORS (PM10)

Sensitive Receiver ID	PM_{10}	
	24 hour average ($\mu g/m^3$)	Annual average ($\mu g/m^3$)
	Air quality criteria	
	50	30
1	0.73	0.06
2	0.93	0.09
3	1.08	0.09
4	0.76	0.08
5	0.5	0.05
6	0.29	0.02
7	0.31	0.02
8	0.30	0.02

Sensitive Receiver ID	PM_{10}	
	24 hour average ($\mu g/m^3$)	Annual average ($\mu g/m^3$)
	Air quality criteria	
	50	30
9	0.45	0.05
10	0.49	0.06
11	0.55	0.07
MAX	1.08	0.09

TABLE 6.2.4C PREDICTED INCREMENTAL IMPACT AT SENSITIVE RECEPTORS (H2S)

Sensitive Receiver ID	H_2S concentration (µg/m3)	H_2S Criteria ($\mu g/m^3$)
1	0.34	1.38
2	0.40	1.38
3	0.29	1.38
4	0.36	1.38
5	0.25	1.38
6	0.17	1.38
7	0.13	1.38
8	0.10	1.38
9	0.20	1.38
10	0.20	1.38
11	0.17	1.38
MAX	0.40	1.38

In summary, the results indicated that the predicted maximum impacts from the Proposal would not exceed the NSW EPA criteria for NO_2, CO, PM_{10} or H_2S at each sensitive receptor.

As stated in section 6.2.2, construction dust impacts would be minor and localised, and would be regularly monitored and managed via mitigation measures and in accordance with the EPA Approved Methods (EPA 2005).

6.2.5 Assessment – Greenhouse Gas

The greenhouse gas assessment estimates the predicted emissions of greenhouse gases (GHG) emitted to the atmosphere as a result of the Proposal and provides a comparison of the direct emissions from the Proposal at the national level.

Greenhouse gas inventory

The National Greenhouse Accounts (NGA) Factors document published by the Department of Climate Change and Energy Efficiency (DCCEE) defines three scopes (Scope 1, 2 and 3) for different emission categories based on whether the emissions generated are from "direct" or "indirect" sources. Further details are provided in Technical Paper 1.

Emission Sources

GHG emission sources identified from the operation of the Proposal are the on-site combustion of natural gas, consumption of electricity and the combustion of diesel fuel via the transport of milk to and from the site.

A number of aspects of the operations of the facility are designed to reduce energy consumption including:

- the pasteuriser is designed with high energy efficiency, to recover a significant amount of the heat used for pasteurising to heat the incoming milk;
- the Clean in Place process: energy in the heated cleaning fluid is recovered and not lost down the drain;
- Lighting related energy use would be minimised by using energy efficient lighting (a combination of LED, induction, metal halide and T5 fluorescent fittings would be used as appropriate), and
- Lighting is controlled by motion sensors and daylight sensors where possible and as the majority of the floor plan area is fully mechanised and computer controlled – including mechanised loading and storage – these areas are currently being considered for operation without lighting on under normal operations.

The transport of milk to and from the Proposal would be by road transport and requires diesel fuel. Milk would be sourced from dairy farms from various locations within NSW which are generally likely to be close to the Proposal.

The estimated quantities of materials which have the potential to emit GHG associated with the Proposal have been summarised in Table 6.2.5a.

TABLE 6.2.5A SUMMARY OF ANNUAL QUANTITIES OF MATERIALS USED

Period	Natural Gas	Electricity	Diesel
Annual	41,560 GJ	24,000 MW	4,755 kL

Emission factors

To quantify the amount of carbon dioxide equivalent (CO2-e) material generated from the Proposal, emission factors obtained from the NGA Factors (DCCEE, 2012) are required and summarised in Table 6.2.6b.

TABLE 6.2.5B SUMMARY OF EMISSION FACTORS

Material	Scope	Energy Content Factor	Emission Factor (kg C02-e/GJ)		
			CO_2	Ch_4	N_20
Natural gas	1	0.0393 GJ/m^3	51.2	0.1	0.03
	3		14.2	-	-
Electricity	2	-	0.88	-	-
	3		0.18	-	-
Diesel	1	38.6 GJ/kL	69.2	0.2	0.5
	3		5.3	-	-

Summary of Emissions

Table 6.2.5c summarises the estimated annual CO2-e emissions from the proposed operation of the Proposal.

TABLE 6.2.5C SUMMARY OF CO2-E EMISSION (T CO2-E)

Period	Natural gas		Electricity		Diesel	
	Scope 1	Scope 3	Scope 2	Scope 3	Scope 1	Scope 3
Annual	2,133	590	21,120	4,320	12,829	973

Contribution of greenhouse gas emissions

Table 6.2.5d summarises the emissions associated with the proposed modification based on Scopes 1, 2 and 3.

TABLE 6.2.6D SUMMARY OF CO2-E EMISSION PER SCOPE (T CO2-E)

Period	Scope 1	Scope 2	Scope 3
Annual	14,926	21,120	5,883

For the year to September 2012, the annual estimated greenhouse gas emissions for Australia were 546.1Mt CO2-e (DCCEE, 2013). In comparison, the estimated annual greenhouse emissions for the Proposal would be 0.015Mt CO2-e. Therefore the annual contribution of greenhouse emissions from the Proposal in comparison to the Australian greenhouse emissions in 2012 would be approximately 0.003%.

6.2.6 Mitigation Measures

Construction

During construction of the Proposal, there is potential for dust to be generated temporarily. The assessment identified potential, limited impact on one adjacent industrial neighbour to the north west of the site. Construction dust impacts would be managed through implementation of the following mitigation measures:

- Maintaining active road surfaces and application of water as a suppressant;
- Damping exposed areas where there is any visible dust lift off;
- Limit vehicle speeds;
- Limit vehicle movement on site to defined roads;
- Minimising mud tracking on public roads;
- Observing good practice in handling of spoil and other potential dust-generating materials, and
- Establishing suitable groundcover at completed sections of the site as soon as practicable.

Operational

The following mitigation measures would be implemented to ensure that the Proposal minimises potential air quality and odour impacts during operations:

- The boiler design and operations management would comply with all the relevant emissions limits and requirements under the POEO Act and POEO CA Regulation;
- The boiler would utilise a low NO_X emitting design incorporating a waste heat economiser to maximise energy efficiency and minimise gas consumption;
- The Wastewater System would be a fully contained system with hard piping for transferring wastewater and no surface discharge points;
- The Wastewater System would be maintained as per the manufacturer's requirements and performance preventative maintenance to reduce potential for odours;
- The Wastewater System would adequately process the maximum volume of process wastewater under normal operations and avoid prolonged storage and biological decomposition;
- Regular maintenance of plant, machinery and trucks would be encouraged;
- Consideration of additional odour mitigation measures such as utilising odour neutralisers and odour treatment on the wastewater system vents or a combination of measures, if required, and
- 12 months after commencement of operations, or such at such other timescale to be agreed, odour monitoring for the facility would be undertaken with the results reported to the EPA.

The siting of the Proposal in the middle of an industrial area and the considerable distance to residential areas and other sensitive receptors significantly reduces the potential for air quality impacts. The air quality assessment concludes that air quality impacts would not be significant and would be within EPA criteria. Mitigation measures have been incorporated into the Proposal to manage potential air quality impacts during construction and operation which further reduces the potential for air quality impacts.

6.3 Bushfire

A Bushfire Protection Assessment has been undertaken and is summarised in this section. Although it is noted that the DGRs do not mention Bushfire as a key issue, a full and in-depth technical analysis has been provided in **Technical Paper TP2: Bushfire**. The Assessment considers the potential bushfire risk to the Proposal and concludes this threat to be low. This low level threat has been even further reduced through the incorporation of bushfire mitigation measures which have been considered for the design and operation of the facility as well as the external site areas.

6.3.1 Legislative and policy framework

Bushfire prone land

The Proposal is located on land mapped by Penrith City Council as being bushfire prone (refer to Figure 6.3.1a). The entire southern boundary of the site is situated on land categorised as "Vegetation Buffer 100 metres and 30 metres". This land category refers to the buffering distance of 30m from Vegetation Category 1, and 100m from Vegetation Category 2. The majority of the Biodiversity Corridor south of the Proposal is located on land categorised as "Bushfire Prone Land Vegetation Category 1". Therefore, the recommended buffer between the Proposal and the adjoining bushland is 30m.

Any land that falls on bush fire prone land triggers assessment of the development in accordance with the Rural Fire Services (RFS) Planning for Bushfire Protection (PBP) 2006, as required by section 79BA of the EP&A Act.



FIGURE 6.3.1A PROPOSAL LOCATION IN RELATION TO BUSHFIRE PRONE LAND (PENRITH CITY COUNCIL, 2009)

Erskine Park Development Control Plan 2006 (EPDCP)

The development controls outlined within the EPDCP that must be considered in relation to bushfire protection are the landscaping requirements within the site and these are addressed in section 6.12.

Building Code of Australia (BCA) and the Australian Standards AS3959

The BCA is given effect through the EP&A Act and forms part of the regulatory environment of construction standards and building controls. The BCA outlines objectives, functional statements, performance requirements and deemed to satisfy provisions, including in relation to development in bushfire prone land.

Planning for bush fire protection 2006 (PBP)

PBP outlines the bushfire protection measures required to be assessed for new development in bushfire prone areas. Further details on these legislative and policy documents are provided in Technical Paper 2.

6.3.2 Existing Environment

The Proposal site presents a relatively low bushfire risk given it is on relatively level ground that is currently devoid of any trees and shrubs. The bushland areas directly adjacent to the southern boundary of the site may increase the bushfire risk to the site. However, these bushland areas are within the Biodiversity Corridor as defined by the WSEA SEPP 2009 and are outside the control of the Proponent.

The northern and western boundary of the site consists of Quarry Road and an industrial precinct that is zoned IN1 (General Industrial). The land to the east and north east of the site is currently cleared and is used for the operations of a waste management facility and quarry. However, this land is also defined as part of the Biodiversity Corridor. It is anticipated that following the closure of the facility and quarry in 2021, the area would be remediated, revegetated and rehabilitated for this purpose. Therefore, the existing bushland to the south and the land to be rehabilitated in the future to the east and north east are the significant bushfire fuels for the Proposal and have been considered in the analysis of the bushfire hazard.

6.3.3 Assessment

The RFS requires that a development application must include a bushfire attack assessment to determine the possible impact or vulnerability of a structure from fire. PBP provides a methodology to determine the size of any Asset Protection Zone (APZ) that may be required to offset possible bushfire attack and further details of this methodology are provided in Technical Paper 2. The APZ represents a buffer between the source of the fire risk and the structure (asset) to be protected.

Table 6.3.3a provides a summary of the bushfire attack assessment and the APZs provided for the development.

Note: There are no predetermined minimum APZ requirements for industrial development under PBP. The distances provided in Column 5 (of Table 1) would provide appropriate defendable space for the industrial building. The defendable space is designed to allow fire fighters room and safety to fight fires.

TABLE 6.3.3A. SUMMARY OF THE BUSHFIRE ATTACK ASSESSMENT

Aspect	Vegetation within 140m of development	Effective slope of land	Recommended minimum APZ requires as per Appendix 2 of PBP (metres)	Defendable space provided (metres)
North west & west	Industrial development	Level to upslope	N/A	N/A
North east	Clear/future biodiversity corridor	Level	20	37-42
East	Cleared/future biodiversity corridor	Level	20	19-28
South	Forest	Level	20	19-32

Notes: * Slope is either 'U' meaning upslope or 'C' meaning cross slope or 'D' meaning downslope

The APZs provided for the industrial development consist of roadways, hardstand and car parking areas. Whilst the recommended minimum APZ (20m) complies with most aspects of the development, there are areas of the facility which are within 20m of existing and proposed future vegetation. This applies to the milk receiving area bay canopy and portions of the energy centre. These areas are exposed to potential flame zone attack and, as such, appropriate building construction standards would apply to these parts of the facility.

In accordance with the PBP, appropriate defendable space has been provided between hazardous vegetation and the industrial development to comply with the aims and objectives of the PBP.

6.3.4 Mitigation Measures

Table 6.3.4a provides a list of requirements from the PBP and how these have been addressed in the Proposal.

TABLE 6.3.4A. PBP REQUIREMENTS AND HOW THEY HAVE BEEN ADDRESSED IN THE PROPOSAL

Requirements under the PBP	Proposal's compliance with requirement
Ensure occupants of any building have been provided adequate defendable space and building construction standards have been recommended for the facility.	Adequate defendable space has been provided for the Proposal. Several fire related building construction standards have been incorporated into the design of facility.
Provide for a defendable space to be located around buildings.	Whilst the recommended minimum APZ (20m) complies with most aspects of the development, there are areas of the facility which are within 20m of existing and proposed future vegetation. This applies to the milk receival bay canopy and portions of the energy centre. These areas are exposed to potential flame zone attack and, as such, appropriate building construction standards would apply to the facility. In accordance with the PBP appropriate defendable space

Requirements under the PBP	Proposal's compliance with requirement
	has been provided between hazardous vegetation and the industrial development to comply with the aims and objectives of the PBP.
Provide appropriate separation between hazards and buildings which, in combination with other measures, prevents direct flame contact and material ignition.	Adequate defendable space has been provided for the Proposal. Several building construction standards have been incorporated into the design of the facility.
Ensure that safe operational access and egress for emergency service personnel and residents is available.	Adequate access has been provided in the form of a perimeter road, hardstand areas and car parking facilities.
Provide for ongoing management and maintenance of bushfire protection measures, including fuel loads in the APZ.	Fuel management would be undertaken by the land owners in accordance with Appendix 5 of the PBP and as outlined in *RFS Standards for Asset Protection Zones 2006*.
Water supplies are easily accessible and located at regular intervals.	Reticulated water supply would use a ring main system for areas with perimeter roads. Fire hydrant spacing, sizing and pressures would comply with AS2419.1 (2005). Hydrants would not be placed within any road carriageway. All above ground water and gas pipes external to the building are metal, including taps.
Ensure that utility services are adequate to meet the needs of fire fighters (and others who may assist in bushfire fighting).	A 65mm Storz outlet with a gate or ball valve would be provided as a suitable connection for fire fighting purposes within the APZs. Gate or ball valve and pipes would be metal. Underground tanks would have an access hole of 200mm to allow tankers to refill straight from the tank. Above ground tanks are concrete or metal and raised tanks have their stands protected. Tanks on the hazard side of the building would be provided with shielding to protect fire fighters. All above ground water pipes external to the water pipe would be metal including any taps. Pumps would be shielded.

In addition to the above, the following mitigation measures have been incorporated into the design of the Proposal to reduce bushfire risk and to ensure that the Proposal would meet the aims and objectives of the PBP:

- Fuel management within the APZs would be maintained by regular maintenance of the landscaped areas:
    - The Landscape Strategy has incorporated the recommendations of the bushfire protection assessment as follows:
        - The southern boundary should not have continuous vegetation in the form of trees and shrubs to prevent the spread of wildfire;
        - Planting of trees and shrubs should not occur within 10m of the facility, especially on the southern and northern aspects;
        - Planting should be minimal, using plants that are less flammable in preference to highly flammable species. Less flammable species include

those that have a high moisture content, high levels of salt, low volatile oil content of leaves, smooth barks without 'ribbons' hanging from branches or trunks, dense crown and elevated branches (RFS Standards for Asset Protection Zones 2006), and

- Where possible, pebbles, recycled crushed bricks or other non-flammable materials would be used instead of organic mulch.

- The milk receiving area bay canopy and northern portion of the energy centre (within 20m of the boundary) are to be constructed with non-combustible materials;
- Windows (including louvres) and doors are to be externally screened with metal mesh screens having a max aperture size of 3mm;
- All external doors to be fitted with weather strips where the doors do not close on a rebated edge, and
- Roller doors are to be boxed in or sealed in a manner that restricts ember penetration (e.g. screening).

The bushfire assessment indicates that the potential bushfire risk to the Proposal site is low. A number of features have been incorporated into the design and operation of the Proposal which further reduce the bushfire risk.

6.4 Ecology

An Ecological Assessment has been undertaken and a summary is provided in this section. A full and in-depth analysis is available in **Technical Paper TP3: Ecology**. The assessment notes that the Proposal site does not contain any native vegetation but borders a Biodiversity Corridor. There is a low level potential for ecological impact from both stormwater run-off from the site and minor drainage works, both of which would flow into the Biodiversity Corridor. These potential impacts have been the core focus of the ecology assessment. Given the limited habitat potential present and that no threatened species have been observed, the assessment concludes that impacts to threatened species, communities and populations are insignificant and therefore no further assessment would be required. Appropriate stormwater design and stormwater management measures have been incorporated into the Proposal which would further reduce potential impacts.

Table 6.4a outlines the DGRs relevant to Ecology and where they have been addressed.

TABLE 6.4A DGRS FOR ECOLOGY

Director-General's Requirements	Location addressed
Biodiversity *– including:* *Identification of species on site, and potential direct and indirect impacts on critical habitats, threatened species and populations, ecological communities, vegetation reserves and wetlands.*	section 6.4

6.4.1 Legislative and policy framework

Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth) ('EPBC Act')

One of the key objectives of the Ecological Assessment was to assess the Proposal's impact on listed threatened species and ecological communities under the EPBC Act. The assessment takes into consideration the Commonwealth's Significant Impact Guidelines (Matters of National Environmental Significance, Significant Impact Guidelines 1.1 (2009), Department of Environment, Water, Heritage and Arts). The Ecological Assessment has indicated the potential presence of:

- 2 Endangered Ecological Communities (EEC), however these 2 EEC are not on the Proposal site and are contained within the Biodiversity Corridor which is in close proximity to the site (it should be noted that the assessment concludes that the Proposal would not have significant impacts on the 2 EECs);
- 15 threatened flora;
- 20 threatened fauna, and
- 12 migratory species.

Threatened Species Conservation Act 1995 (NSW TSC Act)

The TSC Act requires any threatened plant or animal species, populations or ecological communities associated with a proposed development to be identified and acceptable recovery and management strategies to be implemented when a significant impact would be likely to occur.

The Ecological Assessment has confirmed the potential presence of 2 EEC, 17 threatened flora and 42 threatened fauna species at the site or within its vicinity.

Erskine Park Development Control Plan 2006 (EPDCP)

Section 7 of the EPDCP contains a number of requirements relating to biodiversity specifically for the Erskine Park Employment Area. These requirements are as follows:

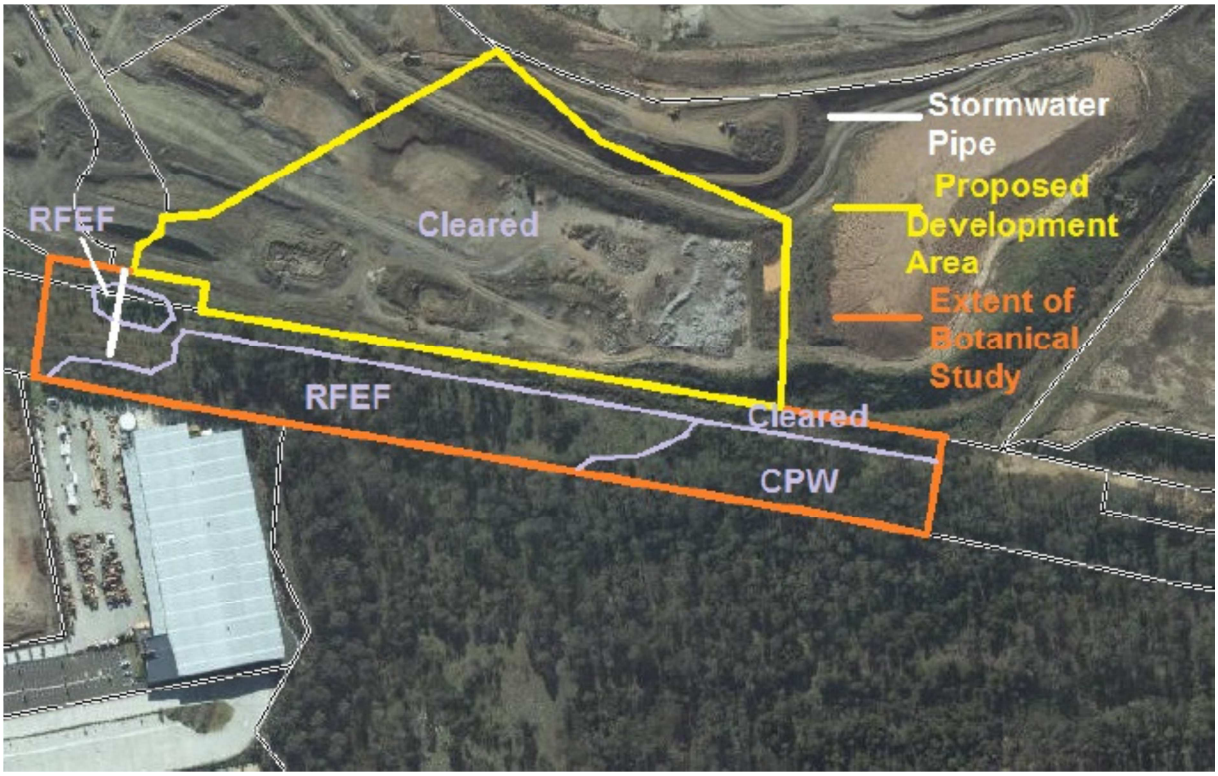
- Where a development is located within, or may otherwise affect an area of native vegetation, the following information will be required to accompany a development application:
    - vegetation survey of the land undertaken by a qualified person;
    - fauna survey of the site undertaken by a qualified person, and
    - an "eight-part test" (now seven-part test) as identified in section 5A of the EP&A Act. Council will determine whether a Species Impact Statement is required if the development is likely to significantly affect a threatened species.
- A Plan of Management for the land containing the native vegetation outlining how it is proposed to be conserved and managed in the future, and
- Council may specify additional requirements or guidelines for undertaking adequate fauna or vegetation surveys.

The Ecological Assessment was undertaken to satisfy the above requirements of the EPDCP.

6.4.2 Existing Environment

The Proposal site does not contain any native vegetation. Whilst disturbance may promote the growth of native species such as *Grevillea juniperina* subsp. *juniperina*, no specimens were present at the time of survey. In the Biodiversity Corridor to the immediate south, there is a cleared batter approximately 10m wide which has been recently grassed and transcends into the remnant bushland. The remnant bushland is River-flat Eucalypt Forest (listed as an EEC by the TSC Act) at the western end, grading to Cumberland Plain Woodland (listed as an EEC by the TSC Act and critically endangered ecological community (CEEC) by the EPBC Act) at the eastern end.

Figure 6.4.2a illustrates the approximate locations of these communities in relation to the Proposal. More detailed descriptions of these communities is provided in Technical Paper 3.



Note: RFEF – River-flat Eucalypt Forest (EEC) and CPW – Cumberland Plain Woodland (EEC)

FIGURE 6.4.2A AREA OF FLORA SURVEY

6.4.3 Assessment

Flora

Based on the botanical survey and the desktop assessment for flora, it was determined that the Proposal site provides potential habitat for seven threatened flora species (refer to Table 6.4.3a).

TABLE 6.4.3A THREATENED FLORA SPECIES WITH SUITABLE HABITAT PRESENT

Species	TSC Act	EPBC Act
Acacia pubescens	**V**	**V**
Dillwynia tenuifolia	**V**	**-**
Grevillea juniperina subsp. Juniperina	**V**	**-**
Grevillea parviflora subsp. Parviflora	**V**	**V**
Hypsela sessiliflora	**E1**	**Extinct**
Pimelea spicata	**E1**	**E**
Pultenaea parviflora	**E1**	**V**

V = vulnerable listed species under the relevant Act
E1 or E = endangered listed species under the relevant Act

Grevillea juniperina subsp *juniperina* was targeted in particular as there are known records within 250m of the study area.

Despite the potential habitat, none of these species were observed during the flora survey.

In addition, there are two endangered populations within a 10km radius of the site, these include:

- *Marsdenia viridiflora* R. Br. subsp. *viridiflora* population in the Bankstown, Blacktown, Camden, Campbelltown, Fairfield, Holroyd, Liverpool and Penrith local government areas, and
- *Dillwynia tenuifolia*, Kemps Creek.

Fauna

Based on the fauna assessment, it was determined that the Proposal site provides potential habitat for 20 threatened fauna species (refer to Table 6.4.3b).

TABLE 6.4.3B THREATENED FAUNA SPECIES WITH SUITABLE HABITAT PRESENT

Species	TSC Act	EPBC Act
Green and Golden Bell Frog	**E**	**V**
Australasian Bittern	**E**	**E**
Little Lorikeet	**V**	**-**
Swift Parrot	**E**	**E**
Speckled Warbler	**V**	**-**
Black-chinned Honeyeater	**V**	**-**
Regent Honeyeater	**E4A**	**E**
Varied Sittella	**V**	**-**
Scarlet Robin	**V**	**-**
Flame Robin	**V**	**-**
Diamond Firetail	**V**	**-**
Koala	**V**	**V**
Grey-headed Flying-fox	**V**	**V**
East-coast Freetail Bat	**V**	**-**
Eastern Falsistrelle	**V**	**-**
Little Bentwing-bat	**V**	**-**
Eastern Bentwing-bat	**V**	**-**
Large-footed Myotis	**V**	**-**
Greater Broad-nosed Bat	**V**	**-**
Cumberland Plain Land Snail	**-**	**V**

V = vulnerable listed species under the relevant Act
E1 or E = endangered listed species under the relevant Act
E4A = critically endangered under the relevant Act

The Ecological Assessment has concluded that no significant impacts to threatened flora and fauna are expected as no threatened species have been observed.

Proposed stormwater works would extend into the Biodiversity Corridor and would involve the small removal or modification of vegetation and habitat. However, the works are of such minimal magnitude, it would not be likely to cause a location extinction of any EEC or threatened species.

7 Part Test of Significance

A 7 part test of significance was undertaken and is described in detail in Technical Paper 3. The aim of the 7 part test is to determining whether an action, development or activity is likely to significantly affect threatened species, populations or ecological communities, or their habitats either directly or indirectly.

The 7 part test identified potential short term barrier impacts upon the Cumberland Plain Land Snail as a result of the minor vegetation clearing associated with stormwater works. However, as these species are hermaphrodites and can potentially survive on a population of one, the impacts were not considered to be significant (further information is provided in Technical Paper 3). Prior to construction of the stormwater works, a project ecologist would undertake a search of the area and would relocate the found specimens into nearby bushland.

Given the limited habitat potential present, the 7 part test of significance has indicated that impacts to threatened species, communities and populations are insignificant. Therefore, a Species Impact Statement would not be required for the Proposal.

The proposed development was not considered to have a significant impact on threatened or migratory fauna species listed as matters of NES under the EPBC Act, taking into account the Commonwealth's Significant Impact Guidelines 1.1 (2009). As such, a referral to the Department of Sustainability, Environment, Water, Population and Communities (SEWPAC) is not required.

6.4.4 Mitigation Measures

The following mitigation measures would be implemented to minimise the potential impacts to ecology:

- Whilst the proposal may provide a short term barrier impact upon the Cumberland Plain Land Snail, these species are hermaphrodites and can potentially survive on a population of one (refer to section 6.4.5). A project ecologist would undertake a search of the area proposed for the stormwater pipe and outlet and relocate specimens into nearby bushland prior to construction works commencing;
- The Proposal would follow Phytopthera control protocols that minimise the risk of plant pathogens spreading;
- Weed control measures would be undertaken for Blackberry;
- All native vegetation areas disturbed as a result of the proposed stormwater works would be stabilised and revegetated with native ground layer and shrub species post completion of the works to minimise erosion and sedimentation;
- Temporary open weave jute mesh, not jute mat, is to be installed for stabilising disturbed grounds to promote natural regeneration; and
- Specific details of revegetation works in the area proposed for clearing (as a result of the stormwater pipe) will be discussed and agreed with Greening Australia.

The potential ecological impacts within the site area are negligible given the absence of native vegetation on site. However, particular attention has been paid to the Biodiversity Corridor immediately south of the Proposal with a focus on designing the stormwater drainage system to avoid run-off to the Corridor. Specific design and management measures focused on the construction of the stormwater pipe in the Corridor have been agreed and incorporated into the Proposal to ensure that the already limited potential impacts are reduced to an insignificant level.

6.5 Food Safety

6.5.1 Introduction

This section identifies the requirements of the NSW Food Authority in relation to licencing of a dairy processing facility and outlines the MGC approach to Product Quality Management (PQM). It is this PQM that provides the framework for addressing the NSW specific requirements.

It is noted that the dairy facility would be subject to a separate licence procedure through which the requirements of the NSW Food Authority would be addressed in detail, therefore, the information provided in this section represents an outline only.

6.5.2 Legislative and Policy Framework

Table 6.5.2a outlines the DGRs relevant to Food Safety and where they have been addressed.

TABLE 6.5.2A DGRS FOR FOOD SAFETY

Director-General's Requirements	Location addressed
Food Safety – *including* *in relation to product handling and processing and how the NSW Food Authority standards and requirements will be met*	section 6.5

The NSW Food Authority is the government organisation that helps ensure food in NSW is safe and correctly labelled. In its written submission to the Department of Planning & Infrastructure (DP&I) as part of defining the DGRs, the NSW Food Authority indicated that the dairy processing facility proposed at Erskine Park would be required to apply for a licence as a dairy processing plant. Its submission identifies the key issues and assessment criteria that the NSW Food Authority would require to be addressed in order to issue a licence to operate in NSW, as follows:

The *Food Regulation 2010* determines that: *'Dairy processing means the packaging, treating, cutting or manufacturing of dairy products, and the packing and storing of those products on the premises where they are packaged, treated, cut or manufactured, but does not include dairy primary production.'* (*Food Regulation 2010* Clause 36)

Dairy processing facilities are also required to comply with the following provisions of the *Food Regulation 2010*:

Processing of dairy products

(1) A person must not sell (including sell by retail) a dairy product for human consumption unless the dairy product has been processed in accordance with the processing requirements specified in clauses 15 and 16 of standard 4.2.4 of the Food Standards Code.

(2) This clause does not apply:

(a) to a dairy primary production business in respect of the sale of milk or cream by the dairy primary production business to a dairy processing business, or

(b) to a dairy processing business in respect of the sale of a dairy product by the dairy processing business to another dairy processing business, or

(c) to goat's milk, but only if:

(i) the milk has been produced in compliance with a food safety program, and'

(ii) in the case of milk that is unpasteurised-the milk bears a label that includes an advisory statement in accordance with clause 2 of Standard 1.2.3 of the Food Standards Code.

(Food Regulation 2010 Clause 45)

Milk for manufacture

Milk and milk components used for the manufacture of dairy products for human consumption must be processed as required by Standard 4.2.4 of the Food Standards Code.

(Food Regulation 2010 Clause 46)

Pasteuriser requirements

Equipment used for the pasteurisation of milk or milk components at the premises of a dairy processing business must comply with the requirements of the Guidelines for Food Safety: Validation and Verification of Heat Treatment Equipment and Processes as developed by the Australia New Zealand Dairy Authorities' Committee and as in force from time to time.

(Food Regulation 2010 Clause 47)

Milk to comply with certain requirements of Food Standards Code

The holder of a licence authorising the operation of a dairy processing business must ensure that milk is not processed for human consumption and is not used in the manufacture of dairy products unless it complies with the requirements of the following standards of the Food Standards Code with respect to metals, chemical residues, drug residues and contaminants:

(a) Standard 1.4.1 (Contaminants and Natural Toxicants)

(b) Standard 1.4.2 (Maximum Residue Limits)

(c) Standard 2.5.1 (Milk)

(Food Regulation 2010 Clause 48)

The requirements outlined above specify the operating standards that a dairy processing plant must comply with in order to hold a licence with the NSW Food Authority. These standards also include the requirement to develop and operate to a Hazard Analysis and Critical Control Points (HACCP) plan which must identify and control all possible food safety risks associated with the food processing activities.

6.5.3 MGC approach to Product Quality Management

MGC manufacturing operations are subject to a range of certification, regulatory, customer and internal requirements to ensure appropriate quality, food safety and brand integrity is maintained. Regulatory requirements include the NSW state regulatory requirements such as those identified by the NSW Food Authority.

To meet these requirements, MGC has developed a Quality Management System (QMS) that is regularly reviewed by a third-party certification body.

Key components of the QMS include:

- A MGC Quality and Food Safety Policy outlining its commitment to Quality;
- Certification of manufacturing sites to British Retail Consortium Global Standards for Food Safety (BRC Standards);
- Third-party certification of compliance to MGC's QMS, and

- Continuous improvement programs to allow MGC to innovate and adapt to meet new and evolving demands from the market place.

The MGC QMS encompasses National and State regulatory requirements, customer requirements and internal MGC quality requirements.

Further site specific details on MGC's approach to PQM in relation to the facility at Erskine Park will be provided as part of the licence application to NSW Food Authority.

6.6 Ground Conditions

This section provides a description of the ground conditions over the site and assesses the potential ground-related risks during construction and operation of the Proposal. The assessment of potential impacts is presented in three main areas – salinity, contamination and groundwater. For each assessment area, it is concluded that the potential for impacts to ground conditions is low. This reflects the fact that the site has been recently remediated and is overlain by fill material up to 8.5 metres depth.

The ground conditions assessment does not summarise one particular technical report but draws on a number of site investigation reports related to remediation, site geology and salinity. These are provided in **Technical Paper 10.**

Table 6.6a outlines the relevant DGRs and where they have been addressed.

TABLE 6.6A DGRS FOR SOIL AND WATER

Director-General's Requirements	Location addressed
Soil and Water *– including:* • *A site water balance and an outline of the proposed water requirements, including sources of water, usage and efficiency measures;* • *Detailed assessment of potential soil, surface, flooding and groundwater impacts;* • *Potential soil contamination (including potential acid sulphate soils) and any proposed management measures;* • *Details of proposed erosion and sediment controls (during construction);* • *Details of proposed stormwater management measures (during construction and operation); and* • *Wastewater management, spill containment and bunding.*	section 6.6 and section 6.10

6.6.1 Methodology

A number of site-specific investigations have been undertaken addressing matters such as:

- Soil contamination, remediation and validation;
- Potential for residual contamination;
- Geotechnical aspects for design, and
- Assessment of salinity risks and soil aggressivity.

This section has been prepared using the results of these investigations, relying on the following reports:

- *Documentation of Remedial Works – CSR Southern Lands Project, Quarry Road, Erskine Park, NSW* (Environmental Earth Sciences, May 2012) hereafter referred to as the "***Remediation Report"*** (EES, 2012);

- *Preliminary Environmental Site Assessment for Due Diligence – Proposed Factory Development at Lot 1022 DP 1175670 Quarry Road, Erskine Park, NSW* (Environmental Investigation Services (May 2013) hereafter referred to as the "***Due Diligence ESA"*** (EIS, 2013a);

- *Additional Geotechnical Investigation for Proposed Factory Development at Lot 1022, Quarry Road, Erskine Park, NSW* (JK Geotechnics, July 2013) hereafter referred to as the "***Geotechnical Report*", and**

- *Salinity Assessment and Salinity Management Plan for Proposed Factory Development at Lot 1022 DP 1175670 Quarry Road, Erskine Park, NSW* (Environmental Investigation Services (July 2013) hereafter referred to as the "***Salinity Assessment"*** (EIS, 2013b).

Copies of these key reference materials are provided in **Technical Paper TP10: Ground Conditions.**

6.6.2 Site Subsurface Conditions

Comprehensive geotechnical investigations have been undertaken over the site and are described in the *Geotechnical Report* (JK Geotechnics, 2013).

Generally, the boreholes encountered compacted fill and residual silty clays overlying weathered shale and sandstone bedrock at moderate to significant depth. Groundwater was intermittently encountered at moderate depth.

A summary of the encountered subsurface conditions is provided in Table 6.6.2a. The *Geotechnical Report* (JK Geotechnics, 2013) (Technical Paper 10) and accompanying borelogs should be referred to for further details.

TABLE 6.6.2A SITE STRATIGRAPHY

Material	Thickness range (m)	Description
Fill	2.5 – 8.5	Fill was encountered from surface level in all the boreholes and typically comprised silty clay with varying gravel content, silty gravelly clay and occasionally clayey gravel. The gravels comprised shale, ironstone, sandstone, igneous rock and concrete. The clayey fill was generally assessed to be of medium (rarely low) plasticity and typically moderately compacted but occasionally poorly or well compacted. There is the possibility of some larger (say boulder sized) inclusions within the fill based on the difficulties experienced when auger drilling.
Residual Clay	0.65 – 6.5	Residual silty clay (occasionally silty gravelly clay or sandy silty clay) generally assessed to be of medium (occasionally low, medium to high or high) plasticity and very stiff to hard (occasionally stiff) strength was encountered beneath the fill in all the boreholes except BHD and BH 119. Where encountered, the residual clays extended to the top surface of the weathered bedrock at depths ranging between 4.8m (BH B) and 13.2m (BH 102).
Weathered Bedrock	n/a	Weathered bedrock generally comprising shale, but occasionally interbedded shale and fine grained sandstone (laminate) or sandstone was encountered in all the boreholes. A contour plan of the approximate bedrock surface levels is presented in Figure 6.6.4a. In general, the bedrock surface appears to slope down to the south and south-west from the northern portion of the site, i.e. from approximate RL44m down to RL37m (southern portion) and RL35m

Material	Thickness range (m)	Description
		(south-western portion).
Groundwater		Groundwater seepage was only recorded in BH 101, BH 108, and BH 111 at depths of 13.5m, 6m and 6.5m, respectively. The remaining boreholes were 'dry' during auger drilling. On completion of auger drilling standing water levels were recorded at depths of 7.6m (BH 101), 10.3m (BH 103), 10.2m (BH 104), 8m (BH 106), 8.7m (BH 107), 6m (BH 109 & BH 110), 4m (BH 111), 7.4m (BH 116) and 6.6m (BH 119) within a few hours or after a maximum of 8 days following completion of auger drilling. Groundwater monitoring wells have not been installed and longer term groundwater monitoring was not carried out.

6.6.3 Soil Chemistry and Salinity

Background Information on Salinity

Salinity is the accumulation and concentration of salt at or near the ground surface or within surface water bodies. Salt is naturally present in the landscape through deposition of salt from the ocean in coastal areas and through weathering of bedrock that contains salt, accumulated during deposition of original sediments in a prehistoric marine environment.

In Sydney, salinity issues are typically associated with the Wianamatta Group shales and their derived soil landscapes. The natural vegetation of western Sydney is dominated by large isolated trees with deep root systems that remove subsurface moisture. Slow rates of percolation through the relatively impermeable clay soil and uptake of a large proportion of rainfall by the trees results in limited recharge of the groundwater system by rainfall. The depth to groundwater has developed a natural equilibrium and there is little tendency for salt contained in the groundwater or subsoils to rise to the surface.

Salinity becomes a problem in urban areas when changes in the land use result in changes to the way water moves through the environment. The development of urban salinity is commonly associated with changes in the hydrological cycle through the environment (rainfall, surface run-off, water infiltration and groundwater system). Removal of deep rooted tree species during development and replacement with urban infrastructure, houses and industrial developments reduces the mechanism for the removal of subsurface moisture. An increase in the quantity of water reaching the groundwater table as a result of vegetation clearance, irrigation of parklands, leaking water infrastructure and changes in drainage patterns, can cause a relatively rapid rise in the groundwater table. Earthworks that include excavation of natural soil profiles and exposure of more saline subsurface soils or shale bedrock may also result in an increase in salt concentrations at the ground surface.

A rise in groundwater levels and impediments to subsurface drainage patterns can transport salt formerly stored in the bedrock to the surficial soil profile. This may result in salt encrustation of exposed soils, building foundations, roads, drainage infrastructure and corrosion of metal, concrete and other building materials. Increasing salt concentrations in surficial soils (and consequently in surface waters) may also result in die-off of the existing vegetation, further reducing the hydrological load on the groundwater system and resulting in further groundwater table rises.

To address the problems salinity poses in western Sydney, guidelines have been developed between State and Local Government agencies to enable better planning and help minimise the ongoing risks due to soil salinisation. These include:

- *Western Sydney Salinity Code of Practice* (WSROC Ltd and DIPNR, 2003 [amended 2004];

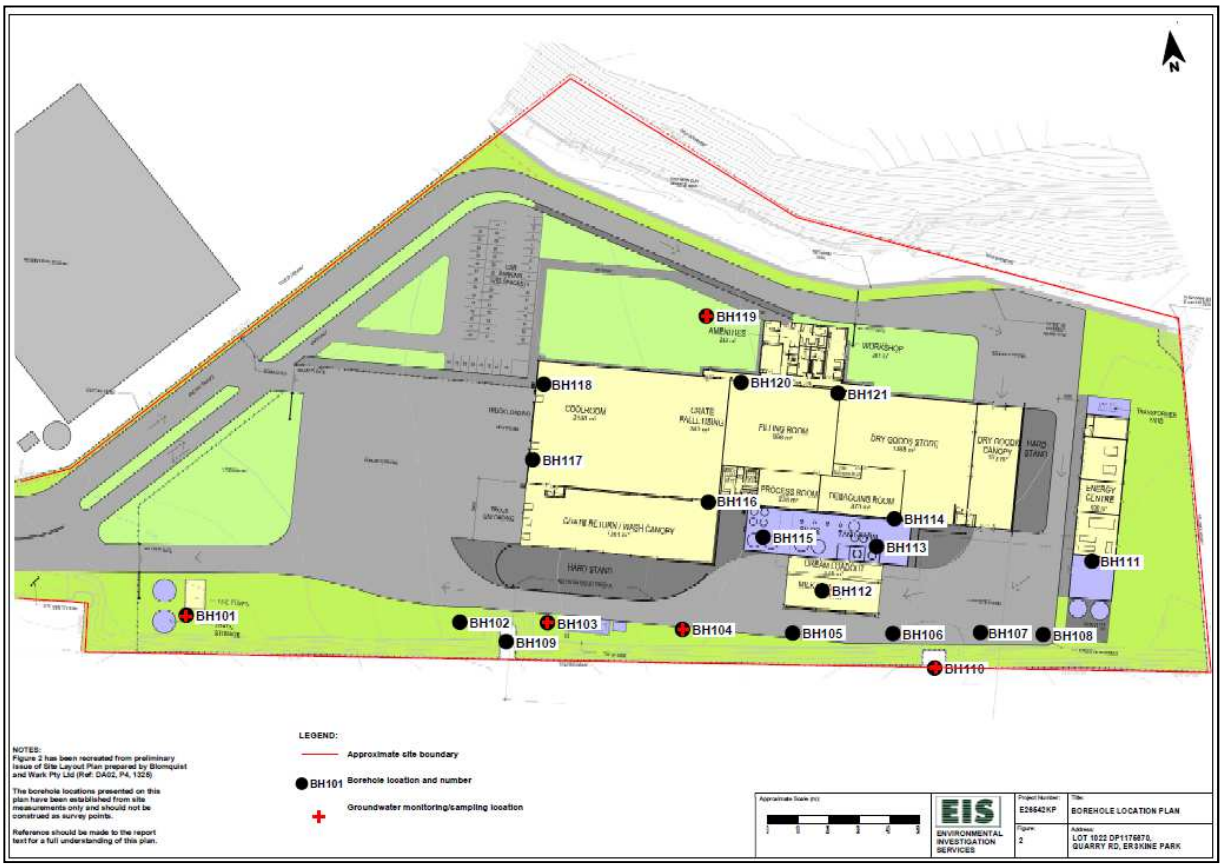
- *Site Investigations for Urban Salinity* (DLWC, 2002), and
- *1:100,000 Map – Salinity Potential in Western Sydney* (DIPNR, 2002).

Existing Conditions

A program of soil sampling and analysis was conducted by Environmental Investigation Services to collect baseline information on a range of chemical properties including salinity. The results of these investigations are contained in the *Salinity Assessment* (EIS, 2013b). The investigation included soil sampling from a selection of 19 boreholes drilled for the JK Geotechnics investigation (refer to Figure 6.6.3a). In relation to the site area, this density is approximately 3-4 sampling points per hectare and meets the requirements for an 'initial site investigation' recommended in the DLWC (2002) document for 'moderately intensive construction'. The density was considered adequate to identify large areas of salinity impacted soils at the site and provide management recommendations with reference to the proposed development works.

Sampling and analysis was generally concentrated in the upper 2m of material as significant bulk excavation works beyond this depth are not likely to be required. Deeper samples were also obtained in order to provide information from the deeper profiles, as this information will be applicable for piling.

The *Salinity Assessment* (EIS, 2013b) summarises the soil salinity conditions and provides salinity management recommendations for the site in line with relevant guidelines. In addition to information on soil salinity (electrical conductivity), the report presents broader soil chemistry data including on resistivity, pH, cation exchange capacity (CEC), major cations (calcium, magnesium, potassium and sodium) and major anions (sulphate and chloride), for the site materials. These properties provide information on practical aspects of soil management, including with respect to salinity, fertility, erosion and sediment control, and aggresivity towards built structures.



Source: EIS (2013b)

FIGURE 6.6.3A BOREHOLE LOCATIONS USED FOR SOIL SAMPLING

The key findings of the *Salinity Assessment* (EIS, 213b) relating to soil chemistry and salinity are summarised in Table 6.6.3a.

TABLE 6.6.3A SOIL CHEMISTRY AND SALINITY

Property	Description
Soil salinity	• The site was generally surfaced with exposed soil/gravel; however, some areas were grassed. No obvious salinity indicators were observed such as salt scalds or salt crusting on the retaining walls. • The site is mapped in a region of moderate salinity potential with reference to DIPNR (2002). The moderate classification is attributed to scattered areas of scalding and indicator vegetation, in areas where concentrations have not been mapped. Saline areas may occur in this zone, which have not been identified or may occur if risk factors change adversely. • The laboratory results of soil testing found ECe results generally ranged from 1.2dS/m to 4.3dS/m. The majority of the samples were classed as non-saline to slightly saline. Salinity at these levels would be expected to adversely affect very sensitive plants. One sample obtained from BH120 (0.3-0.5m) was classed as moderately saline. No distinct correlation between salinity classes and depth was noted. No distinct difference in salinity classes between fill and natural soils was noted.
Soil resistivity	• Resistivity values were calculated based on the raw EC values. The resistivity values for the soil samples ranged from 2,222 ohm.cm to 7,143 ohm.cm.
Groundwater salinity	• The laboratory results of groundwater testing found that the groundwater is generally saline (3,000µS/cm to 9,700µS/cm) and within the ranges for 'saline' and 'brackish' water types.
Groundwater chemistry	• pH – 7.1 to 7.3 • EC – 3,000µS/cm to 9,700µS/cm • Chloride - 440mg/L to 3,700mg/L • Sulphate - 14mg/L to 150mg/L.
Soil pH	• The soil pH results ranged from pH 8.7 to 9.5 and were classed strongly alkaline to very strongly alkaline. • There was no significant correlation between pH and depth.
Soil CEC and cations	• The CEC values ranged from 29meq/100g to 42meq/100g and were in the high to very high range. Based on these results, the soils are considered to have a high capacity to retain nutrients. • Exchangeable Na – 0.44meq/100g to 3.7meq/100g • Exchangeable K – 0.2meq/100g to 0.4meq/100g • Exchangeable Ca – 8meq/100g to 28meq/100g • Exchangeable Mg – 1.5meq/100g to 30meq/100g.
Ca:Mg ratios	• The results indicate that the soils have more calcium than magnesium with the majority of Ca:Mg ratios around 4:1. This is a balanced

Property	Description
	condition.
Exchangeable sodium percentage (ESP)	• The ESP values of the samples ranged from 1.26% to 8.81%. One ESP result from BH114 (7.2-7.5m) was above the 5% threshold and was classed as sodic. The remaining results ranged between 1.26% and 2.5% and were classed as non-sodic.
Soil anions	• Sulphate - 17mg/kg to 280mg/kg • Chloride –8mg/kg to 230mg/kg.
Aggresivity towards built structures	• The soil pH and sulphate results indicate that the soils are nonaggressive towards buried concrete. • The soil resistivity, pH and chloride results indicate that the soils are non-aggressive towards buried steel.

Assessment

On the basis of the site inspection and laboratory results, the *Salinity Assessment* (EIS, 2013b) concluded that the site is not currently affected by soil salinity and there is a relatively low risk of ongoing salinity problems, either on-site or off-site. The Proposal does not pose an undue risk with respect to soil salinity.

Cut to fill earthworks are proposed on the site. The cuts are not expected to expose more saline material than what would already be at the surface. On this basis (from a salinity perspective), the cut material can be utilised as fill material in accordance with geotechnical earthworks specification.

The current soil pH is unusually high and would reduce nutrient availability to vegetation. This could present limitations to successful landscaping and revegetation. The soil pH should be corrected to near neutral to optimise plant growth. Otherwise, soils show adequate fertility, are mostly non-sodic and pose no significant limitations to development. The site does not contain acid sulphate soils.

It is noted that the investigations to date represent just a snap-shot of current conditions and salinity risks may change over time in response to changing hydrological conditions brought about by development works on-site or off-site. To help minimise these risks mitigation measures have been developed and are outlined in section 6.6.6.

6.6.4 Contamination

Background

Detailed contamination investigations and remediation works have been undertaken in recent years by Environment and Earth Sciences (EES) on behalf of former owner CSR Limited Pty Ltd, as part of the "CSR Southern Lands" project. These investigations addressed conditions of consent imposed by Council, for a proposed subdivision of Lot 102 DP 1143935 into Lots 1021-1024, for proposed industrial/commercial land use. The results of these investigations and remedial activities are outlined in the *Remediation Report* (EES, 2012).

The *Remediation Report* (EES, 2012) researched the site history and found that previous uses included agriculture, stockpiling quarry overburden, a pre-coat plant, a prestress concrete beam manufacturing yard and a concrete batching plant. Aerial photographs reviewed, indicate that activities associated with quarrying on the subject site began some time prior to 1965, as well as construction of site buildings. Site land use history for the overarching CSR Southern Lands project area is summarised below:

- agricultural use prior to 1960's;

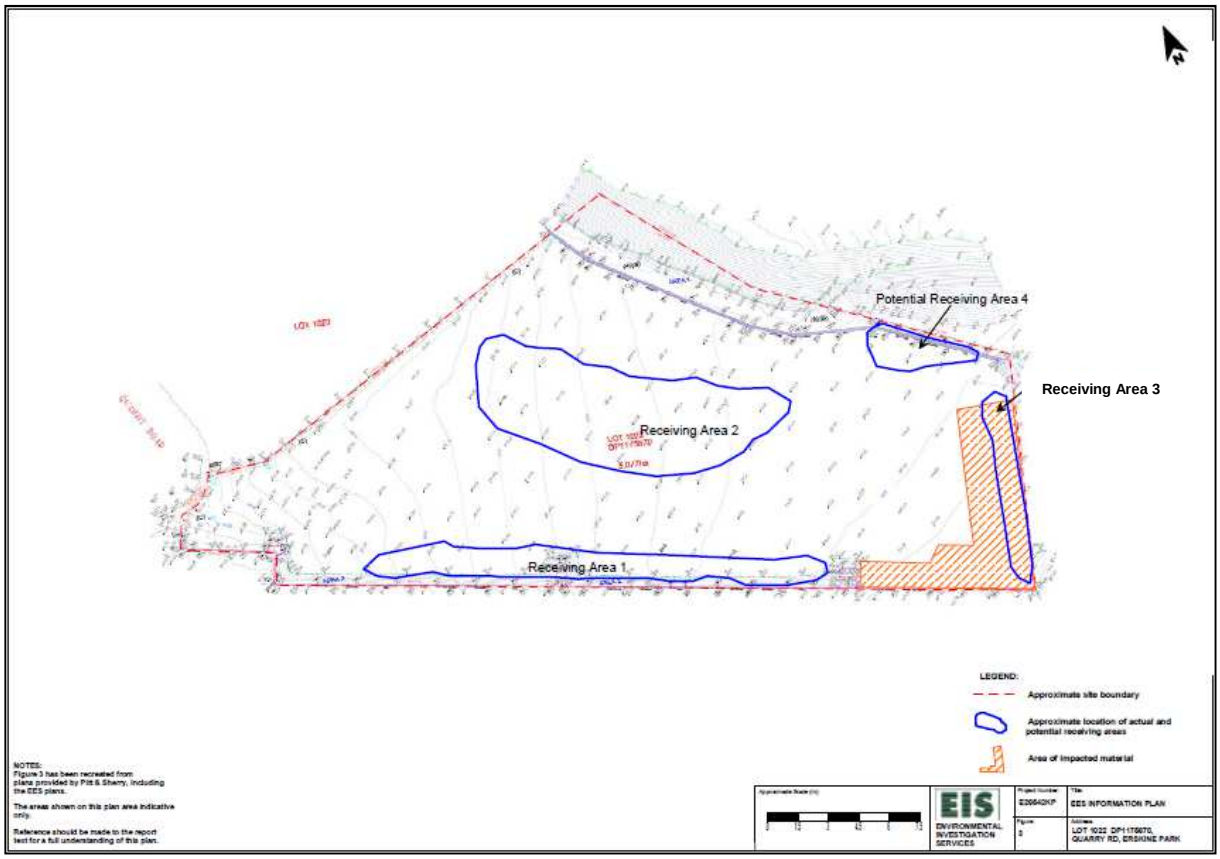
- prior to mid 1990's - site used for stockpiling quarry overburden;
- early 1990's - the eastern portion was used as pre-coat Plant by Readymix (Lot 1022);
- mid 1990's to 1999 - the central portion of the site was operated by Humes Concrete as a pre-stress beam manufacturing yard. A Readymix concrete batching plant was now located in place of the pre coat plant;
- 1999 to 2008 - leased by NSW Pre Stress which continued the manufacture of other pre stress products, and
- August 2008 - Readymix ceased production and demolished concrete batching plant, since which time the site has been vacant.

A summary of the investigations by EES and the key points from the *Remediation Report* (EES, 2012) is provided below:

- EES have undertaken a number of investigations and have prepared several reports that relate to the site and the surrounding properties;
- The initial investigation work was undertaken for the subdivision of a former lot (Lot 102 in DP1143935) to create Lots 1021-1024 (inclusive);
- The report indicated that the investigation area was utilised for ancillary activities associated with the adjacent quarry (to the north of the site) which quarried volcanic breccia for road-base etc). Proposed Lot 1022 (i.e. the site) was utilised as a bitumen pre-coat plant (asphalt batching plant) and concrete pre-stress manufacturing yard in the early 1990s;
- The initial investigations for each lot (including Lot 1022) did not identify any soil contamination above the criteria for commercial/industrial land use and EES concluded that each lot was suitable for commercial/industrial use;
- EES recommended that an unexpected finds protocol be developed and implemented to address any contamination issues that may be identified during earthworks;
- Soil suspected as being contaminated with hydrocarbons was identified on Lot 1022 in 2011. This triggered the unexpected finds protocol;
- The impacted material was excavated and separated into two stockpiles. Validation samples were subsequently obtained from in-situ material beneath the excavated impacted material, and from the two stockpiles. Samples were analysed for total petroleum hydrocarbons (TPHs, C6-C9 and C10-C36 fractions), polycyclic aromatic hydrocarbons (PAHs) and monocyclic aromatic hydrocarbons (BTEX compounds, benzene, toluene, ethylbenzene and xylene);
- Stockpile SP1 encountered one TPH (C10-C36) concentration above the assessment criterion of 1,000 mg/kg. Statistical analysis was subsequently undertaken on the SP1 TPH (C10-C36) dataset and the results were below the assessment criterion;
- Numerous exceedances of the site assessment criteria were encountered for the stockpile SP2 validation. This material was subsequently bio-remediated between October 2011 and January 2012. The final round of validation sampling indicated that all results were below the site assessment criteria;
- The validation samples of the in-situ material did not encounter elevated concentrations of contaminants;
- EES reported that in April 2012, part of SP2 was blended with "clean overburden" and moved to a trench on the southern boundary of Lot 1022 (designated Receiving Area 1);
- Part of SP2 was blended with "clean overburden" and moved to Receiving Area 2, and

- It was noted that the remaining material in SP2 was also to be blended and deposited in two potential receiving areas (Potential Receiving Areas 3 and 4). The initial area where the contaminated material was encountered, as well as the actual and potential receiving areas are shown in Figure 6.6.4a.

- Based on the results of historical investigations, site remediation and recent validation testing, it is concluded that the potential for significant widespread soil contamination at the site is relatively low



Source: EIS (2013a)

FIGURE 6.6.4A AREAS OF IMPACTED SOIL AND RECEIVING AREAS FOLLOWING REMEDIATION

Existing Conditions

Environmental Investigation Services (EIS) was commissioned by Pitt & Sherry to assess the potential for contamination remaining on the site of Lot 1022 and to provide a preliminary waste classification for off-site disposal of any surplus spoil that may be generated during construction of the proposed milk processing facility. This assessment included a detailed review of the previous work by EES as well as an additional soil sampling and analysis program focussed on Lot 1022. The results of these investigations are contained in the *Due Diligence ESA* (EIS, 2013a).

The objectives of the *Due Diligence ESA* (EIS, 2013a) were to:

- Assess the on-site soils for the presence of the Potential Contaminants of Concern (PCC) associated with the former asphalt batching plant, and

- Provide a preliminary waste classification for the off-site disposal of surplus soil that may be excavated during the proposed development.

The scope of work included:

- Review of available reports for the site;
- Design and implementation of a limited field sampling and laboratory analysis program in conjunction with the JK Geotechnics drilling works;
- Interpretation of the analytical results based on the Site Assessment Criteria (SAC) and waste classification criteria adopted for the ESA, and
- Preparation of a report presenting the results of the ESA.

Elevated concentrations of contaminants were not encountered in the soil samples (refer to Figure 6.6.4b for borehole locations) analysed for the investigation. All results were below the SAC adopted. Based on the results of the preliminary ESA, EIS concluded that the potential for significant widespread soil contamination at the site is relatively low. Although the investigation did not target the 'Receiving Areas' identified by EES following the previous site remediation works, the material that was used in these areas was validated and subsequently blended with clean material. On this basis, the potential for significant contamination issues to be identified in these areas is considered to be relatively low.

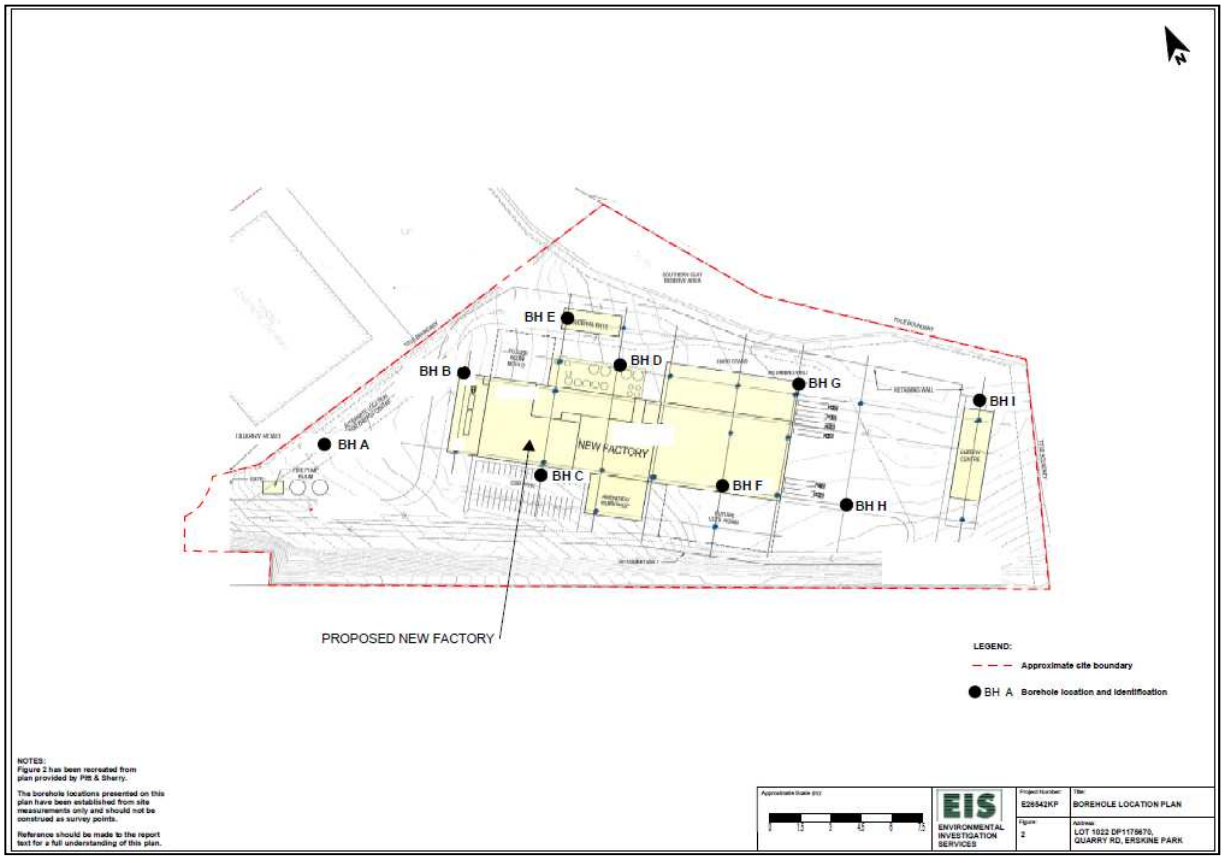


FIGURE 6.6.4B LOCATION OF SOIL SAMPLING BOREHOLES

Assessment

Based on the results of historical investigations, site remediation and recent validation testing, it is concluded that the potential for significant widespread soil contamination at the site is relatively low. The site is capable of being developed for the proposed land use without the need for further

contamination investigations or remediation. There is currently no requirement to notify the NSW EPA of any site contamination issues. In the event that the unexpected finds protocol needs to be implemented during the proposed development works, this requirement should be reassessed.

The waste classification for the existing fill material is summarised in Table 6.6.4a.

TABLE 6.6.4A WASTE CLASSIFICATION OF FILL

Material Classified	Classification	Disposal Option
Fill material	General Solid Waste (non-putrescible) (GSW)	A facility licensed by the NSW EPA to receive the waste stream. Alternatively, the fill material is considered to be suitable for re-use on the site provided it meets geotechnical and earthwork requirements.

Surplus fill material must be disposed of to a NSW EPA licensed facility. It is the responsibility of the receiving facility to ensure that the material meets their EPA license conditions.

Implementation of a suitable unexpected finds protocol (such as that previously prepared by EES) during future development works at the site is recommended. The unexpected finds protocol would provide a mechanism to identify and manage unexpected potential contamination issues. A suitably qualified environmental consultant should be contacted to assess any unexpected conditions or subsurface facilities that may be discovered during the proposed earthworks.

6.6.5 Groundwater

Background

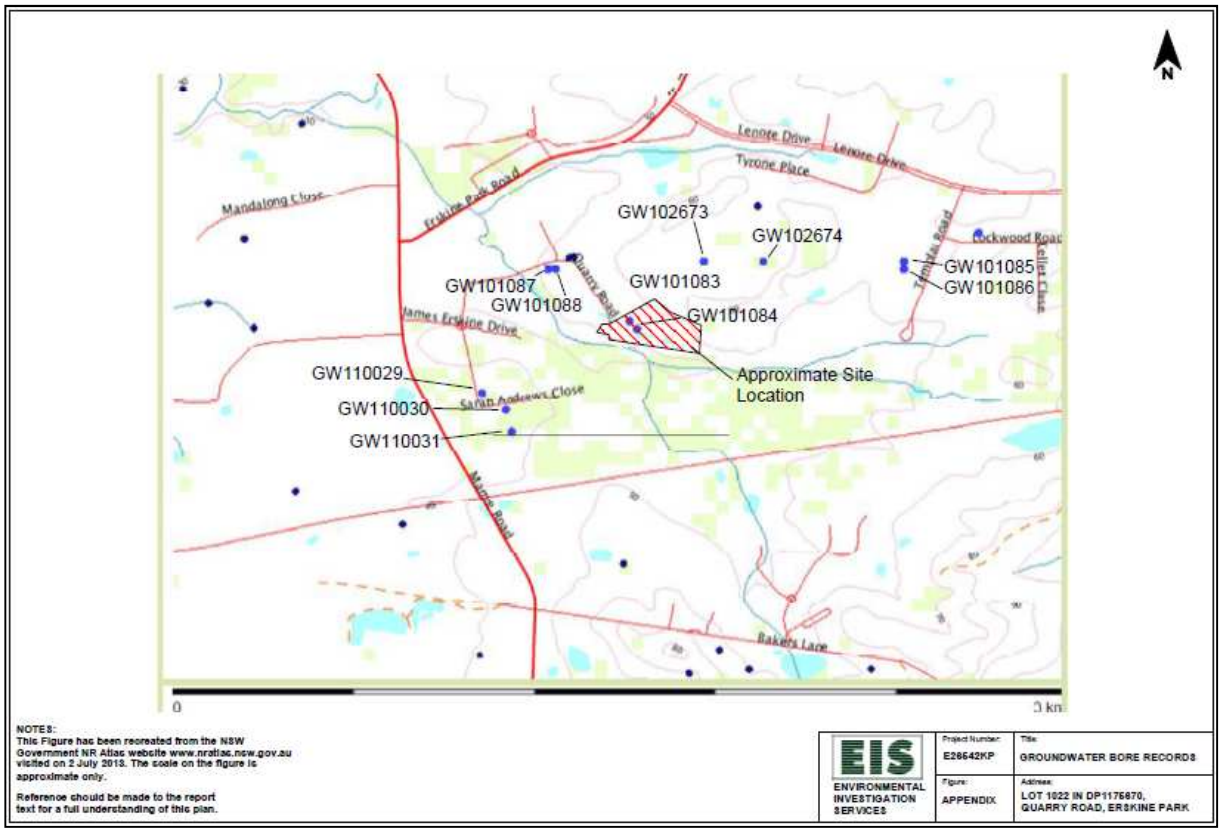
The *Salinity Assessment* (EIS, 2013b) included a desktop review of groundwater conditions. A search of registered groundwater bores was undertaken from records available on the NSW Office of Water website, with the search limited to bores within approximately 1km of the site. All bores were registered for monitoring purposes. A plan showing the approximate location of the bores is provided in Figure 6.6.5a.

Groundwater occurs at depths greater than 20m below ground surface (mBGS) within the sedimentary bedrock, with standing water level recorded at two bores between 9 and 10m mBGS. Salinity results were available from two bores and was approximately 4500 µS/cm. Authorised uses for these bores was exclusively for monitoring purposes.

The Wianamatta Group is characterised by very low permeability, low storage and high groundwater salinity as a consequence of the depositional environment during the middle Triassic period. This typically renders the shale groundwater unsuitable for any use due to low yield and poor quality.

The stratigraphy of the site consists of relatively deep fill soils overlying residual clayey soils and shale/sandstone bedrock. Based on these conditions and the results of the groundwater bore search, groundwater is unlikely to be a significant resource for abstraction purposes in the immediate vicinity of the site.

A perched groundwater table condition may occur in the fill and/or residual soils overlying the shale at some locations especially during prolonged wet conditions. This occurs due to the relatively higher permeability of soil at the soil-rock interface. Due to the shorter residence time, the perched water is typically less saline than flows within the bedrock.



Source: EIS (2013b)

FIGURE 6.6.5A LOCATION OF REGISTERED GROUNDWATER BOREHOLES WITHIN 1KM FROM THE SITE

Existing Conditions

Groundwater observations were made in the boreholes during auger drilling and on completion of auger drilling and coring. It is noted that water was introduced as part of the coring process and often obscures groundwater measurement in the cored portions of the boreholes. In addition, groundwater levels may not have stabilised in the short time period after auger drilling and coring.

Where possible, temporary standpipes were installed in selected boreholes and/or boreholes were left open for the duration of the fieldwork to monitor groundwater levels and to allow sampling of groundwater for subsequent chemical laboratory testing. No longer term groundwater monitoring was carried out.

Selected soil and groundwater samples were returned under Chain of Custody to Envirolab Services Pty Ltd NATA registered laboratory to determine soil resistivity, soil and groundwater pH, chloride and sulphate contents. The results are summarised in Table 6.6.5a. The results of all groundwater investigations are contained in the *Salinity Assessment* (EIS, 2013b).

TABLE 6.6.5A GROUNDWATER CHEMISTRY AND SALINITY

Property	Description
Groundwater salinity	• The laboratory results of groundwater testing found that the groundwater is generally saline (3,000µS/cm to 9,700µS/cm) and within the ranges for 'saline' and 'brackish' water types.
Groundwater chemistry	• pH – 7.1 to 7.3 • EC – 3,000µS/cm to 9,700µS/cm • Chloride - 440mg/L to 3,700mg/L • Sulphate - 14mg/L to 150mg/L.

Groundwater seepage was only recorded in BH 101, BH 108, and BH 111 at depths of 13.5m, 6m and 6.5m, respectively. The remaining boreholes were 'dry' during auger drilling. On completion of auger drilling standing water levels were recorded at depths of 7.6m (BH 101), 10.3m (BH 103), 10.2m (BH 104), 8m (BH 106), 8.7m (BH 107), 6m (BH 109 & BH 110), 4m (BH 111), 7.4m (BH 116) and 6.6m (BH 119) within a few hours or after a maximum of 8 days following completion of auger drilling.

On completion of core drilling water flush levels were recorded at depths of 6.1m (BH A), 5.8m (BH C), 3.5m (BH D), 3.2m (BH G), 6.2m (BH 102), 15.8m (BH 105), 5.6m (BH 108), 9.1m (BH 112), 8.7m (BH 113), 3.3m (BH 115), 7.4m (BH 116), 6.6m (BH 117), 2.7m (BH 118) and 5.5m (BH 120), a short time after completion to up five days after completion of core drilling. It should be noted that water introduced during core drilling obscures groundwater measurements and groundwater levels may not have stabilised during the variable period between borehole completion and measurement of water levels.

Longer term groundwater monitoring was not carried out.

Full water flush returns were noted during the core drilling and a relatively impermeable rock mass is indicated. Reduced water flush returns were recorded during core drilling in the following boreholes:

- In BH G, 80% water flush returns were estimated and this may indicate open defects within the zone of core loss below 6.8m depth;
- In BH 102 zero to 25% water flush returns were estimated below 16m depth and may indicate open defects within the rock mass below this depth, and
- In BH 120, 75% water flush returns were estimated between 6.27m and 9.2m depth and this may indicate open defects within the zone of core loss at 6.27m.

Based on these observations it can be predicted that seasonal perched watertables occur within the fill and natural soils. Watertable depths are expected to fluctuate significantly in response to season and rainfall. Groundwater quality is poor, being relatively saline. Groundwater flow direction is likely to be sympathetic with local topography, with gradients generally to the south.

Assessment

The planned building and service installation works will occur over a levelled building platform that is to be prepared in accordance with an approval from Council (DA 13/0695 determined on 26 July 2013). The building works are not expected to extend deeper than 2 metres below existing ground surface. Given that the observed perched water table depths are greater than 3 metres below ground, the building works are not likely to intercept groundwater or disrupt groundwater drainage patterns. The building works are expected to have a negligible impact on groundwater.

Groundwater is not a significant resource for abstraction purposes in the immediate vicinity of the site. It is not proposed to abstract groundwater for water supply during construction or operation of the Proposal.

Given that the Proposal is not expected to intercept groundwater and groundwater abstraction is not proposed, groundwater licensing under either the *Water Act 1912* or the *Water Management Act 2000* will not be required. On the basis of the predicted negligible impacts on groundwater, there is no justification for groundwater monitoring either during construction or operation of the Proposal.

The risk of groundwater contamination occurring as a result of the Proposal is assessed as very low. The *Due Diligence ESA* (EIS, 2013a) found that there is no evidence of significant or widespread contamination remaining on the site. Therefore, contaminants are not expected to be mobilised by building works that could pose a threat to groundwater.

Potential groundwater pollution risks during construction relate mainly to inadvertent leaks or spills of fuel or oils which are highly unlikely to occur. Such spills pose a relatively minor pollution risk provided they are promptly contained and any impacted soils removed from site and disposed appropriately. The low permeability of the fill and natural soils across the site will limit the risk of such pollution occurring.

Once in operation, much of the site will be sealed and this includes areas used for storing and handling materials that could, if spilt, pose a groundwater pollution risk. The stormwater, wastewater and trade waste management systems are designed to contain and appropriately manage the different water streams, to protect surface waters and groundwater against contamination. On-site disposal/reuse of potentially contaminated waters is not proposed. The Proponent has significant experience operating and managing dairy facilities, and has developed a range of operating policies, practices and systems to manage potential risks to surface water and groundwater. These systems would be implemented at this site.

Given that the Proposal is not expected to intercept or interact with groundwater, and the risk of groundwater contamination is very low, the various government policies related to groundwater protection in NSW have only limited relevance to the Proposal and have not been individually addressed in any detail.

6.6.6 Mitigation Measures

Salinity

A range of salinity management recommendations are outlined in the Salinity management Plan, presented as section 8 in the Salinity Assessment (EIS 2013b). Key recommendations and mitigation measures in relation to salinity are summarised below:

- The salinity conditions and recommendations outlined in the Salinity Management Plan presented as section 8 in the *Salinity Assessment* (EIS, 2013b) should be reviewed by the earthworks contractor prior to the commencement of development works;
- In the event that fill material is to be imported onto the site, the imported material should meet importation criteria for salinity, aggressively and fertility criteria:
    - pH within the range 5.5 – 7. Material in this range will generally be non-aggressive towards built structures and within the optimal range for plant growth;
    - ECe <2 – 4 (dS/m). Material in this range is non-saline to slightly saline and generally considered acceptable for plant growth;
    - CEC in the range 12 - 25 meq/100g. Material in this range is generally considered acceptable for plant growth;
    - ESP <5%. Material in this range is generally acceptable from a soil dispersion perspective;

- Sulphate and Chloride <5,000 mg/kg. Material in this range will generally be non-aggressive towards piles/foundations, and
- Resistivity >5,000 ohm.cm. Material in this range will generally be non-aggressive towards piles/foundations.

- The proposed earthworks should be designed to minimise disturbance of the natural site drainage patterns wherever possible. Where these patterns are altered, appropriate artificial drainage should be installed in order to minimise water logging and localised flooding;
- Subsoil drains should be provided in areas where seepage discharge from the underlying soil may occur, such as retained cuts, cut slopes, or changes in grade, etc. Slabs, foundations and retaining walls should be designed with subsoil drains and good drainage to avoid water logging;
- Stormwater should be managed appropriately in order to reduce infiltration. Stormwater infrastructure should be designed to minimise leakage. Guttering and down pipes should be properly connected and maintained at all times;
- Design of built structures to account for and minimise the risks posed by salinity, including in respect of installation of damp proof courses and moisture barriers, use of exposure class masonry and admixtures, provision of adequate drainage around infrastructure and design/durability of concrete and steep piles/foundations;
- Landscape design to account for and minimise the risks posed by salinity, including by avoiding planting directly adjacent to built structures, minimising watering near built structures, avoiding over-watering in all areas by adopting 'waterwise' gardening principles, regular checking of irrigation equipment for leaks, and installation of subsoil drains in areas which require significant watering to minimise waterlogging;
- All roads, pavements, footpaths and hardstand areas should be graded to prevent surface water ponding. Subsoil drains should be provided in all such areas to collect stormwater and surface water run-off;
- Concrete and steel used in footpaths, road side kerbs, gutters etc. should be designed to withstand the conditions encountered at the site;
- As salinity is a natural phenomenon that can change over time especially during extreme wet or dry conditions, regular inspections and maintenance of facilities should be undertaken in order to identify issues at an early stage. Key ongoing management aspects include:
  - A rising groundwater table may lead to adverse salinity conditions as the groundwater is considered to be saline. Planning and design should involve management of factors that could lead to a rise in the groundwater table level. Such measures include reduction of irrigation requirements, avoiding the use of infiltration pits to disperse surface water, and preventing leakage from permanent detention basins;
  - Watering activities associated with the proposed landscaped areas will tend to increase groundwater recharge. Subsoil drains should be installed in these areas so as to avoid excessive recharge of the groundwater system, reduce the potential for water logging and also to increase the potential for on-site water recycling;
  - Salinity compliance is required to ensure that the recommendations outlined in the *Salinity Assessment* (EIS, 2013b) are implemented. A site specific compliance check list is presented in the Salinity Assessment and should be completed by the relevant contractors (i.e. earthworks, structural design, landscape, architects etc) after the completion of each stage of the development;
  - Routine inspections of drainage facilities, landscaped areas, water detention/retention basis, batter slopes, cut faces, roads, walkways, pavements and hardstand areas,

and retaining walls should be undertaken by maintenance staff. A checklist of adverse salinity indicators should be maintained during the inspections.

Soil Contamination

The following mitigation measures are identified in relation to soil contamination:

- Surplus fill material must be disposed of to a NSW EPA licensed facility. The fill tested meets the classification of General Solid Waste;
- A suitable unexpected finds protocol (such as that previously prepared by EES) should be developed and implemented during future development works at the site. The unexpected finds protocol would provide a mechanism to identify and manage potential contamination issues;
- Should the unexpected finds protocol be implemented and contamination confirmed to be present, the need to notify the NSW EPA of this contamination would be assessed and if required, notification undertaken in accordance with the *Guidelines on the Duty to Report Contamination* (NSW DECC, 2009), and
- A suitably qualified environmental consultant should be contacted to assess any unexpected conditions or subsurface facilities discovered during the proposed earthworks.

Groundwater

The following mitigation measures are identified in relation to groundwater protection:

- Bunded areas (with impervious flooring) will be used for storage of potentially hazardous and/or contaminating materials and activities. The bund will have a capacity to capture of 110% of the volume of the largest container being stored. Hazard materials will be located a suitable distance from stormwater drainage areas so as to avoid stormwater contamination, and
- Spill clean-up kits will be located in suitable, easily observed locations throughout the site and use of items within the spill kit will be demonstrated to all construction personnel. Spills or fuel, oil or other hazardous materials will be promptly cleaned up and any impacted soil removed from site and disposed to an approved facility.

In summary, the Ground Conditions assessment is based on a number of detailed site investigations which are provided in Technical Paper 10. The assessment concludes that the potential impacts to ground conditions are low as follows:

- Salinity: the site is not currently affected by soil salinity and there is a relatively low risk of ongoing salinity problems, either on-site or off-site.
- Contamination: based on the results of historical investigations, site remediation and recent validation testing, it is concluded that the potential for significant widespread soil contamination at the site is relatively low. The site is capable of being developed for the proposed land use without the need for further contamination investigations or remediation.
- Groundwater: given that the Proposal is not expected to intercept groundwater and groundwater abstraction is not proposed, groundwater licensing under either the *Water Act 1912* or the *Water Management Act 2000* will not be required.

The potential for impact on the ground conditions have been reduced through the implementation of mitigation measures which have been identified and incorporated into the construction and operation of the Proposal.

6.7 Hazards and Risks

A Preliminary Hazard Analysis has been undertaken and is summarised in this section and provided in full in **Technical Paper TP4: Hazards and Risks**. The Proposal involves the use of chemical materials which are routinely used in the milk production industry. The potential hazards and risks associated with these materials have been assessed and found to be insignificant and are further reduced when appropriate management and mitigation measures are put in place. These measures, based on standard industry procedures, have been incorporated into the design and operations of the Proposal and are discussed in this section.

Table 6.7a outlines the DGRs relevant to Hazards and Risks and where they have been addressed.

TABLE 6.7A DGRS FOR HAZARDS AND RISKS

Director-General's Requirements	Location addressed
Hazards and Risks *– including:* *A preliminary risk screening completed in accordance with State Environmental Planning Policy No.33 – Hazardous and Offensive Development and Applying SEPP 33 (DoP, 2011), with a clear indication of class, quantity and location of all dangerous goods and hazardous materials associated with the proposal. Should preliminary screening indicate that the proposal is "potentially hazardous," a Preliminary Hazardous Analysis (PHA) must be prepared in accordance with Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis (DoP, 2011) and Multi-Level Risk Assessment (DoP, 2011).*	section 6.7

6.7.1 Legislative and policy framework

State Environmental Planning Policy No.33 – Hazardous and Offensive Development (SEPP 33)

SEPP 33 establishes screening thresholds for categories of dangerous goods. Should these thresholds be exceeded, a Preliminary Hazard Analysis (PHA) would be required. As the on-site chemical storage associated with the Proposal would exceed one or more of these thresholds, a Preliminary Hazard Assessment has been undertaken.

A more detailed description of SEPP 33 and other relevant legislation and policies is provided in Technical Paper 4.

6.7.2 Existing Environment

The Proposal is surrounded by a number of other industrial land uses. The location of the nearest identified sensitive receptors are illustrated in Figure 6.7.2a.

Table 6.7.2a provides a summary of these receptors.



FIGURE 6.7.2A LOCATION OF THE NEAREST SENSITIVE RECEPTORS

TABLE 6.7.2A DETAILS OF NEAREST SENSITIVE RECEIVERS

RECEPTOR	ADDRESS	BEARING	APPROXIMATE DISTANCE FROM THE PROPOSAL
R1	100 Pine Creek Circuit, St Clair	NW	1.32 km
R2	80 Coowarra Drive, St Clair	N	1.05 km
R3	1A Dunstaffnage Place, Erskine Park	NE	1.46 km
R4	8 Pictor Street, Erskine Park	NE	2.01 km
R5	Emmaus (Retirement) Village	SE	767 m
R6	Trinity Catholic Primary School	S	784 m
R7	654-674 Mamre Road, Kemps Creek	S	812 m
R8	573-577 Mamre Road, Orchard Hills	W	821 m
R9	1-19 Mandalong Close, Orchard Hills	NW	1.06 km

6.7.3 Chemical storage and usage for the Proposal

Quantities

The Proposal would store several types of dangerous goods for the Clean in Place (CIP) system. These chemicals include the following:

- 30% sodium hydroxide (NaOH) blend (e.g. Alkazolv 30 LF) – up to 10m^3 (i.e. 10,000L);
- 60% nitric acid (HNO3) – up to 10m^3 (i.e. 10,000L), and
- Surface sanitiser (e.g. Perform 25% w/w H2O2 and 5% w/w CH3COOOH) – up to 5m^3 (i.e. 5,000L).

These quantities are based on the maximum capacities of the storage tanks used for each chemical.

The water treatment (for cooling tower and the boiler) would require the storage and use of the following chemicals (or similar):

- Biosperse 261T – 4 x 10kg buckets;
- Drew 14-127 – 4 x 15L pails, and
- PC1PFG – 1 x 200L drum.

These would be stored in a separate bunded area close to the use area, either the boiler, cooling tower, or water chiller system.

Approximately 350kg of anhydrous ammonia would also exist in a closed loop system as part of the Proposal's chilled water system in the Coolroom.

Information on dangerous goods being stored on site is provided in Table 6.7.3a. The locations of these chemicals are illustrated in Figure 6.7.3a.

TABLE 6.7.3A DESCRIPTION OF DANGEROUS GOODS ONSITE

Product name	DG class	Sub-risk	Packing group	Hazchem	UN No.	Maximum amount	Location
Alkzolv 30 LF (or similar caustic cleaner)	8 – Corrosive	-	II	2R	1719	10,000L	Chemical storage bund
Nitric Acid 60%	8 – Corrosive	-	II	2R	2031	10,000L	Chemical storage bund
Perform (or similar sanitiser)	5.1 – Oxidising Agent	8 – Corrosive	II	2P	3149	5,000L	Chemical storage bund
Biosperse 261T (or similar biocide)	5.1 – Oxidising Agent	8 – Corrosive	II	1W	3085	40kg	Cooling Tower
Drew 14-127 (or similar biocide)	9 – Miscellaneous	-	III	3Z	3082	60L	Cooling Tower
PC1PFG (or similar boiler treatment chemical)	8 – Corrosive	-	III	2Z	1760	200L	Boiler
Ammonia	2.3 – Toxic Gas	8 – Corrosive	III	2RE	1005	350kg	Coolroom

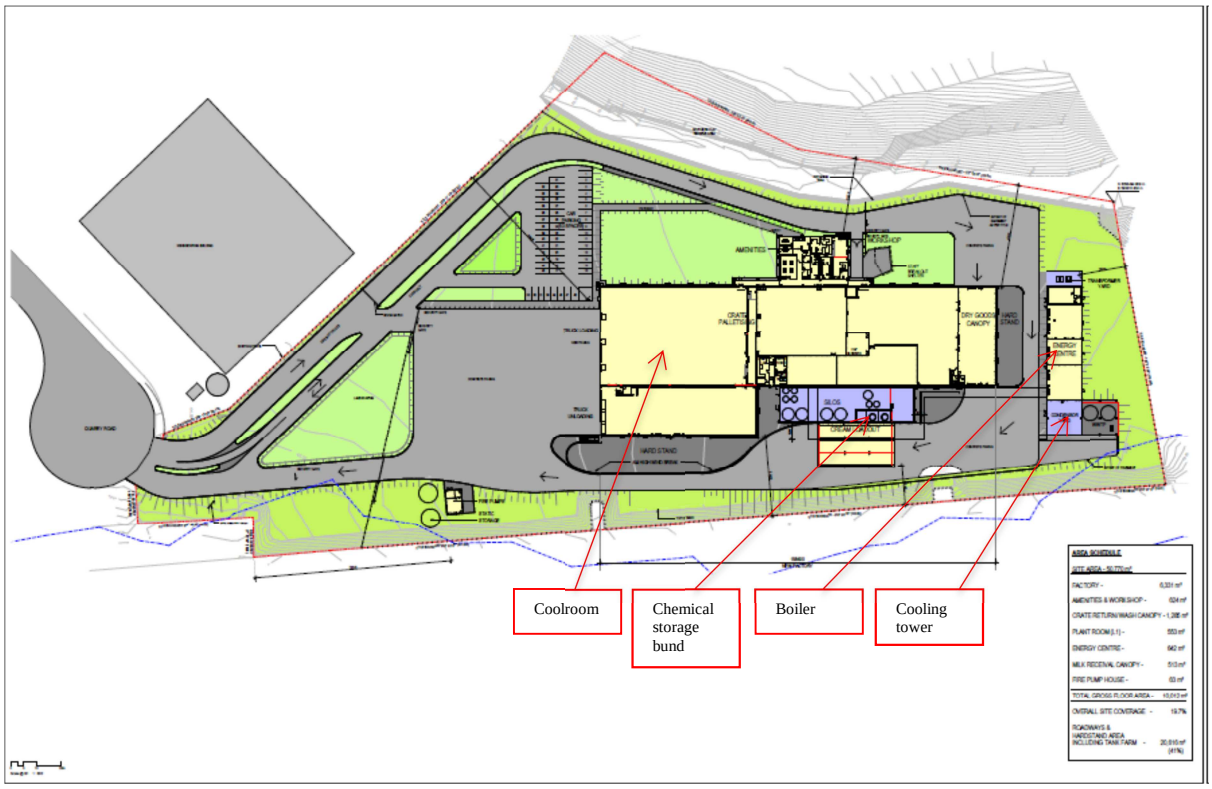


FIGURE 6.7.3A LOCATION OF DANGEROUS GOODS ONSITE

Minor quantities of the following chemicals would also be stored on-site:

- Standard lubricants and greases – approximately 20kg and all stored in drums in bunded storage with spill kits provided within the workshop;
- Compressed gases including oxygen, acetylene and nitrogen – minor quantities used in the workshop;
- Hygiene chemicals – such as hand wash and foot bath, and
- Cleaning chemicals – minor quantities used in the laboratory.

These chemicals are not considered to have any potential off-site impacts and have therefore been excluded in this hazard analysis.

Non-dangerous and non-hazardous chemicals stored on-site include the following:

- Propylene Glycol – 42,000 L, and
- Performax 5099 – 2 x 14 kg boxes.

Nitric acid and sodium hydroxide solution (Alkazolv 30 LF or similar) would be delivered by Road Tanker approximately once a month. Perform would be delivered via 1,000L intermediate bulk containers (IBC) approximately once a month. Chemicals for the Wastewater System would be delivered approximately once a week. The ammonia used in the chilled water system would be topped-up every 4+ years with cylinders if required during maintenance.

The delivery frequencies and quantities are well below the transportation SEPP 33 Screening Thresholds stipulated in *Applying SEPP 33* (DP&I, 2011). Therefore, the potential risk is unlikely to be significant and the PHA is not required with regard to transportation of chemicals for the Proposal.

6.7.4 Assessment

The assessment of hazards and risks considers which risk criteria are most relevant to the Proposal. It then identifies a number of potential hazardous events or scenarios for the Proposal and assesses hazards and risk for those scenarios against the risk criteria. Further details of this approach are provided in Technical Paper 4 and summarised below.

Risk Criteria

The Preliminary Hazard Assessment considered a number of risk criteria and concluded that criteria related to toxicity were most relevant to the Proposal. This is based on the potential chemical reaction between nitric acid and hydrogen peroxide leading to the production of NOx gases. As discussed below, the likelihood of this event happening is extremely low – the production process and related operating procedures are specifically designed to prevent this situation occurring.

Four categories of health impact criteria which are of relevance during an emergency event have been identified (refer to Technical Paper 4 for further details). Each category represents a varying degree of health risk associated with emissions of chemicals during an emergency, and are described as follows:

- Immediately Dangerous to Life or Health (IDLH);
- Emergency Response Planning Guideline 1 (ERPG1);
- Emergency Response Planning Guideline 2 (ERPG2), and
- Emergency Response Planning Guideline 3 (ERPG3).

For each category, toxic exposure criteria for the relevant toxic chemical potentially emitted from the site are defined in Table 6.7.4a.

TABLE 6.7.4A TOXIC EXPOSURE CRITERIA

Limit	Concentration (mg/m^3)		
	Nitrogen dioxide	Nitrogen dioxide (nitric oxide)	Ammonia
IDLH	37.63	122.74	208.97
ERPG1	1.88	N/A	17.41
ERPG2	28.22	N/A	139.31
ERPG3	56.45	N/A	696.56

Scenario based risk assessment

A number of possible hazardous events for the Proposal have been identified and are described in detail in Technical Paper 4. However, the only credible hazardous events with the potential for off-site harm have been identified to involve the accidental release of ammonia from the chilled water system and the accidental connection of nitric acid to the Perform connection hose at the dispensing pump, or vice versa. The residual chemical in the connection hose can then come into contact with the chemical being pumped, resulting in the mixing of those incompatible chemicals and potential release of NOx gas.

The following scenarios were assessed in relation to the sensitive receptors identified in Figure 6.7.2a:

- Scenario 1: Mixing of 1L of nitric acid with 1L of hydrogen peroxide producing NO_2;
- Scenario 2: Mixing of 5L of nitric acid with 5L of hydrogen peroxide producing NO_2;
- Scenario 3: Mixing of 1L of nitric acid with 1L of hydrogen peroxide producing NO,
- Scenario 4: Mixing of 5L of nitric acid with 5L of hydrogen peroxide producing NO,
- Scenario 5: Release of 15kg of liquid ammonia from $1m^2$ spill, and
- Scenario 6: Release of 150kg of liquid ammonia from $10m^2$ spill.

Results

The results from the risk analysis revealed that the nitrogen dioxide, nitrogen monoxide, and ammonia emissions at the nearest sensitive receptor would not exceed the IDLH, ERPG1, ERPG2 and ERPG 3 limits for Scenario 1, 3, 4 and 5.

In Scenario 2, the IDLH, ERPG2, and ERPG3 limits were not exceeded at any of the nearest receptors.

The NO_2 concentration at receptor R3 (located north-east of the subject site) was predicted to exceed the ERPG1 limit of 1.88 mg/m^3 but is well below the ERPG2 limit of 28.22 mg/m^3. The ERPG1 limit was also exceeded for ammonia in Scenario 6 at some areas within the industrial business area.

As Scenario 2 and Scenario 6 were assumed to occur over a period of 1 hour, the exceedance of ERPG1 would cause limited health impacts to those residents and commercial/industrial workers. These scenarios were also modelled as worst case scenarios if an emergency did occur due to the conservative assumptions used, in particular, the quantities of chemicals that would be involved in the incident. Therefore, the likelihood of such an incident occurring is considered to be very low and no further likelihood estimations were deemed to be warranted.

The design of the Proposal and the implementation of a suite of operational procedures means the likelihood of any of the above scenarios occurring is very low.

6.7.5 Mitigation measures

Based on the results from the PHA, the following mitigation measures have been recommended for the Proposal as effective means for controlling the risks related to hazards:

- Dangerous good storage areas are to comply with the following standards:
  - AS 3780:2008 - “The storage and handling of corrosive substances”;
  - AS 4326:2008 – “The storage and handling of oxidising agents”;
  - AS NZS 4452:1997 – “The storage and handling of toxic substances”;
  - AS NZS 1596:2008 – “Anhydrous ammonia – Storage and handling”;
  - AS/NZS 1677.2:1998 – “Refrigeration systems – Safety requirements for fixed applications”, and
  - AS/NZS 3833:2007 – “The Storage and Handling of Mixed Classes of Dangerous Goods in Packages and Intermediate Bulk Containers”.
- Nominated on-site personnel are to be trained in specific site procedures, emergency and first aid procedures and the use of fire extinguishers and hose reels;

- Fire extinguishers and spill control kits are to be provided near high risk areas such as the Chemical Storage Area;
- The storage of combustible or flammable materials shall be prevented near high risk areas such as the Chemical Storage Area;
- Site management to prepare and maintain operational procedures to minimise the number of hazardous incidents and accidents on-site and to mitigate the consequences of incidents regarding the handling of dangerous goods and chemicals;
- Site employees and milk truck drivers shall be trained in the Milk Spill Management Plan prepared for the site;
- A site Emergency Management Plan to be prepared and to include measures to advise neighbouring premises in the event of an emergency with potential off-site impacts, and
- Ensure the chilled water system is installed, tested, operated and maintained in accordance with manufacturer's instructions by trained professionals or personnel. The ammonia detection system to be installed and maintained in accordance with AS/NZS 1677.2:1998.

In summary, the Proposal involves the use of chemical materials as part of the milk production process which are routinely used in similar industry facilities.. The Preliminary Hazard Assessment considers the likelihood of certain events occurring within the production process which could lead to the release of hazardous materials. It should be noted that the milk production process and related operating procedures are designed to specifically prevent these events occurring. Therefore. the overall impacts associated with hazardous material use is assessed as in significant..

6.8 Noise

A Noise Assessment was undertaken to assess the potential noise impacts from the construction and operation of the Proposal. This section provides a summary of the assessment and the full report is located in **Technical Paper 5: Noise**. The assessment considers noise from the operation of the facility as well as traffic movements to and from the site.

As the Proposal is situated in the middle of an industrial area and is a considerable distance from residential areas, the noise impact is significantly reduced. Operational noise sources are largely contained within the main building, which incorporates noise attenuation features and minimises noise impacts associated with the operation of the facility. In addition, the traffic levels generated by the Proposal are projected to be low and spread throughout the day and would not cause a significant amount of noise. As a result the overall noise impacts associated with the Proposal have been assessed as being within EPA criteria.

Table 6.8a contains the relevant DGRs relating to noise impacts.

TABLE 6.8A DGRS FOR NOISE

Director-General's Requirements	Location addressed
Noise *– including:* • *A quantitative assessment of potential construction, operational and transport noise impacts, including potential impacts on nearby receivers; and* • *Details of the proposed noise management and monitoring measures*	section 6.8

6.8.1 Existing Environment

The nearest sensitive receivers are summarised in Table 6.8.1a and shown in Figure 6.8.1b.

TABLE 6.8.1A DESCRIPTION OF SENSITIVE RECEIVERS

Location number	Address	Receiver type (as defined in Industrial Noise Policy)
1	Catholic Health Care Services	Hospital
2	Emmaus Catholic College, Trinity Catholic Primary School	School (non-boarding)
3	Mamre Anglican School	School (non-boarding)
4	654-674 Mamre Road, Kemps Creek	Isolated Residential
5	Property on Mamre Road, Kemps Creek (Lot 34, DP1118173)	Isolated Residential
6	573-577 Mamre Road, Orchard Hills	Isolated Residential
7	539-571 Mamre Road, Orchard Hills	Isolated Residential
8	1-19 Mandalong Close, Orchard Hills	Isolated Residential
9	Verdi Glen, St Clare	Suburban Residential

Location number	Address	Receiver type (as defined in Industrial Noise Policy)
10	2 Carcoar Close, Erskine Park	Suburban Residential
11	6 Ridgeview Crescent, Erskine Park	Suburban Residential



FIGURE 6.8.1A LOCATION OF SENSITIVE RECEIVERS

6.8.2 Noise Criteria

Noise criteria for the assessment have been established based on:

- The NSW Industrial Noise Policy (INP), and
- The Interim Construction Noise Guidelines (ICNG)

Background noise levels were established based on long term ambient noise monitoring at three locations surrounding the site.

Further details regarding noise criteria and the noise monitoring program can be found in Technical Paper 5.

6.8.3 Noise Source Levels

Noise Sources

The noise emitted from the site has been estimated using typical noise levels from similar plant used on similar dairy projects. The noise levels used have been selected conservatively, so the actual noise level is likely to be substantially less than the estimate.

The predominant noise source is the flow of heavy vehicles around the site. This is unaffected by choice and siting of other equipment.

Internal Noise Sources

The majority of the processing equipment would be located within the plant building. The building would be constructed with a concrete slab floor on the ground, insulated foam panel or tilt-up concrete panel walls, an insulated foam panel ceiling and a sheet metal roof. The area of windows and doors would be small compared to the wall and roof area and they would be kept closed. Overall, the design of the building contributes significantly to the containment of internal noise.

External Noise Services

Table 6.8.3a identifies the items of plant and vehicles operating externally on the site that have been allowed for in the noise assessment.

TABLE 6.8.3A EXTERNAL MACHINERY, EQUIPMENT AND VEHICLES AND PREDICTED NOISE LEVELS

Noise source	Noise source sound power level dBA
Ten external pumps, including pumps for transferring milk from the tankers to the milk receiving tanks and from the receiving tanks into the factory, for supplying wash water and supplying “Clean in Place” cleaning water/chemicals to various parts of the plant	86
Plant air compressor (housed in a standard noise attenuating enclosure)	55
Water chiller unit (housed in a standard noise attenuating enclosure)	74
Gas fired boiler air intake (equipped with noise attenuating louvers) and stack	76
Four large roof mounted exhaust fans	82
Four air conditioning compressor units for the cool stores and general air conditioning	79
One forklift truck operating outside at any given time with reversing alarm	80
One semitrailer or milk tanker driving at 10kph on site at any given time.	102.5
Main Plant Building (external noise break-out)	89

It is expected that up to 16 heavy vehicle trips (8 in, 8 out) including B-doubles, may occur at in any hour. As an extreme worst case for modelling purposes, it was assumed that there would be 12 heavy vehicles in any 15 minute period.

6.8.4 Assessment - Construction

The basis for the establishing the assessment criteria for the construction noise assessment is provided in Technical Paper 5.

Construction would be undertaken according to a number of construction stages (a detailed description of the construction activities within each stage has been provided in section 2). These stages have been used to assess construction noise impacts particularly where stages may overlap.

At each of the stages of construction, different sets of equipment would be used. The worst case noise emission would be from stages using many items of heavy equipment.

The three noisiest stages are Stage 1, Stage 3 and Stage 7 (refer to section 2 of the EIS for a description of the stages).

The noise emissions predicted were based on the following scenarios:

- **Stage 1:** 5 trucks enter and leave the site in 15 minutes and 4 excavators operate continuously at different areas of the site continuously (with and without rock breaker);
- **Stage 3:** 5 trucks enter and leave the site in 15 minutes and 4 cranes work around the building continuously, and
- **Stage 7:** Two concrete trucks, two excavators and two paving machines operate continuously.

During each of these scenarios there would be other activities occurring, however in general the noise output would be dominated by the output of the heavy machinery listed.

The predicted noise levels of each scenario are found in Table 6.8.4e. Noise is predicted to comply with assessment criteria at all residences for all construction stages, including during the 0600h to 0700h period when the night time criterion is used for assessment.

TABLE 6.8.4A PREDICTED CONSTRUCTION NOISE LEVELS

Location No.	Address	Daytime				Criteria		
		Stage 1	Stage 1 with Rock Hammers	Stage 3	Stage 7	Daytime	0600h to 0700h	Complies?
1	Catholic Health Care Services	40	45	31	40	55	55	Yes
2	Emmaus Catholic College, Trinity Catholic Primary School	40	45	31	39	55	n/a	Yes
3	Mamre Anglican School	40	45	30	39	55	n/a	Yes
4	654-674 Mamre Road, Kemps Creek	30	35	21	29	57	48	Yes
5	Mamre Road, Kemps Creek (Lot 34, DP1118173)	29	34	19	28	57	48	Yes
6	573-577 Mamre Road, Orchard Hills	37	42	28	37	57	48	Yes
7	539-571 Mamre Road,	29	34	20	28	57	48	Yes

Location No.	Address	Daytime				Criteria		
		Stage 1	Stage 1 with Rock Hammers	Stage 3	Stage 7	Daytime	0600h to 0700h	Complies?
	Orchard Hills							
8	1-19 Mandalong Close, Orchard Hills	26	31	17	26	46	40	Yes
9	Verdi Glen, St Clare	25	30	17	25	46	40	Yes
10	2 Carcoar Close, Erskine Park	22	27	14	22	46	40	Yes
11	6 Ridgeview Crescent, Erskine Park	20	25	11	20	46	40	Yes

n/a – Not applicable as the school does not operate at night.

6.8.5 Assessment – Operations

The basis for the establishing the assessment criteria for the operations noise assessment is provided in Technical Paper 5 and are based on the NSW Industrial Noise Policy (INP). The predicted noise levels at sensitive receptors are shown in Table 6.8.5a.

TABLE 6.8.5A PREDICTED OPERATIONAL NOISE LEVELS AT SENSITIVE RECEPTOR LOCATIONS

Receptor		Daytime/Evening			Night time		
Location number	Address	Prediction	Criterion	Complies?	Prediction	Criterion	Complies?
1	Catholic Health Care Services	29	50	Yes	34	50	Yes
2	Emmaus Catholic College, Trinity Catholic Primary School	31	45	Yes	n/a	n/a	n/a
3	Mamre Anglican School	29	45	Yes	n/a	n/a	n/a
4	654-674 Mamre Road, Kemps Creek	29	52	Yes	34	48	Yes
5	Property on Mamre Road, Kemps Creek (Lot 34, DP1118173)	26	52	Yes	31	48	Yes
6	573-577 Mamre Road, Orchard Hills	30	52	Yes	35	48	Yes
7	539-571 Mamre Road, Orchard Hills	28	52	Yes	33	48	Yes
8	1-19 Mandalong Close, Orchard Hills	26	41	Yes	31	40	Yes
9	Verdi Glen, St Clare	24	41	Yes	30	40	Yes
10	2 Carcoar Close, Erskine Park	24	41	Yes	30	40	Yes

Receptor		Daytime/Evening			Night time		
Location number	Address	Prediction	Criterion	Complies?	Prediction	Criterion	Complies?
11	6 Ridgeview Crescent, Erskine Park	23	41	Yes	29	40	Yes

n/a: not applicable as the school does not operate at night.

The predicted noise levels from the operations of the Proposal are assessed as being well below the recommended INP noise criteria at every sensitive receptor location, including for night time noise.

Night time noise contours are presented in Figure 6.8.5a to illustrate the extent of the potential noise at night time. It can be seen that night time noise reduces significantly with distance from the noise source (the Proposal). At residential areas, the noise levels are within established criteria.

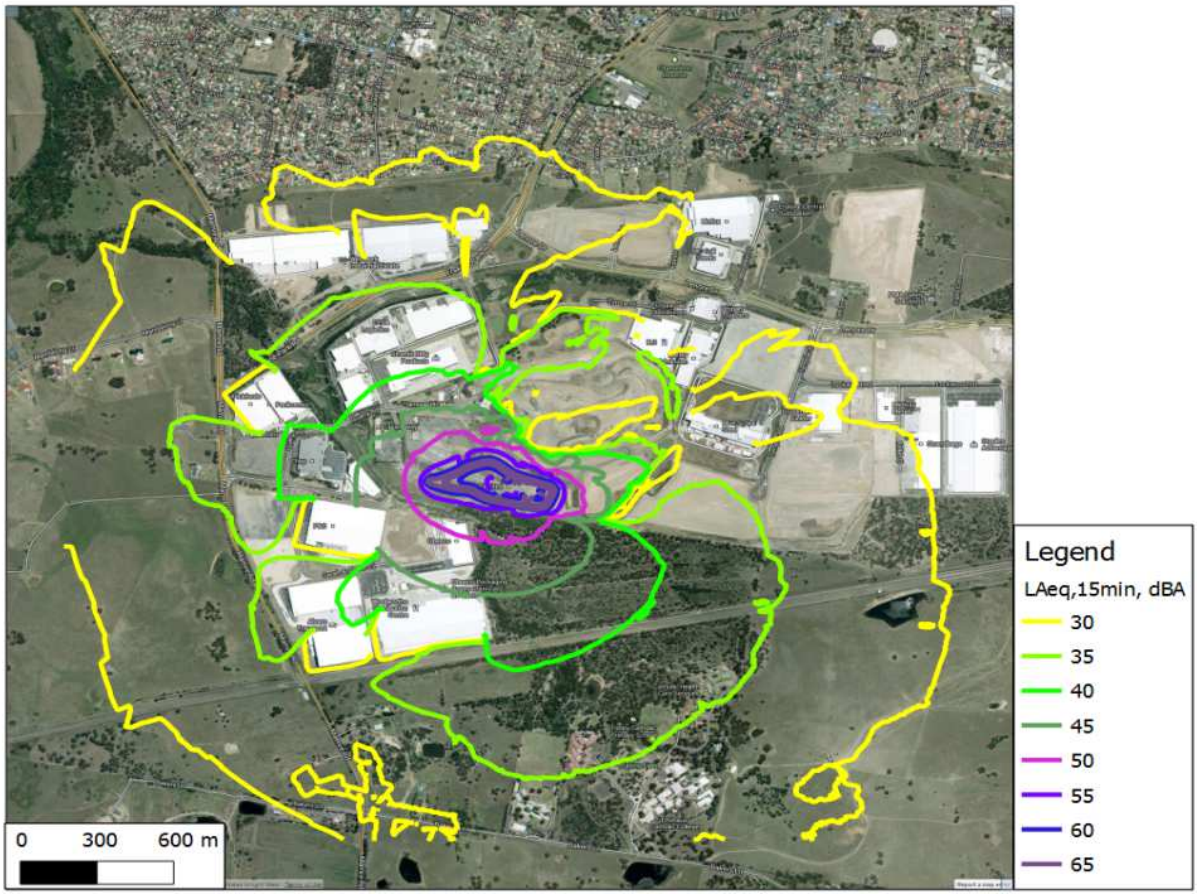


FIGURE 6.8.5A NIGHT TIME NOISE CONTOURS

Sleep disturbance impacts during operations

The predicted noise levels associated with truck and forklift reversing alarms operating at night time are presented in Table 6.8.5b. These levels are well below the recommended sleep disturbance noise criteria. The basis for defining these criteria is set out in Technical Paper 5.

TABLE 6.8.5B PREDICTED NOISE LEVELS (SLEEP DISTURBANCE LEVELS) AT RESIDENTIAL LOCATIONS

Location number	Address	Predicted noise levels at residence (dBA)	Criterion	Complies?
4	654-674 Mamre Road, Kemps Creek	43	58	Yes
5	Property on Mamre Road, Kemps Creek (Lot 34, DP1118173)	40	58	Yes
6	573-577 Mamre Road, Orchard Hills	41	58	Yes
7	539-571 Mamre Road, Orchard Hills	40	58	Yes
8	1-19 Mandalong Close, Orchard Hills	38	58	Yes
9	Verdi Glen, St Clare	29	50	Yes
10	2 Carcoar Close, Erskine Park	29	50	Yes
11	6 Ridgeview Crescent, Erskine Park	29	50	Yes

Traffic Noise

The Proposal would generate 102 truck trips per day which would include10 trips (5 in, 5 out) during the morning peak hour and 16 trips (8 in, 8 out) during the evening peak hour.

The traffic to and from the development would approach the industrial area on Mamre Road, then leave Mamre Road at Erskine Park Road. Between Mamre Road and the development, there are no noise sensitive receivers.

The current peak hour flows on Mamre Road are shown in Table 6.8.5c.

TABLE 6.8.5C EXISTING 2013 TRAFFIC COUNTS AT JAMES ERSKINE DRIVE

Road Segment	AM peak	PM peak
North of James Erskine Drive	1960	1657
South of James Erskine Drive	1742	1466

When the peak hour traffic generated by the Proposal is added to the existing peak hour flows on Mamre Road shown in Table 6.8.5c, this constitutes an increase in noise of less than 0.1dBA.

As noted in the Road Noise Policy, an increase of 2dBA is considered barely perceptible. Hence an increase of 0.1dBA is a negligible impact.

The noise impact of truck movements outside of peak hours has been considered as part of the assessment of sleep disturbance.

Vibration

The site activity would be more than 100m from any industrial building and more than 500m from any residence or other noise sensitive building. No significant vibration sources are proposed. There would be no blasting or impact piling. Vibration from the site would be imperceptible at any nearby building or residence, and therefore would be below all normally applicable criteria.

Mitigation Measures

The siting of the Proposal in the middle of an industrial area and the considerable distance to residential areas and other sensitive receptors significantly reduces the potential for noise impacts. Operation noise sources are largely contained within the main building, which incorporates noise attenuation features, thereby minimising noise impacts associated with the operation of the facility.

Traffic-related noise is also reduced through the operating profile of the facility which results in truck movements being spread throughout the day.

The noise assessment concludes that there would be no significant noise impact at any of the sensitive receptors identified and all noise levels resulting from the Proposal would be within EPA criteria.

6.9 Socioeconomic

This section describes the potential impact of the Proposal on the community within the vicinity of the Proposal and the regional economy. It takes into consideration the impacts identified in other assessment sections such as visual amenity, noise and vibration, air quality and odour, and traffic and transport, as these are connected to the potential socioeconomic implications of the Proposal. Noting that the DGRs do not specify socioeconomic impact as a key issue, the proposed development is assessed as providing a positive impact to the regional economy, including the dairy industry. The significant investment in a dairy processing facility creates many employment opportunities during the construction and operation of the facility.

The nature of the Proposal, being a milk processing facility with rigorous hygiene and security requirements, means it is not compatible with the provision of community facilities or providing access to the public.

6.9.1 Methodology

A broad Social Impact Assessment (SIA) was undertaken to identify the existing social environment surrounding the Proposal, to assess its potential impacts and to determine mitigation measures. “SIA includes the processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions. Its primary purpose is to bring about a more sustainable and equitable biophysical and human environment” (Vanclay, 2003). The scope of the SIA is as follows:

- Review of any relevant strategic planning documents from the DP&I and Penrith City Council;
- Determine the existing socioeconomic profile in the area through data from the Australian Bureau of Statistics and Penrith City Council; and
- Identify any potential impacts and corresponding mitigation measures based on:
    - The existing social environment;
    - The potential changes associated with the construction and operation of the Proposal including the economic impact; and
    - Any issues mentioned from stakeholder engagement (these issues are identified in section 4).

6.9.2 State and local planning strategies and documents

The State and local planning strategies which set the context for the Proposal have been described in section 3. The Penrith Community Plan and Penrith City Strategy are particularly relevant for the Socioeconomic assessment and are described in the following section.

Penrith Community Plan

The Penrith Community Plan (Community Plan) is a strategic document prepared by Penrith City Council. This Community Plan describes the community’s wants and needs as Penrith grows and progresses in the next 20 years. It has been developed through extensive engagement with a diverse range of community members and residents, non-government organisations, businesses, Aboriginal communities and stakeholders. The main priorities identified by Penrith City Council are to:

- Focus on investment and growth in Penrith City’s key centres, Penrith Health and Education Precinct and Western Sydney Employment Area;
- Create opportunities for activities on and around the Nepean River;

- Advocate for a stadium that is capable of hosting national and international events (entertainment and sport); and
- Work with government to secure the Penrith Lakes Parklands and participate in unlocking future development potential.

The Community Plan contains seven key Community Outcomes which have been determined through community responses and engagement. Table 6.9.3a contains a summary of relevant outcomes and describes how the Proposal would contribute to their realisation.

TABLE 6.9.3A PROPOSAL'S CONTRIBUTION TO PENRITH COMMUNITY PLAN

Community Outcome	Key message	Proposal's contribution
We can work close to home.	Provide jobs, education and training opportunities close to home, particularly for business groups, community groups, young people and Aboriginal groups. The opportunity to live and work locally was a key factor in retaining local residents.	The Proposal would provide local employment opportunities for the Penrith community, particularly during the operation of the processing facility (at least 10 years).
We plan for our future growth.	Provide the infrastructure and services that are needed to support growth. Better community services such as health, transport, aged care and housing options were particularly important issues for older people and community groups in the City.	The Proposal would not require upgrades to the existing road network. There is potential for the Proposal to encourage further improvements to the existing infrastructure and services, especially for the Erskine Park Employment Area.
We care for our environment.	Look after our environment by protecting the bushland, rivers, creeks and waterways; encouraging people to use resources wisely; managing illegal dumping; supporting local food production and protecting Penrith's unique scenery and its mix of urban and rural landscapes.	The Proposal is located adjacent to a Biodiversity Conservation Area. The Proposal would not have any significant impacts on the Biodiversity Corridor.

Penrith City Strategy

The Penrith City Strategy (City Strategy) is a strategic document prepared by Penrith City Council that informs the Community Plan and Council's four year Delivery Program. It provides a description of the issues facing Penrith over the next 10 to 20 years, and the responses to these issues. The primary objective of the City Strategy is to address issues relating to housing, jobs, economy, transport and access, infrastructure delivery, community wellbeing, the environment and places. Table 6.9.3b contains a summary of relevant policy responses and corresponding key goals, and describes how the Proposal would contribute to their realisation.

TABLE 6.9.3B PROPOSAL'S CONTRIBUTION TO PENRITH CITY STRATEGY

Policy response	Goals	Proposal's contribution
Jobs and economy Attract strategic investment, facilitate employment diversity and growth, promote job clusters and encourage local workforce skills and training.	An additional 40,000 jobs over the Plan period. Businesses that adapt to emerging needs and opportunities. A diverse economy that provides a range of employment opportunities. Infrastructure that improves economic opportunities for existing and new businesses. Rural and agricultural activities play a key part in the City's economic development. Growth and investment targets new and emerging employment sectors. An effective transport network that links the City and the region. Improved public transport connections to neighbouring growth centres and the Central West, to support Penrith's role as a regional hub servicing these areas. Employment land uses are planned to integrate with the existing and proposed transport network, and reduce dependence on long-distance road transport.	The Proposal would provide local employment opportunities for the Penrith community, particularly during the operation of the processing facility (at least 10 years). Food manufacturing is not a significant sector in the Western Sydney Employment Area and in the Erskine Park Employment Area. The Proposal would add to the diversity of businesses in the area. The Proposal would play a role in supporting the dairy industry in NSW.
Environment Protect the native biological diversity of the City.	Priority conservation areas and flora and fauna corridors are protected and improved. Accurate mapping of areas rich in biodiversity. Landowners retain and manage native vegetation. Community awareness and involvement in biodiversity conservation and protection.	The Proposal is situated in close proximity to land identified as an environmental conservation area and Biodiversity Corridor. The area is known to contain remnant Cumberland Plan Woodland. The Proposal would not have any significant impacts on the adjacent Biodiversity Corridor.
Environment	Improving air quality.	The Proposal would have minimal impacts to air quality

Policy response	Goals	Proposal's contribution
A City that recognises and responds to its changing climate. A City with cleaner air.	Reduced greenhouse gas emissions. Increased walking, bicycle and public transport use. Increased community awareness of the impacts of climate change. Design is appropriate for our climate. Increased green cover, shade and landscaping to 'cool down' Penrith. Housing that maximises resource efficiency and minimises greenhouse gas emissions. Development and activities do not adversely impact on air quality.	and odour (refer to section 6.2).

6.9.3 Existing socioeconomic profile

The following demographic profile provides an overview of the existing socioeconomic environment of the suburbs of Erskine Park and St. Clair and compares them with Penrith LGA and NSW. It is noted that whilst the Proposal is within Erskine Park, the suburb of St. Clair is close to the Proposal and adjoins Erskine Park. Erskine Park Road marks the general boundary between these two suburbs.

Population and age group characteristics

Table 6.9.3a provides the demographic statistics (including male, female and Aboriginal and Torres Strait Islander population percentages) within Erskine Park and St Clair from the 2011 Census. The median age of persons living in Erskine Park and St. Clair is 31 and 32 years old respectively, which is lower than the median age for the population in Penrith LGA and in NSW. It is noted that Erskine Park also has a slightly higher percentage of males and a lower percentage persons of Aboriginal descent than in St. Clair, in Penrith LGA and in NSW.

TABLE 6.9.3A POPULATION CHARACTERISTICS IN ERSKINE PARK, ST. CLAIR, PENRITH LGA AND NSW

Population Characteristics	Erskine Park	St. Clair	Penrith LGA	NSW (State)
Male	**50.3**	**49.8**	**49.4**	**49.3**
Female	**49.7**	**50.2**	**50.7**	**50.7**
Aboriginal and Torres Strait Islander	**1.7**	**2.6**	**3**	**2.5**

Table 6.9.3b provides a summary of the age group characteristics in Erskine Park, St. Clair, Penrith LGA and NSW based on the 2011 Census. Both Erskine Park and St. Clair have very similar characteristics, with the majority of the population generally within the 25 to 54 age groups and a relatively low percentage comprising the older generation. The 25 to 54 age bracket represents a significant proportion of the working class at Erskine Park and St. Clair. It also comprises the key reproductive ages in a population, and this is reflected in the relatively high percentage of families who have children in Erskine Park and St. Clair.

TABLE 6.9.3B AGE GROUP CHARACTERISTICS IN ERSKINE PARK, ST. CLAIR, PENRITH LGA AND NSW

Age Group	Erskine Park	St. Clair	Penrith LGA	NSW (State)
0-4	**6.4**	**7.5**	**7.6**	**6.6**
5-14	**16.2**	**13.9**	**14.1**	**12.6**
15-24	**19.4**	**16.8**	**14.8**	**12.9**
25-54	**44.2**	**44.1**	**42.5**	**41.4**
55-64	**9.5**	**12.1**	**11.4**	**11.7**
Over 65	**4.3**	**5.5**	**9.6**	**14.7**

Relevant 2011 Census statistics relating to marital status types and family structure are represented in Table 6.9.3c and Table 6.9.3d respectively. The proportion of marital status types is relatively similar for Erskine Park and St. Clair. The percentage of married individuals in both suburbs is higher than in Penrith LGA and in NSW. By far the most dominant family structure for both suburbs is couples with children, and the percentage for both suburbs is again greater than in Penrith LGA and in NSW.

TABLE 6.9.3C REGISTERED MARITAL STATUS STATISTICS IN ERSKINE PARK, ST. CLAIR, PENRITH LGA AND NSW

Marital Status	Erskine Park	St. Clair	Penrith LGA	NSW (State)
Married	**53.8**	**51.9**	**48.5**	**49.4**
Never married	**36**	**35**	**34.9**	**33.5**
Separated or divorced	**8.2**	**10.1**	**12.2**	**11.4**
Widowed	**1.9**	**2.9**	**4.4**	**5.8**

TABLE 6.9.3D FAMILY CHARACTERISTICS IN ERSKINE PARK, ST. CLAIR, PENRITH LGA AND NSW

Family characteristics	Erskine Park	St. Clair	Penrith LGA	NSW (State)
Couple families without children	**21.7**	**25.5**	**29.6**	**36.6**
Couple families with children	**64**	**55.5**	**49.7**	**45.5**

Family characteristics	Erskine Park	St. Clair	Penrith LGA	NSW (State)
One parent families	**13.5**	**17.9**	**19.2**	**16.3**
Other families	**0.8**	**1.1**	**1.5**	**1.7**

The 2011 Census statistics in Tables 6.9.3e and 6.9.3f indicate that the country of birth and most common language spoken at home is generally similar in Erskine Park, St. Clair, Penrith LGA and NSW. Table 6.9.3f also shows that English was the most common language spoken at home in Erskine Park (77%) and St. Clair (76%). For Erskine Park, the top three common languages spoken at home other than English are Arabic (2.4%), Tagalog (2.4%) and Hindi (1.8%). St. Clair is similar, with the two of the top three languages being Arabic (3.3%) and Tagalog (2.1%), followed by Spanish (1.4%).

TABLE 6.9.3E COUNTRY OF BIRTH STATISTICS IN ERSKINE PARK, ST. CLAIR, PENRITH LGA AND NSW

Country of birth	Erskine Park	St. Clair	Penrith LGA	NSW (State)
Australia	**72.9**	**71.2**	**74.3**	**68.6**
Overseas	**27.1**	**28.8**	**25.7**	**31.4**

TABLE 6.9.3F LANGUAGE SPOKEN AT HOME IN ERSKINE PARK, ST. CLAIR, PENRITH LGA AND NSW

Language spoken at home	Erskine Park	St. Clair	Penrith LGA	NSW (State)
English only	**77**	**76**	**80.9**	**72.5**
Non-English	**23**	**24**	**19.1**	**27.5**

An extensive range of social, recreational and community services exist in Penrith LGA to support the local community. These include, but are not limited to, accommodation, child care centres, disability services, sporting facilities and transport. Construction of the Proposal would require a workforce of approximately 50 individuals and the operational phase would require a workforce of approximately 45 individuals. It is unlikely that these workforce numbers would significantly increase the total population of Erskine Park, St. Clair or Penrith LGA. Therefore, it is anticipated that additional services for the local community would not be required as a result of the Proposal.

TABLE 6.9.3G DWELLING CHARACTERISTICS IN ERSKINE PARK, ST. CLAIR, PENRITH LGA AND NSW

Dwelling characteristics	Erskine Park	St. Clair	Penrith LGA	NSW (State)
Separate house	97.3	96.7	81.5	69.5
Semi-detached, row or terrace house, townhouse	2.6	1	10.8	10.7
Flat, unit or apartment	0	2.3	7.1	18.8
Other dwellings	0.2	0.1	0.4	0.9

TABLE 6.9.3H LAND TENURE IN ERSKINE PARK, ST. CLAIR, PENRITH LGA AND NSW

Tenure type	Erskine Park	St. Clair	Penrith LGA	NSW (State)
Fully owned	24.9	26.9	26.8	33.2
Being purchased	59.5	54.6	43.8	33.4
Rented	14.3	16.2	26.7	30.1
Other tenure type	0.2	0.3	0.5	0.8
Not stated	1.2	2	2.2	2.6

The majority of dwellings in Erskine Park and St. Clair are separate houses (refer to Table 6.9.3g). This proportion is much greater than Penrith LGA and NSW. From 2007 to 2013, Erskine Park experienced a 0% change in the number of structural dwellings occurring each year, with only three structural dwellings built during this period. The suburb of St. Clair experienced a 0.1% change in the number of structural dwellings built each year from 2007 to current. This suggests that currently both suburbs do not have extensive residential developments or release areas.

A large percentage of land tenure at Erskine Park and St. Clair are either fully owned or being purchased (refer to Table 6.9.3h). The proportions for Land Tenure in both suburbs are similar to Penrith LGA; however, the proportion of rented homes is higher in the LGA than either suburb.

Occupation statistics and social connectivity

According to the 2011 Census, the most common occupations in Erskine Park included Clerical and Administrative Workers (20.9%), Technicians and Trade Workers (16.3%), Professionals (11.9%) and Machinery Operators and Drivers (10.2%). The most common occupations in St. Clair follow a similar proportion, with Clerical and Administrative Workers (21%), Technicians and Trade Workers (16.4%), Machinery Operators and Drivers (12%) and Professionals (11.8%) comprising the top four. The Proposal would potentially provide local employment given the most common local occupations may be in demand for the operations of the milk processing facility.

The 2011 Census also indicates that the common industry for employed people in Erskine Park and St. Clair is Road Freight Transport. Other major industries of employment for Erskine Park and St.

Clair include Cafés, Restaurants and Takeaway Food Services, School Education and Hospitals. There is potential for the Proposal to encourage some growth in employment in the Food Processing/Manufacturing Industry for both suburbs.

The most popular mode of transport to work for both Erskine Park and St. Clair is the car, with the total percentage of car use 75.1% for Erskine Park, and 73.6% for St. Clair. The Proposal would cater for employees wishing to commute using cars as it would have a sufficient number of parking spaces for employees. Currently, only one bus service has a route that goes through Erskine Park Road and James Erskine Drive. This service is Bus 779 taken from St. Marys bus interchange, next to St. Marys train station. Existing public transport options are therefore limited for employees of the proposed facility.

The Proposal is unlikely to influence the demographic profile of Erskine Park, St. Clair or Penrith LGA. Therefore, it is not anticipated that there would be any impact on social connectivity as a result of the Proposal.

6.9.4 Socioeconomic assessment

Construction phase

The socioeconomic impacts of the Proposal during the construction phase are summarised in Table 6.9.4a.

6.9.4A SOCIOECONOMIC IMPACTS DURING CONSTRUCTION

Impact	Potential social impact prior to mitigation	section reference
Economic		section 6.9
The Capital Investment Value of the Proposal as estimated by WT Partnership and based on the preliminary concept designs is $64,881,000 including GST. Some businesses may experience a positive impact due to increased trade from construction works or demand for construction related services. The Project would generate a number of jobs during construction phase.	Positive, short term impact. Positive, short term impact. Positive, short term impact.	
Access to services and jobs		section 6.9
No impacts to access for any nearby businesses or operations during construction of the Proposal.	No impact.	
Social cohesion		section 6.9
The Proposal would not alter the social demographic of the surrounding area, and would therefore not have any impacts on social cohesion.	No impact.	

Impact	Potential social impact prior to mitigation	section reference
House availability and affordability		section 6.9
The Proposal would not have an impact on housing availability and affordability.	No impact.	
Land acquisition		section 3
Acquisition of one property from the previous owner (CSR) has been completed as per the Proposal.	No impact.	
Traffic and transport		section 6.11
The construction traffic generated by the Proposal would not have a noticeable impact on the local road network.	No impact.	
Air quality and odour		section 6.2
The Proposal would likely generate dust, particularly during excavation works or during periods of high wind.	Negative, short term impact.	
Noise and vibration		section 6.8
The nearest sensitive receivers are located over 400m away from the site. Potential noise impacts would be limited to any works undertaken at night time or outside the construction hours.	Negative, short term impact.	
Cumulative impact		section 6.13
No other Projects or developments would be impacted by the Proposal during its construction.	Neutral impact.	

Operational phase

The socioeconomic impacts of the Proposal during the operation phase are summarised in Table 6.9.4b.

TABLE 6.9.4B SOCIOECONOMIC IMPACTS DURING OPERATION

Impact	Potential social impact prior to mitigation	Section reference
Economic		section 6.9
The Proposal would be the first major investment in milk processing facilities in NSW since the dairy industry deregulation in 2000. It	Positive impact.	

Impact	Potential social impact prior to mitigation	Section reference
would bring benefits to Australian dairy farmer families as the beneficial owners of MGC.		
The NSW dairy industry has suffered from the effects of consolidation, disinvestment and inconsistent milk prices offered by processors since deregulation of the industry. Accordingly, MGC's planned involvement in the Sydney milk market aims to restore stability to the industry. MGC plans to source its milk (for the Proposal) from NSW dairy farmers located in a number of sub-regions of the state including Hunter Valley, Mid-North Coast, South Coast and Hinterland, Riverina and Central West. MGC's involvement in the NSW industry as an integrated farmer-owned business and its proposed policies for milk sourcing and payment would offer much needed confidence and stability for the dairy farming sector.	Positive impact.	
MGC's supply agreement with Coles and its ability to more effectively balance milk flows across NSW and Victorian regions would enable the company to offer a higher milk price to NSW suppliers in the future. The Proposal would improve milk prices for NSW dairy farmers and create greater stability in returns from the marketplace. In turn, this would create stability and growth in supporting sectors.	Positive impact.	
The Proposal would create improved competition and returns for milk as MGC's objectives are to maximise farmer-shareholder incomes.	Positive impact.	
The Proposal would create some employment opportunities. The Proposal would involve at least 45 full-time positions and up to 4 full-time positions in farm field services and commercial milk management.	Positive impact.	
The Proposal would ensure that NSW consumers would have greater access to local fresh milk supplies from a sustainable industry servicing major population centres and minimising the requirements for long haul road transport.		
Access to services and jobs		section 6.9
The Proposal would not impact access for any nearby businesses or operations during operations of the Proposal.	No impact.	
Social cohesion		section 6.9

Impact	Potential social impact prior to mitigation	Section reference
The Proposal would not alter the social demographic of the surrounding area, and would therefore not have any impacts on social cohesion.	No impact.	
House availability and affordability		section 6.9
The Proposal would not have an impact on housing availability and affordability.	No impact.	
Land acquisition		section 3
Acquisition of one property from the previous owner (CSR) has been completed as per the Proposal.	No impact.	
Traffic and transport		section 6.11
The additional traffic generated by the operation of the facility would not have a significant impact on the local road network.	No impact.	
Air quality, odour, greenhouse gas		section 6.2
Air quality and odour emissions associated with the boiler and waste water treatment system occur during the operation of the Proposal. However, these have been assessed to be well within regulatory limits. Greenhouse gas emissions would be generated as a result of the operation of the boiler and transport to/from site. These would be limited due to the energy efficiency measures incorporated into the design and operation of the facility. The Proposal would reduce the need for sourcing milk from Victoria, thereby reducing the demand for long distance freight transport and the potential associated greenhouse gas emissions.	Negative impact. Negative impact. Positive impact.	
Noise and vibration		section 6.8
The nearest sensitive receivers are located over 400m away from the site. Potential noise impacts would be limited to any works undertaken at night time and have been assessed as being well within regulatory limits.	Negative impact.	

6.9.5 Mitigation measures

Measures to mitigate impacts are described in each of the corresponding sections as indicated in Tables 6.9.4a and 6.9.4b.

6.10 Surface water

This section provides a description of the existing site surface water drainage patterns, proposed stormwater management measures and stormwater related risks during construction and operation of the Proposal. It draws on the Stormwater Strategy, Riparian Survey and Soil and Water Management Plan provided in **Technical Paper 6: Surface Water.** The surface water assessment identifies potential environmental risks associated with stormwater run-off from the site impacting on the Biodiversity Corridor and unnamed creek to the south. These risks are effectively managed through the design of the stormwater drainage system during construction and operation and implementation of ongoing management measures. As such, the potential environmental impacts associated with surface water are assessed as not significant.

Table 6.10a outlines the relevant DGRs and where they have been addressed.

TABLE 6.10A DGRS FOR SOIL AND WATER

Director-General's Requirements	Location addressed
Soil and Water *– including:* • *A site water balance and an outline of the proposed water requirements, including sources of water, usage and efficiency measures;* • *Detailed assessment of potential soil, surface, flooding and groundwater impacts;* • *Potential soil contamination (including potential acid sulphate soils) and any proposed management measures;* • *Details of proposed erosion and sediment controls (during construction);* • *Details of proposed stormwater management measures (during construction and operation); and* • *Wastewater management, spill containment and bunding.*	section 6.6 and section 6.10

6.10.1 Methodology

Investigations to assess the potential surface water impacts of the Proposal focussed in part on addressing the comments of regulatory agencies, specifically the NSW Office of Water (NOW) and NSW Environment Protection Authority (EPA), provided within the DGRs. In addition, a *Stormwater Management Strategy* was prepared for the site by Pitt & Sherry (2013), which outlined a drainage strategy and measures for management of stormwater quantity and quality in line with Penrith City Council requirements. The Stormwater Management Strategy (Pitt & Sherry, 2013) is provided as Technical Paper 6: Surface Water.

A Conceptual Soil and Water Management Plan (SWMP) (KMH, 2013) was prepared and submitted as part of the Early Works development application with Penrith City Council. While specifically addressing the Early Works, this SWMP also substantially addresses the construction soil and water management requirements for subsequent stages of the project. It provides a baseline plan and a mechanism for updating controls as required during construction, through development of Progressive Erosion and Sediment Control Plans. A copy of the Early Works SWMP is provided in Technical Paper 6: Surface Water.

A site investigation was undertaken on 25 July 2013. The purpose of the investigation was to assess existing drainage patterns, identify opportunities for improving site drainage, and conduct a survey of the adjoining riparian land.

The key issues addressed in this section include:

- Description of the existing site drainage and erosion;
- Description of the receiving environment, including riparian land within the adjoining Biodiversity Corridor;
- Description of existing surface water quality in the receiving environment and identification of relevant water quality objectives;
- Flood risk assessment;
- Soil erosion risks, and recommendations for soil and water management during construction of the Proposal;
- Description of proposed surface water drainage, erosion control and stormwater management infrastructure;
- Stormwater drainage design and hydraulic assessment;
- Identifying potential sources of water pollution during construction and operation of the Proposal, and mitigation measures to manage these risks;
- Potential impacts on the riparian environment, and mitigation measures to manage these risks;
- Water licensing considerations, and
- A water balance identifying the water needs and outputs, and efficiency measures designed to minimise water consumption.

6.10.2 Catchment Description

The site is in the South Creek catchment. The *South Creek Subcatchment Summary*, prepared by the Hawkesbury Nepean Catchment Management Authority, indicates that the South Creek encompasses most of the Cumberland Plain of Western Sydney. The catchment is a shale-based catchment with no gorges or sandstone dominated landscapes. The majority of the streams are “meandering vertical” river channel types streams, which are under great threat as they are confined largely to the Cumberland Plain in the Hawkesbury Nepean catchment, according to the *Summary*.

The South Creek subcatchment is perhaps the most degraded subcatchment in the Hawkesbury Nepean. Hydrological and sediment regimes have been dramatically altered due to catchment vegetation clearance and increasing urbanisation. Increasing impervious surfaces in the catchment are causing changes to hydrology which has greatly altered the geomorphology and ecology of the watercourses.

According to the *Summary*, a number of major Sewerage Treatment Plants discharge into South Creek and these, along with stormwater from urban areas and agricultural run-off, contribute to the poor water quality of the streams. The recovery potential of the catchment’s streams is very low, however, there are some very important remnants of endangered vegetation along the riparian zones. The watercourses form extremely important habitat corridors although heavy woody weed invasion exists in the riparian zones.

Figure 6.10.2a shows the approximate site location relative to South Creek. The nearest watercourse to the site is a small, unnamed second-order watercourse to the south of the site, within the Biodiversity Corridor. This unnamed watercourse drains to the northwest through the developing

industrial estate and thence to South Creek. A detailed description of this creek and the adjacent riparian environment is provided in section 6.10.3.

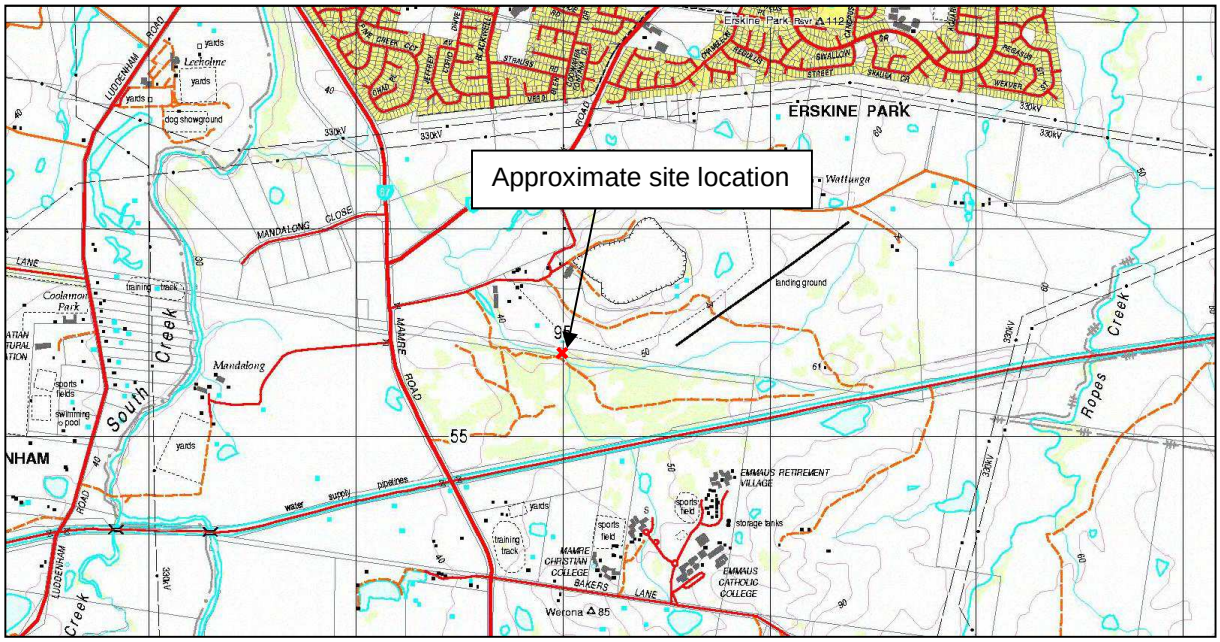


FIGURE 6.10.2A LOCATION OF SITE RELATIVE TO SOUTH CREEK

6.10.3 Description of Unnamed Watercourse and Riparian Environment

The site drains to an unnamed second-order watercourse located within the Biodiversity Corridor to the south of the site. This unnamed watercourse has a catchment area of approximately 162 ha comprising a mix of mainly cleared grazing land and industrial land.

A walkover survey of this watercourse was conducted on 25 July 2013 to gather a range of information such as the size and nature of the main drainage channel, riparian and aquatic vegetation, evidence of erosion and sedimentation, and general condition of the watercourse. This survey was undertaken to provide the information requested by NOW in the DGRs.

Approximately 400m of the creek was surveyed, commencing at the upstream end in the east, roughly in line with the development site's eastern boundary, and concluding at the downstream end approximately 100m downstream (west) of the development site. The weather on the day of survey was fine with no rain, and during the weeks leading up to the survey it was unusually dry, with a total of only 11mm recorded for the month of July at Prospect. The creek was in very low flow conditions, probably flowing at less than 1L/s.

Photographs were taken and descriptive details recorded from numerous survey points. A detailed topographic survey was also conducted (by others) that included delineation of the top of bank of the watercourse. A plan showing the survey points and topographic characteristics of the watercourse is provided in Technical Paper 6, along with a set of photographs and descriptive notes taken from all survey points.

In summary, at the upstream end the watercourse comprises two roughly parallel channels separated by approximately 40 m, with the southern channel extending beyond the survey area to the east, while the northern channel commences roughly in line with the site's eastern boundary. These channels join approximately mid-way along the survey area.

At the upstream end, the southern or main channel is a well vegetated, stable, meandering creekline characterised by pool and riffle sequences. The creek channel is approximately 1-1.5m wide and

typical pool depth is up to 0.6m, though rarely to 1.5m deep. Banks are semi-vertical though stable. Water clarity was good. There was no evidence of significant sediment pollution, though fine sediment was accumulated in pools as is common in these environments. There exists many and varied aquatic plants with no overabundant species. The surrounding vegetation comprised a mainly grassy understorey, with middle and upper storey comprising paperbarks, eucalypts and wattles. The creek was partially shaded. This upstream area was generally in a good condition. Moving downstream the channel became larger, increasing in width to approximately 4-6m and in depth to approximately 1.5-2m.

The northern channel possessed similar dimensions to the southern channel at the upstream end, and similarly increased in size moving downstream. Its condition was far more degraded however than the southern (main) channel. In particular, the northern channel is affected by a large influx of sediment that appears to be of relatively recent origin, and is in stark contrast to the southern channel. It appears very likely that this sediment is derived from erosion and runoff from the landfill site to the north, given that it commences roughly adjacent to the area of uncontrolled runoff and appreciable erosion that was observed along the eastern side of the subject development site. This is discussed further in section 6.10.5.

This sediment slug affected the northern channel to varying depths, but in one location, near the confluence with the southern channel was measured at up to 0.6 m deep. This sediment accumulation appeared unnatural and was noted as a distinct difference from the more natural looking upstream reaches of the southern channel. The aquatic vegetation in this northern channel became increasingly dominated by over-abundant Typha to the exclusion of most other species, and this pattern continued downstream below the confluence of the two channels as did the sediment plume.

Moving downstream from the confluence of the northern and southern channels, the creek became marginally wider and deeper and the aquatic vegetation remained dominated by Typha. At the downstream end of the survey area the creek opens out to an area largely devoid of native riparian vegetation and with a very open exposure to sunlight. The aquatic vegetation changed from Typha to Phragmites which was so thick as to completely obscure the creek channel. It would appear that the creek channel gets much wider and shallower in this downstream area, though the dimensions were not easy to discern.

6.10.4 Catchment Water Quality

Sampling Program

To provide a snapshot of water quality within the creek three water samples were collected during the riparian survey, two from within the watercourse (denoted “u/s1” and “u/s2”), and one from the stormwater outlet adjacent the site (denoted “s/w”). The sample locations are shown in Technical Paper 6.

It is worth noting that this single sampling event provides just a point in time record of water quality but no indication of variability. Water quality in small streams such as this can be highly variable and to provide a clear understanding of this variability, a monitoring program covering generally not less than 12 months, representing different seasons and flow conditions, would typically be required. It was not considered necessary to conduct such a comprehensive baseline monitoring program for this Proposal.

Assessment Criteria

To assess the baseline condition of the watercourses in the surroundings of the Proposal area, historical and recently collected data was compared to target values established in the Australian and New Zealand Environment Conservation Council (ANZECC) (2000) guidelines. ANZECC (2000) distinguishes three levels of aquatic ecosystem conditions:

1. High conservation/ecological value systems (HEV) — effectively unmodified or other highly–valued ecosystems, typically (but not always) occurring in national parks, conservation reserves or in remote and/or inaccessible locations.

2. Slightly to moderately disturbed systems (SMD) — ecosystems in which aquatic biological diversity may have been adversely affected to a relatively small but measurable degree by human activity. The biological communities remain in a healthy condition and ecosystem integrity is largely retained.

3. Highly disturbed systems (HD) — measurably degraded ecosystems of lower ecological value. Examples of highly disturbed systems would be some shipping ports and sections of harbours serving coastal cities, urban streams receiving road and stormwater run-off, or rural streams receiving runoff from intensive horticulture.

For each level of aquatic ecosystem conditions, the ANZECC (2000) guidelines assign a level of protection with target values. Therefore the level of aquatic ecosystem conditions needs to be determined for the Proposal area to assign target values.

The Proposal area is located adjacent to and surrounded by industrial lands both upstream and downstream. The broader catchment area for the unnamed creek includes industrial lands, a landfill, and rural grazing land to the south and east. The riparian corridor has been heavily impacted by land clearing and industrialisation in the upstream and downstream parts, though does retain reasonably intact native vegetation in the vicinity of the site.

The watercourse is degraded in the lower part of the survey area, with the channel being choked by over-abundant aquatic vegetation (Typha and Phragmites). This may be a symptom of the significant sedimentation that has occurred in this area. In the upstream part of the survey area however the creek was in quite good condition, with a good mix of aquatic vegetation, no obvious sediment pollution and generally good water quality.

Given the relatively good condition in the upstream area and the relatively high conservation value that has been applied to these lands, being within a declared Riparian Corridor, it is appropriate that aspirational water quality targets be set which recognise the goal of improving the existing degraded parts of this watercourse. Therefore the ecosystem condition that is considered to be most appropriate for the receiving waters in the vicinity of the Proposal is 'slightly to moderately disturbed system'.

ANZECC (2000) provides trigger levels for physical and chemical stressors. Trigger values for lowland rivers for southeastern Australia are relevant to the site. For chemical toxicants, ANZECC (2000) provides default values for protection of freshwater species, and these are provided for four different protection levels ranging from 80 % to 99%. A 95% level of protection was adopted, except for toxicants for which the ANZECC guidelines (2000) recommend the 99% level of protection for specific parameters. These values are considered appropriate to assess slightly to moderately disturbed ecosystems.

Water Quality Results

The water quality results and relevant trigger values from ANZECC (2000), where available, are provided in Table 6.10.4a. Note that sample u/s2 is the furthest upstream.

Overall, water quality of the stormwater sample was relatively poor compared to the creek waters and ANZECC criteria. In low flow conditions such as those experienced during the survey it is expected that stormwater inflows like this exert a significant impact on water quality within the receiving environment. At source pollution controls are necessary to maintain a high quality stormwater so as to minimise degradation of the receiving waters.

The stormwater outlet sampled had a reasonable flow at the time, which was certainly not a result of rainfall run-off due to the fine weather preceding the survey. Further investigation would be required to identify the source of this water, but options include discharges from other nearby industrial sites, or the landfill site, or even seepage from the retaining wall subsurface drainage system.

TABLE 6.10.4A WATER QUALITY RESULTS

				Samples		
Analyte grouping/Analyte	**Units**	**LOR**	**ANZECC (2000) trigger values**	**U/S 1**	**U/S 2**	**S/W**
pH Value	pH Unit	0.01	6.5 - 8.0	**7.95**	**8.21**	**7.89**
Electrical Conductivity @ 25°C	µS/cm	1	125 – 2200	**3140**	**1760**	**2850**
Suspended Solids (SS)	mg/L	5	n/a	**34**	**8**	**24**
Turbidity	NTU	0.1	6-50	**20.4**	**3.4**	**3.8**
Total Hardness as CaCO3	mg/L	1	n/a	**516**	**276**	**1080**
Hydroxide Alkalinity as CaCO3	mg/L	1	n/a	<1	<1	<1
Carbonate Alkalinity as CaCO3	mg/L	1	n/a	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	mg/L	1	n/a	**280**	**173**	**874**
Total Alkalinity as CaCO3	mg/L	1	n/a	**280**	**173**	**874**
Anions						
Sulfate as SO4 - Turbidimetric	mg/L	1	n/a	**91**	**135**	**39**
Chloride	mg/L	1	n/a	**749**	**343**	**436**
Cations						
Calcium	mg/L	1	n/a	**55**	**53**	**163**
Magnesium	mg/L	1	n/a	**92**	**35**	**164**
Sodium	mg/L	1	n/a	**486**	**267**	**278**
Potassium	mg/L	1	n/a	**6**	**8**	**4**
Metals						
Arsenic	mg/L	0.001	0.0013	<0.001	<0.001	<0.001
Cadmium	mg/L	0.0001	0.0002	<0.0001	<0.0001	<0.0001
Chromium	mg/L	0.001	0.001	<0.001	<0.001	**0.002**
Copper	mg/L	0.001	0.0014	**0.002**	**0.002**	<0.001
Lead	mg/L	0.001	0.0034	<0.001	<0.001	<0.001
Nickel	mg/L	0.001	0.011	**0.001**	<0.001	**0.049**
Zinc	mg/L	0.005	0.008	**0.009**	**0.007**	<0.005
Mercury	mg/L	0.0001	0.006	<0.0001	<0.0001	<0.0001

				Samples		
Analyte grouping/Analyte	**Units**	**LOR**	**ANZECC (2000) trigger values**	**U/S 1**	**U/S 2**	**S/W**
Nutrients and organics						
Ammonia as N	mg/L	0.01	0.9	**0.04**	**0.02**	<0.01
Nitrite + Nitrate as N (NOx)	mg/L	0.01	0.015	**0.04**	**0.02**	**0.02**
Total Kjeldahl Nitrogen as N	mg/L	0.1	n/a	**0.4**	**0.3**	**2.5**
Total Nitrogen as N	mg/L	0.1	0.5	**0.4**	**0.3**	**2.5**
Total Phosphorus as P	mg/L	0.01	0.05	**0.08**	<0.01	**0.06**
Oil & Grease	mg/L	5	n/a	<5	<5	<5
Biochemical Oxygen Demand	mg/L	2	n/a	<2	<2	**5**
PAH						
Naphthalene	µg/L	1.0	0.016	<1.0	<1.0	<1.0
Acenaphthylene	µg/L	1.0	n/a	<1.0	<1.0	<1.0
Acenaphthene	µg/L	1.0	n/a	<1.0	<1.0	<1.0
Fluorene	µg/L	1.0	n/a	<1.0	<1.0	<1.0
Phenanthrene	µg/L	1.0	n/a	<1.0	<1.0	<1.0
Anthracene	µg/L	1.0	n/a	<1.0	<1.0	<1.0
Fluoranthene	µg/L	1.0	n/a	<1.0	<1.0	<1.0
Pyrene	µg/L	1.0	n/a	<1.0	<1.0	<1.0
Benz(a)anthracene	µg/L	1.0	n/a	<1.0	<1.0	<1.0
Chrysene	µg/L	1.0	n/a	<1.0	<1.0	<1.0
Benzo(b)fluoranthene	µg/L	1.0	n/a	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	µg/L	1.0	n/a	<1.0	<1.0	<1.0
Benzo(a)pyrene	µg/L	0.5	n/a	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	µg/L	1.0	n/a	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	µg/L	1.0	n/a	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	µg/L	1.0	n/a	<1.0	<1.0	<1.0
Sum of polycyclic aromatic hydrocarbons	µg/L	0.5	n/a	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ (zero)	µg/L	0.5	n/a	<0.5	<0.5	<0.5

				Samples		
Analyte grouping/Analyte	**Units**	**LOR**	**ANZECC (2000) trigger values**	**U/S 1**	**U/S 2**	**S/W**
BTEX						
Benzene	µg/L	1	0.95	<1	<1	<1
Toluene	µg/L	2	n/a	<2	<2	<2
Ethylbenzene	µg/L	2	n/a	<2	<2	<2
meta- & para-Xylene	µg/L	2	0.2	<2	<2	<2
ortho-Xylene	µg/L	2	0.35	<2	<2	<2
Total Xylenes	µg/L	2	n/a	<2	<2	<2
Sum of BTEX	µg/L	1	n/a	<1	<1	<1
Naphthalene	µg/L	5	n/a	<5	<5	<5
Total Petroleum Hydrocarbons						
C6 - C9 Fraction	µg/L	20	n/a	<20	<20	<20
C10 - C14 Fraction	µg/L	50	n/a	<50	<50	<50
C15 - C28 Fraction	µg/L	100	n/a	<100	<100	**240**
C29 - C36 Fraction	µg/L	50	n/a	<50	<50	<50
C10 - C36 Fraction (sum)	µg/L	50	n/a	<50	<50	**240**
Total Recoverable Hydrocarbons						
C6 - C10 Fraction	µg/L	20	n/a	<20	<20	<20
C6 - C10 Fraction minus BTEX (F1)	µg/L	20	n/a	<20	<20	<20
>C10 - C16 Fraction	µg/L	100	n/a	<100	<100	<100
>C16 - C34 Fraction	µg/L	100	n/a	<100	<100	**180**
>C34 - C40 Fraction	µg/L	100	n/a	<100	<100	<100
>C10 - C40 Fraction (sum)	µg/L	100	n/a	<100	<100	**180**

Notes:

- LOR – Limit of Reading
- n/a – trigger level not available
- trigger levels for metals have not been adjusted for hardness

6.10.5 Existing Site Drainage and Erosion

Rainfall run-off from the site drains mainly via sheet flow away from a central crest, to the west, southwest and southeast. Run-off from site appears to be causing minor sheet erosion due to the poorly vegetated surface, in most areas, however erosion is only minor due to the relatively low gradients which reduce the erosion hazard (refer to 6.10.5a). A significant proportion of the site run-off appears to flow towards the south-western corner of the site. In this area the gradient also steepens and erosion is more appreciable, with some notable rills occurring (refer to 6.10.5b).

Run-off is also directed over the southern fill embankment where significant sheet and rill erosion is occurring (refer to Figure 6.10.5c). This is due to a combination of:

- Lack of stabilisation – there are only scattered weeds on this slope, leaving the soil exposed to erosion;
- Steep batter gradient – sheet flows on the gently sloping lands above rapidly increase in velocity and convert to concentrated flow as gradients steepen down the unstabilised batter, with a significant increase in erosive power; and
- Poor stormwater management – there are presently no stormwater controls in place to prevent uncontrolled flows towards and over the batter. The problem is exacerbated in some areas by stormwater flows being redirected and concentrated by poorly installed sediment fences. Some significant gullying is occurring at the ends of sediment fences (refer to Figure 6.10.5e).

The northern retaining wall contains a subsurface drainage system that connects with a piped easement that runs along the site's north-western boundary. Paralleling this north-western boundary is a small informal surface drain that appears to receive only minor stormwater flows, as evidenced by the relative lack of flow debris and only minor erosion (refer to Figure 6.10.5d).

In addition to run-off generated on the site, significant volumes of poorly controlled runoff from adjoining lands are being directed onto the site in the east. In the north-eastern corner runoff from up-gradient lands associated with the adjoining landfill and haul road is directed down a steep, informal rock-lined slope and onto the site (refer to Figure 6.10.5f and Figure 6.10.5g). It is not clear whether this rock structure has been appropriately designed for water conveyance, or has been placed ad-hoc to fill a pre-existing erosion gully. In any case, this rock structure appears to be failing, as evidenced by the toppled soil blocks adjacent to the rock fill, erosion washouts around the rocks and exposure of the underlying geofabric. This structure is likely to require replacement or rebuilding in the future.

Another significant source of run-off being directed onto the site, are the large fill embankments adjoining the eastern boundary. These embankments are poorly stabilised and are experiencing serious erosion (refer to Figure 6.10.5h and Figure 6.10.5i). Numerous sediment and debris deposits were observed around the base of this embankment.

Run-off from these eastern embankments and the rock chute in the north-east, flows along an informal drainage path roughly along the site's eastern boundary. This eastern drainage path is relatively broad and low gradient, and contains a substantial sediment plume (refer to Figure 6.10.5j). It appears that sediment eroded from upslope is settling out under the lower gradients and flow velocities in this area.

This eastern drainage path discharges in an uncontrolled manner down the southern fill embankment and is causing a serious erosion gully (refer to Figure 6.10.5k and Figure 6.10.5l). Some rocks have been placed near the top of the gully headwall. It is not clear whether these have been placed in an attempt to control run-off and erosion, but in any case they are ineffective.

It is apparent that new engineering controls are required to address this runoff in the eastern part of the site, which is substantially generated from offsite lands to the north and east. The works would need to be done in coordination with the adjoining landholder, as improvement works on adjacent lands may also be required to properly address the problems. It is evident that the inter-allotment drainage in this area was inadequately designed and/or constructed at time of subdivision.



FIGURE 6.10.5A VIEW TO THE EAST LOOKING ACROSS THE RELATIVELY FLAT SITE OF PROPOSAL SITE. RUNOFF OCCURS AS SHEET FLOW AND EROSION IS RELATIVELY MINOR



FIGURE 6.10.5B VIEW TOWARDS THE PROPERTY'S SOUTHWESTERN CORNER, SHOWING ACCELERATED EROSION DUE TO THE STEEPER GRADES, UNPROTECTED SURFACE AND CONCENTRATION OF RUNOFF BY THE SEDIMENT FENCE



FIGURE 6.10.5C VIEW TO THE WEST ALONG THE SOUTHERN FILL EMBANKMENT, SHOWING SHEET AND RILL EROSION



FIGURE 6.10.5D VIEW NORTH ALONG THE NORTHWESTERN BOUNDARY, SHOWING THE SMALL INFORMAL DRAIN



FIGURE 6.10.5E VIEW FROM BELOW THE SOUTHERN FILL EMBANKMENT, SHOWING A SIGNIFICANT RILL CAUSED BY SEDIMENT FENCE CONCENTRATING RUNOFF OVER THE BATTER



FIGURE 6.10.5F DISTANT VIEW TO NORTHEASTERN CORNER OF SITE, SHOWING THE NORTHERN BOUNDARY RETAINING WALL, ROCK FILL BATTER CHUTE (CENTRE OF VIEW) AND OFF-SITE EASTERN FILL EMBANKMENTS



FIGURE 6.10.5G CLOSE UP VIEW OF THE ROCK-FILLED BATTER CHUTE IN THE NORTHEASTERN CORNER WHICH CONVEYS RUNOFF FROM THE ADJOINING LANDS ONTO SITE



FIGURE 6.10.5H VIEW OF THE OFF-SITE EASTERN EMBANKMENT SHOWING SEVERE SHEET AND RILL EROSION AND SEDIMENT PLUME AT BASE



FIGURE 6.10.5I VIEW OF THE EASTERN EMBANKMENT SHOWING RILL AND GULLY EROSION AND SEDIMENT PLUME AT BASE



FIGURE 6.10.5J SEDIMENT PLUME ALONG THE INFORMAL EASTERN DRAINAGE LINE, LOOKING SOUTH. SEDIMENT APPEARS TO BE SUBSTANTIALLY GENERATED FROM OFF-SITE RUNOFF AND EROSION.



FIGURE 6.10.5K VIEW TO SOUTH ALONG THE EASTERN DRAINAGE PATH, LOOKING TO THE HEAD OF A SUBSTANTIAL GULLY DOWN THE SOUTHERN FILL EMBANKMENT.



FIGURE 6.10.5L CLOSE UP VIEW OF THE GULLY IN THE SOUTHEASTERN CORNER OF THE PROPERTY, LOOKING FROM BELOW. THE LOWER RETAINING WALL IS AT RISK OF FAILURE IF EROSION CONTINUES

6.10.6 Existing Trunk Drainage System

A piped stormwater drainage easement occurs adjacent to the north-western boundary of the property. This connects with the existing trunk drainage system in the far west of the property, which also receives stormwater from Quarry Road and presumably other parts of the industrial estate. This trunk drainage system contains two gross pollutant traps just upstream of the outlet culvert, though specific details of the model, type and size of these pollution control devices were not available.

This trunk drainage system discharges southwest of the site from an existing culvert headwall into the Biodiversity Corridor. Downstream of this discharge point is a low gradient, stable overland flow path containing thick grass. Stormwater drainage from the future developed site could be readily connected to the existing trunk drainage system; however, approval for this is still to be obtained from Council.

A stormwater drainage plan showing the existing trunk drainage system and gross pollutants traps is provided in Figure 6.10.6a.

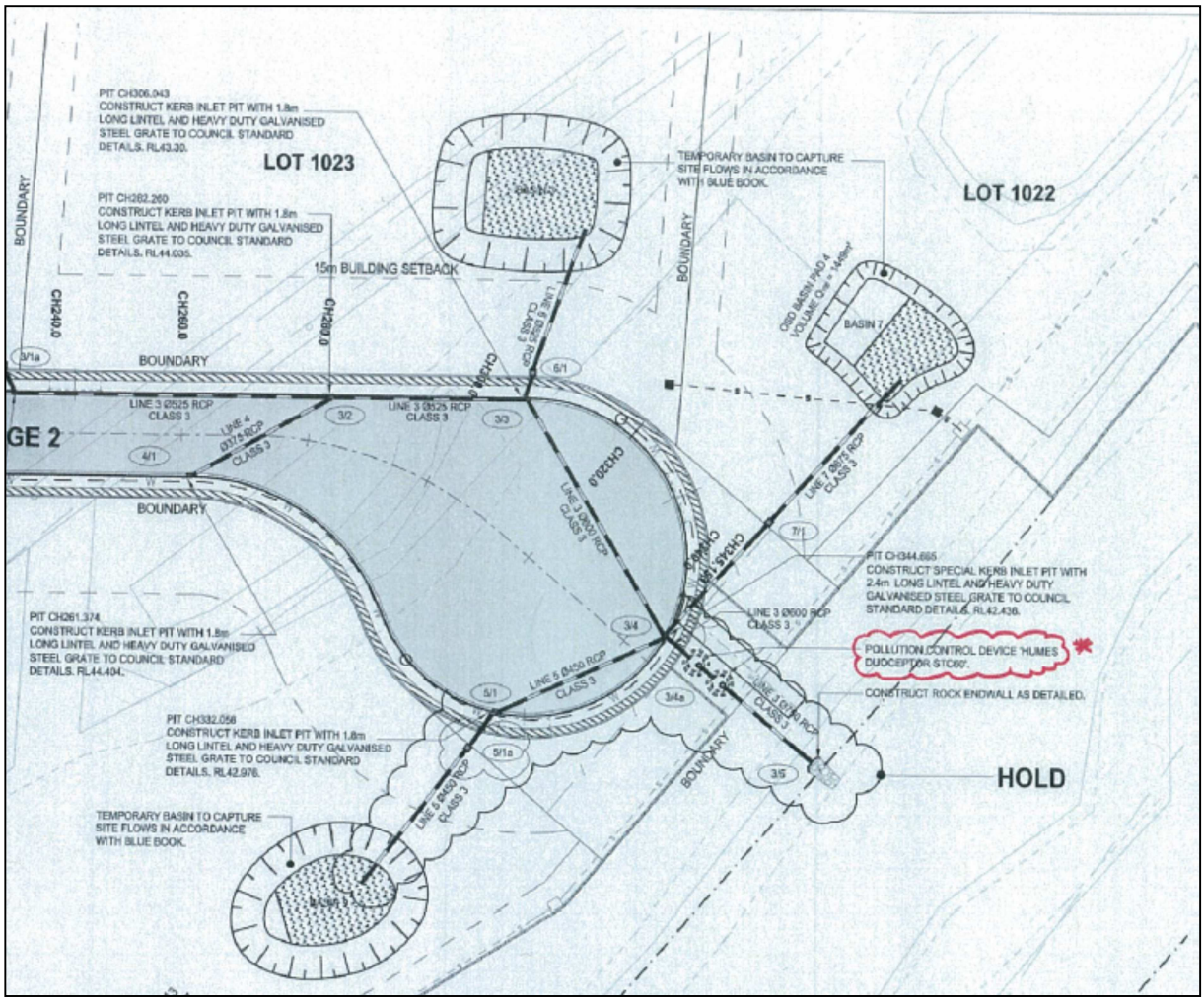


FIGURE 6.10.6A STORMWATER DRAINAGE PLAN FOR CSR SOUTHERN LANDS PROJECT (TAKEN FROM A PLAN BY NORTHROP ENGINEERS, DRAWING NO. CC2-6.01/REVF, DATED 13.05.2011)

6.10.7 Flooding

Review of the Penrith City Council Flood Planning Land Map indicates the nearest land within a designated flood planning area is associated with the floodplain of South Creek, approximately 1km

west of the site. We are not aware of any available local flooding studies or detailed flood modelling that would confirm with certainty whether the subject site is flood affected. No such studies were undertaken as part of this assessment. However, due to the site's raised elevation above the unnamed watercourse to the south it appears there is an insignificant risk of floodwaters from this watercourse rising to a level where the site would be affected.

Although there are inadequacies with the inter-allotment drainage system, particularly in the far east of the site, the risk of localised stormwater flows in this area affecting the Proposal is considered minimal. This is due to the natural topography of the site, which tends to focus this runoff along the eastern boundary and away from the proposed building works.

Flooding is considered a negligible risk on this site.

6.10.8 Construction Stage Soil and Water Management

Soil and Water Management Plan

A Conceptual Soil and Water Management Plan (SWMP) (KMH, 2013) has been prepared and submitted as part of the Early Works development application with Penrith City Council. The SWMP addresses the Early Works which includes the bulk earthworks required to level the site, as well as installation of piers to support building foundations. A copy of the Early Works SWMP is provided in Technical Paper 6.

The SWMP demonstrates how soil and water resources would be managed during construction of the Early Works, to minimise potential for pollution caused by erosion and transport of sediment-laden water off-site.

The SWMP has been prepared in line with Managing Urban Stormwater: Soils and Construction (Volume 1, 4th edition) (the "Blue Book") to meet the requirements of Penrith City Council, including those outlined in Part 4 of the Penrith DCP 2010.

The Conceptual SWMP serves as a framework management document and outlines the fundamental principles to be followed in the planning and implementation of erosion and sediment control measures for the early works for the project. It:

- provides a description of the Proposal;
- outlines the site constraints including identification of sensitive areas and drainage patterns;
- assesses the erosion hazard at the site;
- identifies a suite of erosion and sediment control management practices to minimise associated risks to the environment, and provides an indicative layout for these controls;
- provides directions for installing, monitoring and maintaining erosion and sediment controls;
- describes the procedure for preparing Progressive Erosion and Sediment Control Plans throughout the course of the works, to address the changing needs of the construction program; and
- outlines the roles and responsibilities of those involved in the implementation of erosion, sediment and water quality management controls.

Key Objectives of the SWMP

The key objectives of the SWMP are to minimise erosion, manage sediment and reduce impacts on receiving waters, consistent with relevant State and local legislation, policies and guidelines. This would be achieved by:

- minimising ground disturbance during construction activities, and staging works where practicable to reduce the time of disturbance in individual work areas;

- stripping, stockpiling and conserving topsoil (if available) for later use in rehabilitation;
- diverting "clean" run-on stormwater away from construction areas and separating "clean" from "dirty" stormwater, where practicable;
- conveying dirty waters to sediment traps to capture sediment and minimise water pollution;
- installing, monitoring and maintaining erosion and sediment controls in accordance with relevant guidelines and industry best practice;
- rehabilitating the site progressively to reduce the erosion hazard and achieve a stable landscape upon completion; and
- complying with the requirements of applicable legislation and the Conditions of Approval for the Proposal.

Erosion Hazard Assessment

The SWMP includes an erosion hazard assessment following the procedures recommended in the Blue Book, using the Revised Universal Soil Loss Equation (RUSLE). The predicted annual soil loss is 84 tonnes/hectare/year. This is Soil Loss Class 1 (< 150 tonnes/ha/yr) which is rated "very low" (refer to Table 4.2 in the Blue Book). A standard suite of erosion control measures is appropriate for the site.

Key Erosion and Sediment Controls

The SWMP provides a baseline plan showing the indicative layout of key erosion and sediment control measures that would be used during the Early Works. Similar controls would generally be applicable throughout the course of the construction program.

Key controls to be implemented include:

- Temporary clean water drains as necessary around the northern and eastern boundaries of the development site. It is noted that detailed design of the permanent drains is not currently available, and would be undertaken at a later stage as part of the detailed civil and stormwater drainage system design for the Proposal;
- Disturbance minimisation, through the use of barrier fence to prevent unnecessary disturbance beyond essential work areas;
- A sediment basin (wet basin for Type D soils) with an operating capacity of approximately 500m^3 is to be constructed in the southwestern corner of the property, to capture and treat runoff from the majority of the development site. It is noted that this basin would likely remain beyond the Early Works activities to control stormwater quality throughout the building construction program;
- Dirty water drains to divert site runoff to the sediment basin for treatment;
- A single stabilised site access, to control vehicular access and minimise the risk of dirt tracking to the adjoining sealed road;
- Sediment fence used at the perimeter of work areas that do not drain to the sediment basins, and elsewhere as required to maximise sediment capture at source;
- Provision of suitable trade waste receptacles and implementation of appropriate waste management practices;
- Stabilisation of the site after conclusion of building works to reduce the erosion hazard to acceptable levels. Progressive rehabilitation would be implemented where practicable; and

- Inspection and testing would be undertaken to monitor the integrity and performance of the erosion and sediment controls.

Progressive Erosion and Sediment Control Plans

The SWMP outlines a protocol for the preparation of progressive erosion and sediment control plans (PESCPs). The purpose of PESCPs is to make changes progressively to the soil and water management plan to reflect the changing needs of the site. Progressive ESCPs would be prepared by the construction team in consultation with Project Engineers and Soil Conservationist, as required, once detailed design plans and details of the construction methodology and staging are available. PESCPs may be used to present specific design details for key erosion controls and stormwater management structures, such as the sediment basin.

6.10.9 Operational Stormwater Management Strategy

The document *Stormwater Management Strategy: Inverloch Site in Erskine Park, Sydney* (the "Stormwater Strategy") (Pitt & Sherry, 2013) provides an outline of the proposed stormwater management strategy for the built site and includes modelling and calculations to support the chosen design. A copy of the Stormwater Strategy is contained in Technical Paper 6

The Stormwater Strategy includes:

- hydraulic analysis used to design a piped drainage system for the site;
- an assessment and preliminary design for an on-site stormwater detention (OSD) system, to maintain post-development stormwater flows at pre-development levels in accordance with the requirements of Penrith City Council;
- description of stormwater quality management systems, including provision of a proprietary gross pollutant trap to meet the pollutant reduction targets specified by Penrith City Council;
- an outline of the stormwater quality source controls, including separation/diversion of high risk areas to the wastewater and trade waste system, and monitoring procedures to ensure that any spills are promptly contained and cleaned up to avoid pollution; and
- a diagram showing the indicative layout of the piped drainage and OSD system.

The *Stormwater Strategy* defines a network of new underground stormwater pipes of diameters ranging between 200 and 750mm diameter, along with approximately 35 stormwater pits at pipe junctions and directional changes. The final discharge location for site stormwater is still to be determined. The preferred option is to discharge to Council's trunk drainage system in the southwest of the site, and thence to the unnamed watercourse to the south. This would remove the need for any off-site stormwater drainage works. However, Council approval is still to be obtained for this option. Should Council not agree to this, a separate stormwater pipe and outlet would be constructed discharging water to a stable area near the existing stormwater outlet.

The drainage diagram indicates improvements are to be made to formalise the existing informal drainage line along the eastern boundary of the property. This would incorporate reconstructed or new grade control structures in the northeast and southeast, to covey stormwater safely down the steep batters in each location. Detailed design of these structures is yet to be undertaken. Consultation would be undertaken with the adjoining landowners for any stormwater drainage works required on adjoining lands, such as the landfill and Biodiveristy corridor.

A copy of the preliminary drainage diagram is provided in Figure 6.10.9a.

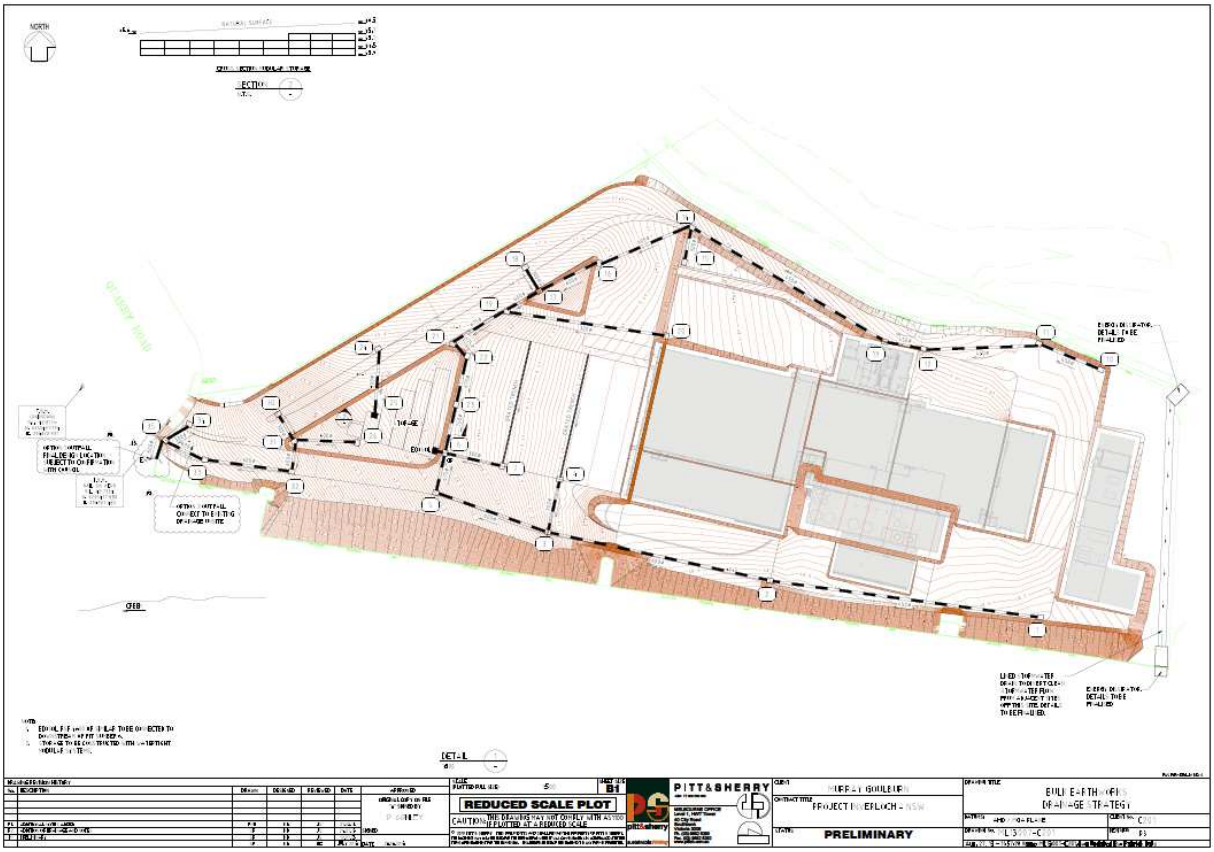


FIGURE 6.10.9A PRELIMINARY STORMWATER DRAINAGE DESIGN (PITT & SHERRY, DRAWING NO. ML13007-C201; 27 AUGUST 2013)

Hydraulic Assessment

The following conditions taken from Penrith City Council guidelines are used to design the stormwater drainage systems for the proposed site:

- Pipe drainage system would be designed for 20 year ARI event without flooding;
- On-site stormwater detention (OSD) is required to maintain pre development flows from the site for all storms up to and including the 100 year ARI event of all storm durations, and
- Not more than 15% of the site would be un-detained.

The hydraulic assessment found that the proposed drainage design, which incorporates a 1,000m^3 underground OSD structure, meets the requirements of Penrith City Council in maintaining post development flows at pre-development levels. Less than 15% of the site is un-detained, this mainly in the far east where topography does not allow drainage to the OSD device which is towards the west of the site. The hydraulic modelling shows that site flooding due to backup within the onsite drainage system, occurs at only a few pits and for very short durations. This is an acceptable outcome based on adopted engineering standards.

Potential Stormwater Pollutants

Operation of the proposed milk factory introduces a range of potential stormwater pollutants that need to be managed. These include:

- Spilt milk products (wet and dry);

- Acidic and caustic cleaning chemicals;
- Oils and greases used in equipment maintenance;
- Sediment from hardstands; and
- Wastewater (i.e. wastewater from CIP cleaning system) if inadvertently discharged to stormwater.

Note that there is to be no fuel stored onsite.

Water Quality Management

To minimise the stormwater pollution risks the primary focus is on source control and spill prevention. All areas which are deemed moderate or high risk with respect to storage or spills of potentially polluting materials, are to be roofed and/or bunded, and directed to the wastewater/trade waste system. This includes all inside processes, silos, chemical storage and delivery area, milk receival area, loading area and workshop.

The stormwater system will have a system of continuous in-line monitoring to detect any unforseen spills such as a milk spill from a tanker outside of the receival area. The risk of this occurring however is very low, and less than a spill occurring on a public road due to a collision. Spill kits will be provided in appropriate locations.

In summary the key pollution control measures are:

- Roofing and/or bunding of hazardous material storage areas, all inside processes, silos, chemical storage and delivery area, milk delivery area, loading area and workshop;
- Containment of operational areas that pose the greatest risk of potentially polluting chemical and product spills, and draining these areas to the trade waste system;
- Provision of inline water monitoring equipment in key locations within the drainage system, to assist in detection of spills;
- Provision of shutoff valves in key locations to contain spills;
- Emergency management procedures are to be developed and implemented at the site in accordance with MGC's corporate standards; and
- On-site stormwater detention (OSD) facility can be used to contain a major spill by closing the outlet valve.

It is also recommended that an inspection and monitoring protocol be implemented. This should include:

- Inspections of key operational areas for general housekeeping, waste management and correct storage and handling of potentially hazardous materials;
- Checking that all valves are in the correct position and all systems operating effectively to prevent unacceptable wastes discharging to stormwater;
- In-line monitoring of stormwater quality at key locations within the drainage network, to detect rapid changes (eg in pH and EC) that could be caused by a spill;
- In-line monitoring of stormwater quality at key locations within the drainage network, to detect rapid changes (eg in pH and EC) that could be caused by a spill; and
- Monitoring performance of the stormwater treatment device (ie Ecosol or similar) as part of a routine water sampling and analysis program. This would include sampling upstream and downstream of the device, and testing for a range of keypotential pollutants including pH, EC,

TSS, turbidity, BOD5, and oils and grease. The scope of this monitoring program would be directed by the conditions of the site EPL.

Water Quality Assessment

Penrith City Council requires that industrial sites of this nature employ appropriate stormwater treatment devices on-site, prior to discharge to natural water bodies. Stormwater treatment devices for areas less than 5ha should be designed based on treatable flow rates (TFR) of 60L/s for every hectare of catchment for gross pollutants, and 10L/s for every hectare of catchment for fine particulates. Accordingly, the stormwater treatment devices for this site have been designed for approximately 300L/s.

In order to address stormwater quality management, it is proposed that litter baskets be placed in the upstream pits and an Ecosol RSF 4600 (stormwater filtration) or similar device located before the inlet to the OSD which can handle TFR up to 470L/s. The manufacturer reports that the above stormwater treatment arrangement would reduce gross pollutant, fine sediments, total nitrogen and total phosphorous by 100%, 64%, 51% and 64% respectively based on MUSIC Model results. This pollutant reduction rates are well above the minimum removal rates required by Penrith City Council.

MGC have significant experience operating milk factories of this type and have developed company standards and site operating procedures to manage potential environmental impacts such as stormwater pollution. These procedures would be customised for this site and become part of the site operational management plans.

6.10.10 Water Balance

Water Demand

A large quantity of potable water is required each day, mainly for use in the Clean-in-Place (CIP) cleaning system employed throughout the food production areas. Milk factories operate under strict food safety requirements which demand regular cleaning of all product lines. For example:

- Silos are cleaned every 24 hours;
- The internals of all tankers are regularly cleaned; and
- All processing equipment is cleaned regularly, including between different product runs.

MGC and its designers have designed the factory with a focus on best practice in water management, to minimise water consumption. It is claimed that that this site will result in the lowest water usage (per unit production) of any milk factory in Australia. This design optimisation also maximises product recovery and minimises waste. Water used in cleaning is by far the greatest water demand at the site. This cleaning water demand has been estimated at approximately 270,000L/day. The water usage fluctuates dramatically during the day depending on the timing of cleaning processes.

Relatively small quantities of potable water are also used in the site amenities and for drinking water. With a staff of approximately 27 people per day, and allowing for additional contractors and visitors, there may be a workforce of up to approximately 45 people on site per day. It is estimated that the potable water demand in the amenities may be approximately 30 L/person/day, resulting in a potable water demand of approximately 1350L/day.

Water may also be used in outdoor areas for landscape irrigation. The total area of landscaping is approximately 16,000 square metres and the irrigation demand in these areas is expected to average 25mm/week during establishment (i.e. for approximately 6 months). This equates to approximately 57,000L/day across the landscaped area, but only during establishment. Once established, a smaller area of approximately 8,000 square metres of planter boxes and areas of turf are expected to be watered, according to demand. An average watering rate of 12mm/week is assumed, totalling approximately 13,700 L/day. It is noted that the plant species selected are generally drought tolerant, and the watering rates given are likely to be present a conservative estimate.

A summary of the key water demands is provided in Table 6.10.10a.

TABLE 6.10.10A WATER BALANCE

Demand Type	Average Demand (L/day)	% of Total Water Demand	Water Source
CIP washing	270,000	94.7	Potable
Amenities, miscellaneous	1350	0.5	Potable
Irrigation	13,700	4.8	Potable or recycled stormwater
Total	285,050		

Water Sources and Quality Requirements

Only potable water that meets MGC's Corporate Water Quality Standard would be used in the buildings. Potable water sourced from the Sydney Water town water supply would be used.

MGC is not in favour of capturing roof stormwater and storing this in tanks for non-potable uses, as the storage of non-potable water onsite poses health and food safety risks, is against company standards and is inconsistent with the stringent water quality protection requirements for milk production facilities.

The option of utilising a "third pipe" stormwater recycling system to supply the toilets for flushing was considered, though not adopted. MGC's policy is that only potable water can be supplied to internal fixtures, so as to avoid any risk of cross-connection or cross-contamination of different water supplies. This is in keeping with the strict water quality standards that apply to these facilities.

Water Outputs

The water output is almost entirely to the on-site wastewater (trade waste) system and ultimately the Sydney Water sewer system. Water used in toilets and amenities would be flushed directly to sewer. The trade waste system will receive the vast majority of site flows and will provide pre-treatment as required (to meet quality limits) before discharging trade waste to sewer at a buffered flow rate.

6.10.11 Review of Water Sensitive Design Options

Part C3 of Penrith City Council's DCP 2010 requires consideration of a number of water conservation measures for proposed new industrial developments. These include:

- roof rainwater tanks;
- stormwater detention systems; and
- roof gardens.

A stormwater detention system is to be installed as discussed at section 6.10.9. This is to take the form of a 1,000 m^3 underground OSD structure, designed to limit post-development runoff flow rates to pre-development levels. The OSD structure would receive runoff from hardstand areas including the building roofs, and release this from the site at a buffered flow rate.

A separate roof rainwater tank is not proposed, as the OSD system described above will serve the function of detaining stormwater runoff from building roofs and other hardstand areas.

The Penrith DCP 2010 requires that roof gardens be considered for development such as this proposal. The merits of roof gardens have been considered, but ultimately considered undesirable for the following reasons:

- The proposed milk factory is to operate according to stringent food safety and hygiene standards. This includes vermin control for which MGC have specific Company Standards. It

is considered that a roof garden would potentially attract birds, rats and other vermin, and would be contrary to the site's operating requirements;

- The site is required to adopt specific landscaping strategies to minimise the bushfire hazard, and this includes no planting of vegetation within 10m of the buildings. Planting of vegetation on the rooves is considered an unacceptable fire risk; and
- Roof gardens would offer only limited additional benefit with respect to stormwater detention, as the proponent is already committed to installing a large underground OSD system for this purpose.

It is therefore not proposed to install roof gardens as the potential risks and significant cost of designing and installing such features outweighs the relatively minor benefits they may afford. It is further noted that other existing industrial developments in the area do not contain roof gardens and there does not appear to be any significant precedent for their use.

6.10.12 Water Licensing

During construction it is planned to install a sediment basin to capture and treat dirty water runoff from the site. Captured water may be either reused for construction (i.e. moisture conditioning of earthworks, dust suppression) or discharged to the stormwater drainage system if of an acceptable quality.

Water management structures such as sediment basins that are installed for the purpose of water quality control, are exempt from the licensing provisions of the *Water Management Act 2000*. It is not planned to abstract any surface water either during construction or operation of the project. Water licensing would not be required.

6.10.13 Mitigation Measures

A number of mitigation measures have been identified to help manage potential impacts on surface waters during construction and operation of the project. Key mitigation measures are as follows:

- Erosion and sediment controls would be implemented during construction works, generally in accordance with the Early Works Soil and Water Management Plan (KMH, 2013), and updated from time to time as necessary through the development of progressive erosion and sediment control plans;
- Erosion and sediment controls would be designed, installed and maintained in accordance with Managing Urban Stormwater: Soils and Construction (Landcom, 2004) (the "Blue Book");
- Appropriate erosion and sediment controls would be installed early in the construction program and in advance of the works they are designed to protect. Controls would remain in place until such time as the works they protect are completed and the land stabilised, in accordance with Blue Book requirements;
- A stormwater drainage system would be designed and installed in accordance with Penrith City Council's requirements, and generally as outlined in the Stormwater Management Strategy (Pitt & Sherry, 2013). The stormwater system would convey stormwater to the trunk drainage system in a manner that minimises potential flooding and downstream water quality impacts;
- An Onsite Stormwater Detention (OSD) system would be installed within the site drainage system, with the purpose of detaining stormwater flows to maintain post-development peak flows at pre-development levels, in accordance with the requirements of Penrith City Council and generally as proposed in the Stormwater Management Strategy (Pitt & Sherry, 2013);
- A stormwater treatment device would be installed within the site capable of achieving pollutant retention in accordance with the requirements of Penrith City Council and generally as proposed in the Stormwater Management Strategy (Pitt & Sherry, 2013);

- Site operating procedures and operational management plans would be developed that identify and assess potential risks to stormwater quality, and demonstrate appropriate management of these risks. This would include reference to operational equipment, policies and procedures, maintenance/monitoring requirements, and individual responsibilities, aimed at protecting stormwater quality;

- Emergency procedures would be in place to manage the containment and cleanup of hazardous materials or potential stormwater pollutants in the event of a spill;

- Areas identified as posing a potential hazard to stormwater quality (eg hazardous materials storage areas, bulk product handling areas etc) would be suitably isolated from the stormwater drainage system and directed to the wastewater treatment and trade waste system;

- A stabilised drainage path would be constructed near the eastern property boundary to convey inter-allotment drainage from areas to the north and east, safely through and away from the site. This is expected to require construction (or reconstruction) of grade control structures in the northeast and southeast of the site, to rectify the current unacceptable drainage conditions which are causing appreciable erosion. Liaison with neighboring landowners will be undertaken if works on adjoining lands are required; and

- Upon completion of construction, the site would be stabilised such that it does not present an ongoing erosion hazard, including through landscaping of areas that do not contain buildings or hardstand areas. The southern batter would be landscaped to control erosion.

In summary, the stormwater drainage has been designed to manage the risk of impact to the receiving environment in accordance with water quality criteria. In addition, site operational management plans will be developed with the specific aim of preventing operational events which present a potential risk to stormwater quality. Construction specific erosion and sediment control measures will also be developed building on those measures already identified in the Soil and Water Management. Taking into account these design features and additional mitigation and management measures, the surface water related risks are assessed as being not significant.

6.11 Traffic and Transport

A Traffic Impact Assessment (TIA) and Construction Traffic Management Plan (CTMP) have been prepared in support of the Proposal. The full TIA and CTMP are provided as **Technical Paper 7: Traffic.** The traffic assessment considers the potential impact of traffic generated by the Proposal on the local road network. The truck movements related to transport of milk to and from the site are distributed throughout the day and have minimal impact on the morning and evening peak periods. Staff related traffic is also distributed throughout the day because of the 24 hour operating profile of the facility and the use of shift work. In addition, the Proposal has been sited to take advantage of the recently constructed Erskine Park Link Road which provides convenient access to the Chilled Distribution Centre at Eastern Creek, the destination for the finished mil product. As a result, the potential impacts of traffic generated by the Proposal on the local road network are assessed as not significant.

The DGRs for the Proposal, as they relate to Traffic and Transport, are provided in Table 6.11a.

TABLE 6.11A DGRS FOR TRAFFIC

Director-General's Requirements	Location addressed
Traffic and Transport - including: • *Details of key transport routes and traffic types and volumes likely to be generated during construction and operation;* • *Assessment of predicted impacts on road safety and the capacity of the surrounding road network including current traffic counts, details of truck routes and modelling of key intersections such as James Erskine Drive and Quarry Road/Sarah Andrews Close, James Erskine Drive and Mamre Road, Erskine Park Road and Mamre Road;* • *Assessment of where off site infrastructure works are required as a result of traffic impacts including detailed plans of any proposed road upgrades;* • *Access arrangements, and* • *Provision of parking in accordance with the relevant guidelines.*	section 6.11
Cumulative Impacts *Particularly in relation to air, noise and traffic associated with the nearby industrial or commercial operations.*	section 6.15

6.11.1 Legislative and policy framework

The NSW planning policies and strategies applicable to the subject site and those considered as part of the development of the TIA include:

- State Environmental Planning Policy (Infrastructure) 2007;
- State Environmental Planning Policy (Western Sydney Employment Area) 2009;
- Draft Metropolitan Plan Strategy for Sydney to 2031; and
- The NSW Long-Term Transport Masterplan.

Further detail on these policies and strategies is provided in Technical Paper 7.

6.11.2 Existing Environment

Road Network

The road hierarchy in the vicinity of the site is shown in Figure 6.11.2a with the following roads of particular interest:

- Mamre Road: an RMS Main Road (MR 536) that generally traverses in a north-south direction between the Great Western Highway in the north and Elizabeth Drive in the south. Mamre Road carries approximately 14,000vpd (vehicles per day) in the vicinity of the site. Mamre Road is generally subject to an 80km/h speed zoning and generally carries a single lane of traffic though widens to carry two lanes of traffic in either direction in the vicinity of the site within an undivided carriageway of 18.0 metres width;

- Erskine Park Road: an RMS Main Road (MR 629) that generally traverses in a north-south direction between the M4 Western Motorway in the north and Mamre Road in the south. Erskine Park Road carries approximately 28,000vpd (vehicles per day) and is subject to a 70km/h speed zoning in the vicinity of the site. It carries two lanes of traffic in either direction within an undivided carriageway of 13.0 metres width;

- James Erskine Drive: a local road that traverses in an east-west direction between Mamre Road in the west and its termination to the east of its roundabout intersection with Quarry Road. James Erskine Drive is subject to a 50km/h speed zoning and generally carries two lanes of traffic in either direction within a carriageway of width 13.0 metres. It is noted that James Erskine Drive acts as the entry route for all traffic accessing the site, and

- Quarry Road: a local road that generally traverses in an east-west direction (north-south in the vicinity of the site) between James Erskine Drive in the west and its termination near the site in the east. Quarry Road is subject to a 50km/h speed zoning and carries a single lane of traffic in either direction along an undivided carriageway of 13.0 metres width. Access to the site is proposed via Quarry Road.

- Erskine Park Link Road: a newly constructed RMS road that traverses in an east-west direction connecting Old Wallgrove Road in the east with Lenore Lane in the west. The status of this road is currently unresolved, however, it is noted that the road provides a vital link to the western Sydney employment area and a direct connection to the M7 Motorway. It is subject to 80km/h speed zoning and carries two lanes of traffic in either direction within a divided carriageway of width 21 metres. These eastbound and westbound lanes are separated by a 6.0 metre wide landscaped median. It should be noted that Erskine Park Link Road provides access to the Chilled Distribution Centre at Eastern Creek and will be the main route used to dispatch bottled milk from the Proposal to the Distribution Centre.

It can be seen from Figure 6.11.2a that the Proposal site is conveniently located with respect to the arterial and local road systems serving the region, including the recently constructed Erskine Park Link Road. It is therefore able to effectively distribute traffic onto the wider road network, minimising traffic impacts.

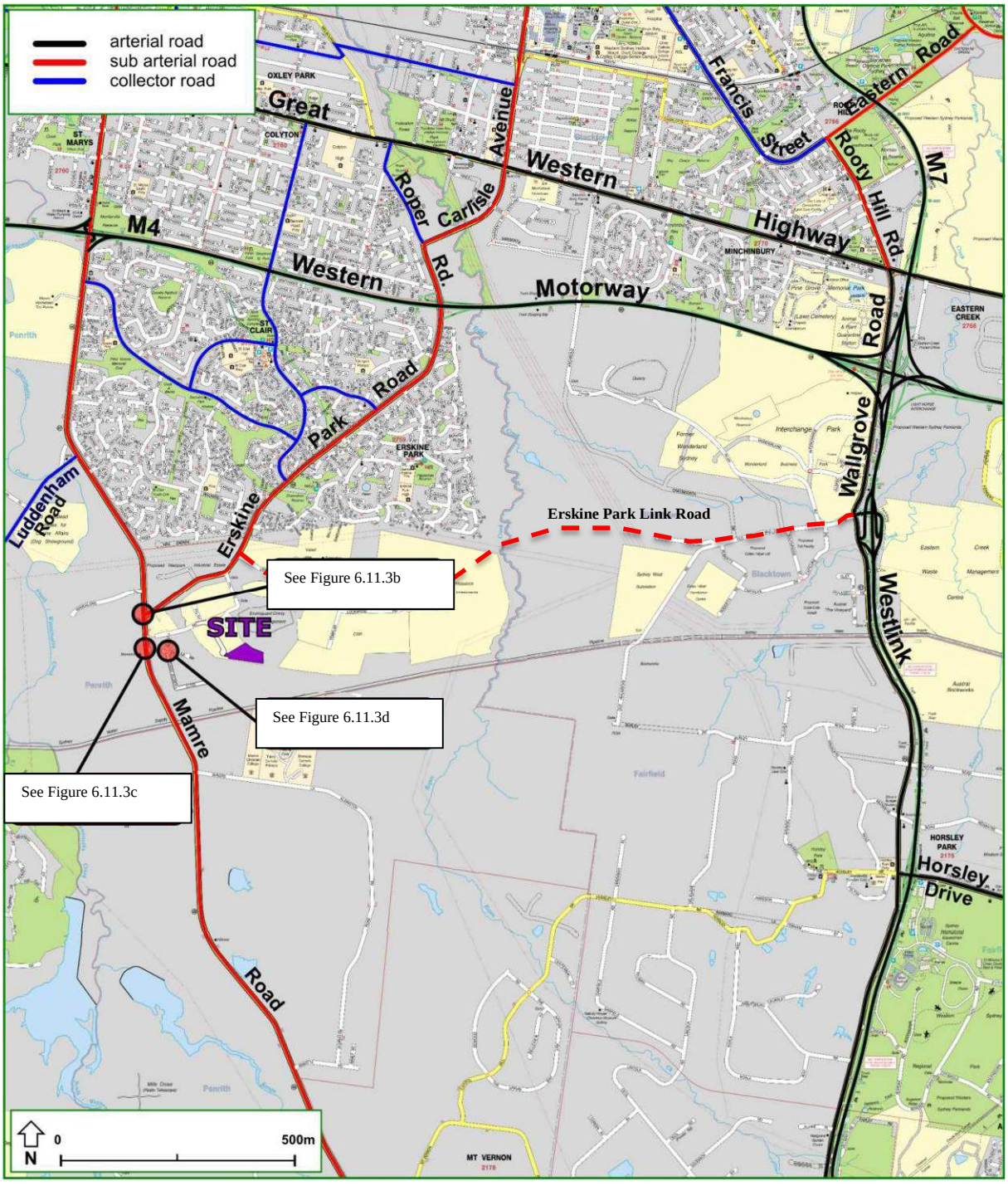


FIGURE 6.11.2A LOCAL ROAD NETWORK

Key Intersections

The key intersections in the vicinity of the site are shown below and provide an understanding of the existing road geometry and alignment: It can be seen from Figure 6.11.2b that Erskine Park Road forms a signalised intersection with Mamre Road. Erskine Park Road carries two lanes of traffic in either direction while Mamre

Road generally carries a single lane of traffic, although it widens at this intersection to provide two northbound dedicated right turn lanes into Erskine Park Road and two southbound through lanes for a short distance.



FIGURE 6.11.2B KEY INTERSECTIONS: ERSKINE PARK ROAD AND MAMRE ROAD

As shown in Figure 6.11.2c James Erskine Drive forms a 'T' intersection with Mamre Road and carries two lanes of traffic in either direction. Mamre Road widens at this intersection to provide a dedicated right turn bay for northbound traffic and a Give Way controlled slip lane for southbound traffic accessing James Erskine Drive. It is noted that all traffic travelling to and from the site would have to pass through this signalised intersection.



FIGURE 6.11.2C KEY INTERSECTIONS: JAMES ERSKINE DRIVE AND MAMRE ROAD

It can be seen from Figure 6.11.2d that James Erskine Drive forms a roundabout intersection with Quarry Road, while Sarah Andrews Close forms the southern leg of this intersection. James Erskine Drive provides a dedicated left turn lane for traffic accessing Quarry Road and Quarry Road provides a dedicated right turn lane for traffic travelling towards Mamre Road via James Erskine Drive. Therefore this roundabout already prioritises traffic movements between James Erskine Drive and Quarry Road

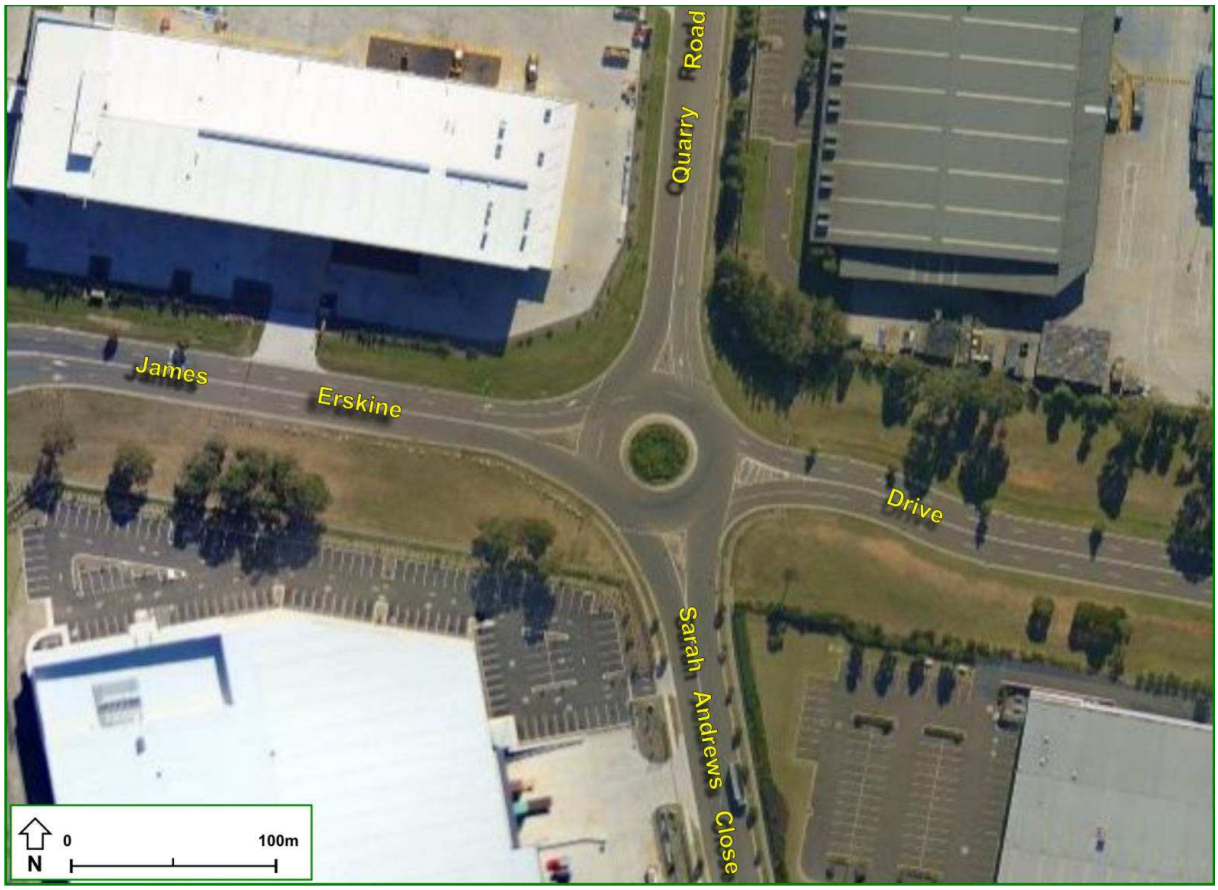


FIGURE 6.11.2D KEY INTERSECTION JAMES ERSKINE DRIVE AND QUARRY ROAD

Existing Intersection Performances

Currently, all three intersections operate well during both the morning and evening peak, however this would change as additional development takes place in the local area. Details of the modelling results of existing intersection performance are provided in Technical Paper 7.

Public Transport

The existing bus and train services that operate in the locality are shown in Figure 6.11.2e. The site is located approximately 6.6 kilometres to the south-east of St Mary's railway station and 6.5 kilometres to the south-west of Mount Druitt railways station. Both stations provide services along the North Shore and Western Line. It can be seen that the site is not well serviced by public transport, however it is likely that once the surrounding Business Park is fully developed, the opportunity to improve bus and bicycle accessibility could be investigated. This is likely to be in response to a demonstrated demand.

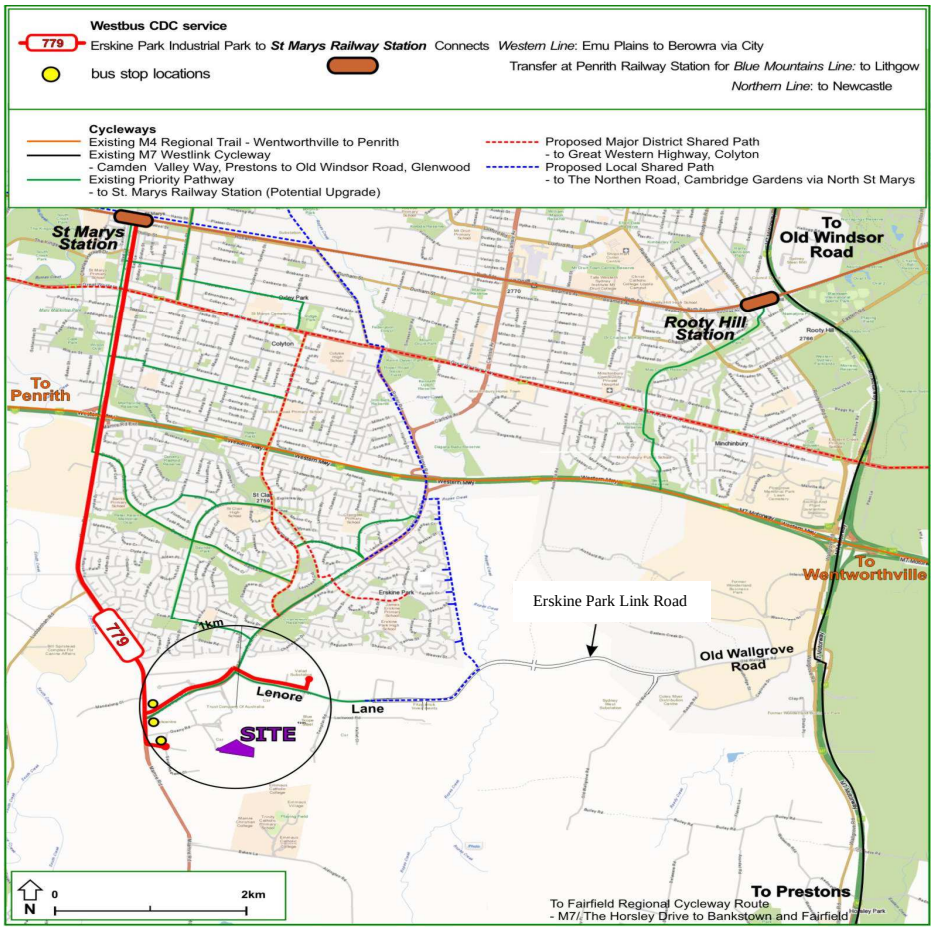


FIGURE 6.11.2E EXISTING BUS AND TRAIN SERVICES

Existing Site Generation

The existing site currently comprises vacant land and as such does not generate any significant traffic volumes. Therefore the site is considered to have no existing traffic generation.

6.11.3 Assessment – Council Controls

The Penrith City Council DCP 2010 Part C10-'Transport Access and Parking', requires parking for industrial developments to be provided at rates related to the net floor area of the development. However, considering the spread of activity due to shift work and the extent of the mechanisation of the proposed development there would only be a total of 48 staff on-site at any one given time, which is a considerably lower staffing requirement compared to other industrial developments of similar size.

Therefore, the Proposal allows for the provision of 53 spaces. This is considered to meet the aims and objectives of State Planning Policy, while satisfying the specific needs of the development based on extensive operational experience with similar facilities throughout Australia.

Further details on the parking assessment, including provision for disabled parking, are provided in Technical Paper 7. Technical Paper 7 also describes how the Proposal makes provision for bicycle facilities and arrangements for servicing the site (in particular garbage collection).

6.11.4 Assessment – Construction Impacts

An assessment of the anticipated construction impacts was used to develop a Construction Traffic Management Plan (CTMP) (refer to Technical Paper 7). The CTMP would be implemented during construction to minimise the potential impacts on traffic and transport during construction.

Truck routes

The proposed truck routes that would be used during construction are:

- To/From the North: Mamre Road, James Erskine Drive, Quarry Road and vice versa or,
  M7 Motorway, Old Wallgrove Road, Erskine Park Link Road, Lenore Drive, Erskine Park Road, Mamre Road, James Erskine Drive, Quarry Road and vice versa;
- To/From the East: M4 Motorway, Erskine Park Road, Mamre Road, James Erskine Drive, Quarry Road and vice versa.
- To/From the West: M4 Motorway, Mamre Road, James Erskine Drive, Quarry Road and vice versa.
- To/From the South: M7 Motorway, Old Wallgrove Road, Erskine Park Link Road, Lenore Drive, Erskine Park Road, Mamre Road, James Erskine Drive, Quarry Road and vice versa.

The above routes seek to utilise the arterial road network as much as possible with the use of local roads only where required. The routes are shown in Figure 6.11.4a. A copy of these routes would be provided to all drivers prior to attending the Proposal site.

Construction worker vehicles

The maximum number of workers proposed over the total construction period is 100 people. Assuming average car occupancy of 2 people per car, this would result in a total demand for 50 spaces. The plan included in Appendix C demonstrates that there are significant areas within the site which would be available for contractor parking (hardstands etc) and hence, all contractor parking demands would be contained within the site. Notwithstanding this, it is noted that workers would also be able to utilise the on-site car park (53 spaces), once this has been constructed. Should any employees visit the site temporarily, they would be instructed to use available on-site parking to avoid any demands to on-street parking.

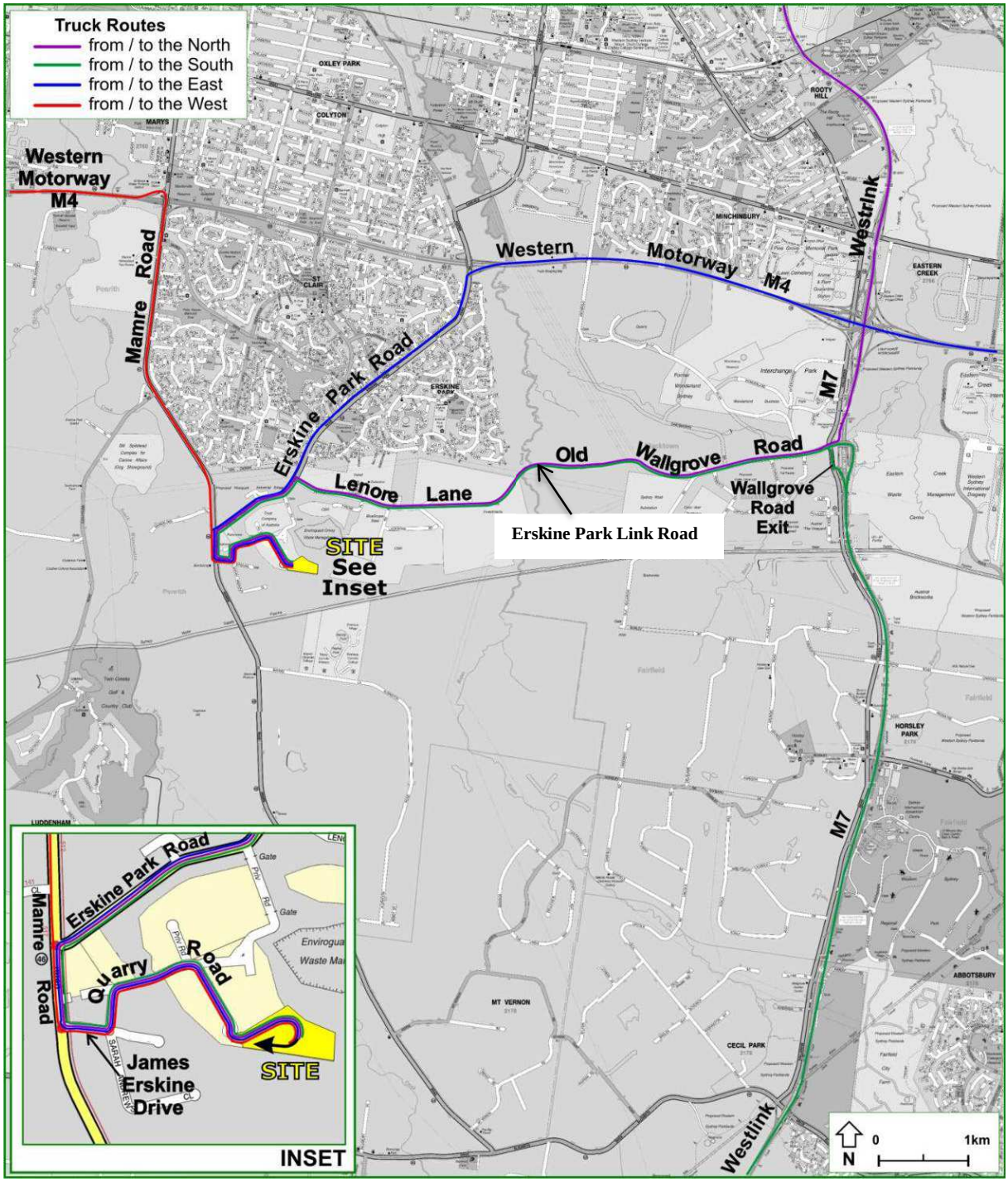


FIGURE 6.11.4A TRUCK ROUTES TO AND FROM THE SITE

6.11.5 Assessment – Traffic Generation

Staff-Related Trips

The site would have a daily trip generation of 60 trips which comprise 48 staff related trips and 12 visitor related trips. Since these trips occur outside of the peak traffic periods they would have little to no impact on the existing road network.

Operational Trips

The heavy vehicle component of the development would generate 102 daily vehicle trips. Since these trips are distributed over a 24 hour timeframe only 10 trips would occur during the morning peak and 16 trips during the evening peak period, with the breakdown shown in Table 6.11.5a.

TABLE 6.11.5A PREDICTED (HEAVY VEHICLE) PEAK HOUR TRAFFIC

Type of Vehicle	AM Peak Hour			PM Peak Hour		
	IN	OUT	TOTAL	IN	OUT	TOTAL
Milk Delivery B Double	3	3	6	4	4	8
Finished Product Milk Dispatch	0	0	0	2	2	4
Packaging Materials	2	2	4	2	2	4
Waste	0	0	0	0	0	0
Total Operational Traffic	5	5	10	8	8	16

These are relatively minor impacts that can easily be accommodated by the existing road network.

Standard Assessment Network Performance

The peak hour traffic generation of the MGC facility has been assessed as 10 trips during the morning peak and 16 trips during the evening peak. This level of traffic generation is considered to be low and does not trigger the need to assess impacts of the Proposal as an isolated development. Therefore a cumulative traffic impact assessment, taking into account traffic generated by proposed future development in the area, is provided as part of the overall cumulative impact assessment in section 6.15.

6.11.6 Mitigation Measures

The CTMP would be implemented to minimise the potential impacts on traffic and transport during construction.

The overall impacts of the Proposal on traffic generation and the local road network are assessed as negligible. By locating the facility in Sydney, the Proposal avoids the need to transport milk product by road between Melbourne and Sydney with benefits for the inter-state network. Its location in Erskine Business Park close to the Chilled Distribution Centre at Eastern Creek minimises the distance to be travelled for the finished milk product. It also makes good use of existing road infrastructure including the recently constructed Erskine Park Link Road.

In relation to parking, the Proposal would make allowance for disabled parking in accordance with Penrith City Council Controls, designed in accordance with AS 2890.6

In relation to bicycle parking facilities, the Proposal would provide adequate bicycle parking facilities so as to provide the opportunity to reduce car dependency.

6.12 Visual and Landscape

A consolidated report containing an urban design component, a visual impact assessment and a landscape strategy was prepared to:

- Assess the architectural design of the Proposal in relation to the applicable NSW and Local government legislation and policies;
- Determine the visual impacts of the Proposal on the surrounding landscape, and
- Provide recommendations on landscaping of external areas for the Proposal.

The report is provided in full in **Technical Paper TP8: Visual, Urban Design and Landscape**. The visual impact assessment and the role of the landscape strategy in mitigating visual impacts is summarised in this section. As the Proposal is located in the middle of an existing industrial park and is some distance from the nearest residential areas, the overall visual impact is assessed as low.

Table 6.12a contains the relevant DGRs relating to visual impacts.

TABLE 6.12A DGRS FOR VISUAL

Director-General's Requirements	Location addressed
Visual *– including:* *An assessment of the potential visual impacts of the development on the amenity of the surrounding area; and* *A detailed description of the measures (e.g. landscaping) that would be implemented to minimise the visual impacts of the development.*	section 6.12 section 2 and section 6.12.5

6.12.1 Legislative and policy framework

The relevant State policies and Council plans relevant to the visual impact assessment are State Environmental Planning Policy (Western Sydney Employment Area) 2009 and the Penrith Development Control Plan (PDCP) 2006**.** Further details on these are provided in Technical Paper 8. While the potential visual impact of the Proposal is assessed as negligible, the 19 metre height of the milk silos which form part of the Proposal would exceed the maximum height for the site of 15 metres established in the PDCP. Therefore a visual assessment has been undertaken.

6.12.2 Methodology

The methodology for the visual assessment is described in detail in Technical Paper 8. The key component of the methodology is the identification of a number of view points from which photomontages were developed and which form the basis of the assessment. The view points are shown in Figure 6.12.2a and described in Table 6.12.2a.

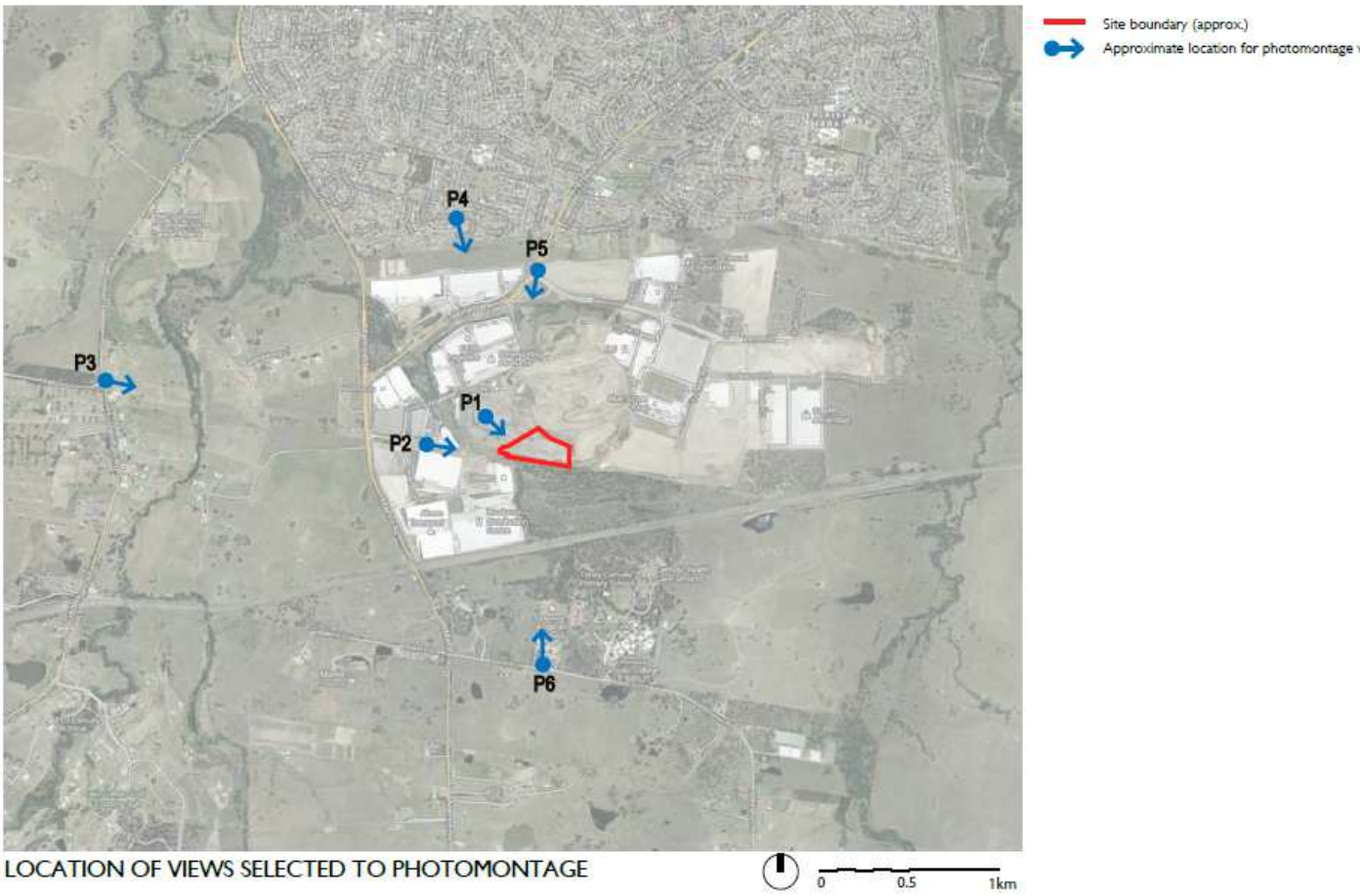


FIGURE 6.12.2A VIEWING POINT LOCATIONS

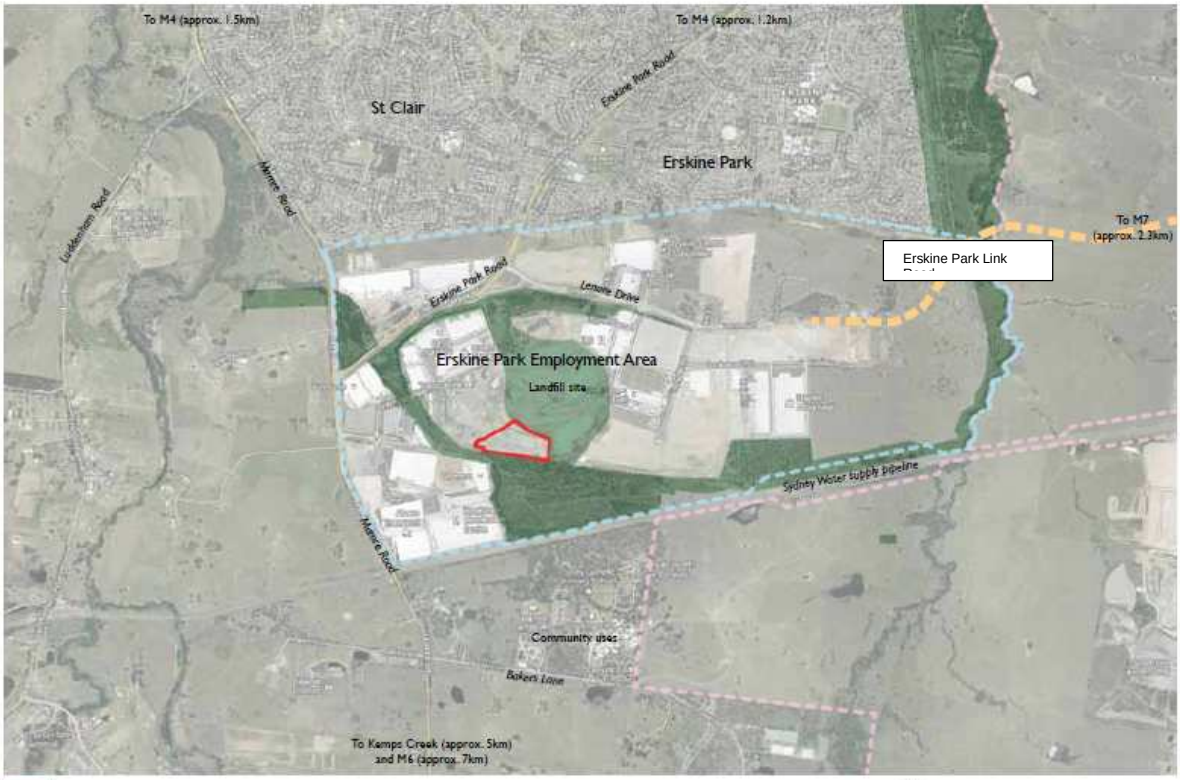
TABLE 6.12.2A VIEWING POINT LOCATION DESCRIPTIONS

ID	Location	Description
P1	From Quarry Road approaching the site.	This view location has been chosen to demonstrate a typical near-distance view obtained when accessing the site or nearby parcels of land.
P2	From James Erskine Drive.	This view location has been chosen to demonstrate the site's visibility and prominence from another location within the Industrial Precinct from where the proposal may be visible. This view is specifically along the axis of James Erskine Drive which, further west, provides the main vehicular entry point and 'gateway' to the wider industrial precinct.
P3	From Luddenham Road to the west of the site, adjacent to Patons Lane.	This view location has been chosen to demonstrate the proposal's potential visual impact from rural areas to the west. This particular location may have greater visibility to the site than other locations due to its location along the corridor of James Erskine Drive and the Biodiversity corridor to the south of the site. The chosen location also has a higher level of patronage than other locations within

ID	Location	Description
		the local area, as it is located along Luddenham Road at the junction of the cul-de-sac Patons Lane.
P4	From Blackwell Avenue, St. Clair.	This view location has been chosen to demonstrate a view from the suburban areas of St Clair where the proposal may be more visible or prominent than other locations. Blackwell Avenue is the busier of two roads (the other being Coowarra Drive) within St Clair which terminate at the buffer open space between the suburban areas and the industrial precinct. The view location is on a slight topographic rise, increasing the potential visibility to the south from a view from the southern edge of the suburban area.
P5	From Erskine Park Road/Lenore Drive Intersection.	This view location has been chosen to demonstrate a key vehicular view, when driving south along Erskine Park Road. This location also has a pedestrian footpath. The amount of vehicles per day is likely to increase in future as the Erskine Park Link Road is constructed.
P6	From Bakers Lane across the Mamre Anglican School	This view location has been chosen as it is a location within the community-use areas along Bakers Lane with greater visibility towards the site due to the topography and open landscape; and also is one of the higher-use areas along this Lane as it is adjacent to the Mamre Anglican School.

6.12.3 Existing Environment

The site is located within the Erskine Park Employment Area, approximately 11km southeast of the Penrith Centre. It is predominantly characterised by large warehouse and manufacturing buildings as well as some remaining vacant lots. In addition to the Erskine Park Employment Area, the site's context includes the suburban residential areas of St Clair and Erskine Park, approximately 1km to the north, and rural lands approximately 500m to the south and 1km to the west which generally include low-density housing (refer to Figure 6.12.3a). Other existing industrial and employment facilities generally lie between the site and these surrounding areas. There are significant changes in character between the suburban residential areas, employment areas and rural areas within the context of the site.



THE SITE AND WIDER CONTEXT (source: Google Earth)

Note: Erskine Park Link Road has been completed since this map was prepared

FIGURE 6.12.3A SITE AND WIDER CONTEXT

6.12.4 Assessment

The site's location close to the centre of the Erskine Park Employment Area means that it generally has a significant distance to sensitive visual receptors, with the suburban residential areas of Erskine Park and St Clair located approximately 1km to the north and the schools and retirement community along Bakers Lane located at a similar distance to the south. Visibility of the site in distant views is also significantly limited by the topography of the waste management facility site to the north and the trees in the southern Biodiversity Corridor land.

Visibility of the site is also restricted in near-distance views, particularly due to the site's small frontage to Quarry Road and the proximity of development at the northern and north-western boundary.

The visual impact assessment was primarily undertaken through the analysis of photomontages at each viewing point. These photomontages can be found in Figures 6.12.4a to 6.12.4f. The photomontages present a view of the existing situation (i.e. without the Proposal) followed by the same view with the Proposal. The proposed facility is outlined in red in the 'with Proposal' photomontages.



FIGURE 6.12.4A PHOTOMONTAGE OF P1 - EXISTING



FIGURE 6.12.4A PHOTOMONTAGE OF P1 (CONT'D) – PROPOSED



FIGURE 6.12.4B PHOTOMONTAGE OF P2 - EXISTING



FIGURE 6.12.4B PHOTOMONTAGE OF P2 (CONT'D) – PROPOSED



FIGURE 6.12.4C PHOTOMONTAGE OF P3 – EXISTING



FIGURE 6.12.4C PHOTOMONTAGE OF P3 (CONT'D) – PROPOSED



FIGURE 6.12.4D PHOTOMONTAGE OF P4 – EXISTING



FIGURE 6.12.4D PHOTOMONTAGE OF P4 (CONT'D) – PROPOSED



FIGURE 6.12.4E PHOTOMONTAGE OF P5 – EXISTING



FIGURE 6.12.4E PHOTOMONTAGE OF P5 (CONT'D) – PROPOSED



FIGURE 6.12.4G PHOTOMONTAGE OF P6 – EXISTING



FIGURE 6.12.4F PHOTMONTAGE OF P6 (CONT'D) – PROPOSED

View significance and visual impact and acceptability

A detailed assessment of the view significance at each view point is provided in Technical Paper 8. However, the viewing significance of each viewing point is predominantly assessed as low.

Similarly, the detailed assessment of the visual impact and acceptability at each viewing point is provided in Technical Paper 8. In general, the visual impact at each viewing point is assessed as either none or negligible. Therefore, the visual impacts presented by the Proposal are considered acceptable at each viewing point.

6.12.5 Landscape Strategy

A landscape strategy has been prepared with the aim of complementing the architecture of the facility and ensuring its compliance with any requirements for the Erskine Park Employment Area. The primary objective of the strategy is to reduce the potential visual impacts of the Proposal and to ensure the landscaping of the Proposal is consistent and compliant with the relevant requirements including those under State and Local Environmental Planning Policies. Details of the landscape strategy are provided in Technical Paper 8.

Lighting

Lighting will be provided to external areas of the proposal site to provide adequate security as well as safety of users including night time shift workers. The security aspects of lighting will be planned and designed to take account of the principles of Crime Prevention through Environmental Design (CPTED). In addition, outdoor work areas, specifically the loading bays, crate storage areas and general driveways, will be provided with sufficient light to ensure safe working conditions.

Lighting related energy use will be minimised by using energy efficient lighting (a combination of LED, induction, metal halide and T5 fluorescent fittings will be used as appropriate).

Lighting is controlled by motion sensors and daylight sensors where possible and as the majority of the floor plan area is fully mechanised and computer controlled – including mechanised loading and storage – these areas are currently being considered for operation without lighting on under normal operations.

Lighting design will also take into account the need to control the obtrusive effects of outdoor lighting in particular the requirements of Australian Standard AS4282 so as to minimise any adverse amenity impacts on adjacent properties, noting that the site is located in an industrial area.

Signage SEPP 64 Assessment

State Environmental Planning Policy No. 64 – Advertising and Signage (SEPP 64) has been prepared under the EP&A Act to introduce comprehensive provisions to ensure that outdoor advertising is well located.

The following table provides an assessment of the proposed business identification signage against the Assessment Criteria set out in Schedule 1 to SEPP 64.

TABLE 6.12.5A SEPP 64 ASSESSMENT

SEPP 64 Schedule 1 Assessment Criteria	Response
Character of the Area	
Is the proposal compatible with the existing or desired future character of the area or locality in which it is proposed to be located?	Yes - the proposal is consistent with the existing character of the Industrial Precinct and Penrith DCP controls which set out the desired future character for the area.
Is the proposal consistent with a particular theme for outdoor advertising in the area or locality?	Yes - the proposal is consistent with other advertising in the area and key Penrith DCP controls affecting signage and advertising (including those within Penrith DCP 2006 Part 6.10 'Erskine Business Park' and Penrith DCP 2010 Part C9 'Advertising and Signage').
Special areas	
Does the proposal detract from the amenity or visual quality of any environmentally sensitive areas, heritage areas, natural or other conservation areas, open space areas, waterways, rural landscape or residential areas?	No - When viewed along Quarry Road the proposal will be seen in part against the backdrop of the Biodiversity Corridor however the proposal will be a minor element which will not detract from this view.
Views and vistas	
Does the proposal obscure or compromise important views?	No.
Does the proposal dominate the skyline and reduce the quality of vistas?	No.
Does the proposal respect the viewing rights of other advertisers?	Yes - no other advertisers will be affected by the proposal.
Streetscape, setting or landscape	
Is the scale, proportion and form of the proposal appropriate for the streetscape, setting or landscape?	Yes.
Does the proposal contribute to the visual interest of the streetscape, setting or landscape?	Yes.
Does the proposal reduce clutter by rationalising and simplifying existing advertising?	N/A - There is no existing advertising which can be rationalised.
Does the proposal screen unsightliness?	N/A - There are no elements which require screening.
Does the proposal protrude above buildings, structures or tree canopies in the area or locality?	No.
Does the proposal require ongoing vegetation management?	Yes.
Site and building	

SEPP 64 Schedule 1 Assessment Criteria	Response
Is the Proposal compatible with the scale, proportion and other characteristics of the site or building, or both, on which the proposed signage is to be located?	Yes - Freestanding signage is required as the proposed built form is required to be significantly set back from the street frontage.
Does the Proposal respect important features of the site or building, or both?	Yes - The proposal is well located to suit the site characteristics.
Does the Proposal show innovation and imagination in its relationship to the site or building, or both?	The proposal is distant from the building and well located to fit within the site and its landscaping.
Associated devices and logos with advertisements and advertising structure	
Have any safety devices, platforms, lighting devices or logos been designed as an integral part of the signage or structure on which it is to be displayed?	The proposed signage is free standing and no associated devices, platforms or logos are required.
Illumination	
The lighting for the signage has not been designed yet, but the intention would be for a ground mounted directional light in front of the sign that can be adjusted to restrict lighting to the face of the sign. On this basis:	
Would illumination result in unacceptable glare?	No.
Would illumination affect safety for pedestrians, vehicles or aircraft?	No.
Would illumination detract from the amenity of any residence or other form of accommodation	No.
Can the intensity of the illumination be adjusted, if necessary?	Yes.
Is the illumination subject to a curfew?	No.
Safety	
Would the proposal reduce the safety for any public road?	No.
Would the proposal reduce the safety for pedestrians or bicyclists?	No.
Would the proposal reduce the safety for pedestrians, particularly children, by obscuring sightlines from public areas?	No.

6.12.6 Mitigation Measures

The siting of the Proposal in the heart of an industrial area and removed from residential areas and other sensitive receptor locations means the potential visual impacts are low.

A landscape strategy has been developed to further integrate the Proposal into the surrounding area by reinforcing the attributes of the local environment.

6.13 Waste management

A Waste Management Plan (WMP) was prepared to determine the potential waste impacts related to the construction and operation of the Proposal and to outline a strategy for management of this waste. The WMP is provided in full in **Technical Paper TP9: Waste management**. The WMP assesses the quantities and types of waste likely to be generated during construction and operation of the Proposal and identifies how each waste type will be managed. Taking into account these management measures, which have been incorporated into the construction methodology and operations of the Proposal, environmental impacts related to waste are not significant.

Table 6.13a contains the relevant DGRs relating to waste management.

TABLE 6.13A DGRS FOR WASTE MANAGEMENT

Director-General's Requirements	Location addressed
Waste Management *– including:* • *Details of the quantities and classification of solid and liquid waste to be generated on site;* • *Details on waste storage, handling, treatment and disposal, and* • *Details of the measures that would be implemented to ensure that guidance in the NSW Waste Avoidance and Resource Recovery Strategy 2007.*	section 6.13

6.13.1 Legislative and policy framework

The Waste Management Plan has taken into account the requirements of the Waste Avoidance and Resource Recovery Act 2001, the Penrith Development Control Plan 2006 and Penrith Development Control Plan 2010. Further details on these are provided in Technical Paper 9.

6.13.2 Construction waste types

The Waste Management Plan identifies the volume and type of waste likely to be generated during construction and how these will be managed. This information is summarized in Table 6.13.2a.

TABLE 6.13.2A CONSTRUCTION WASTE MANAGEMENT PLAN

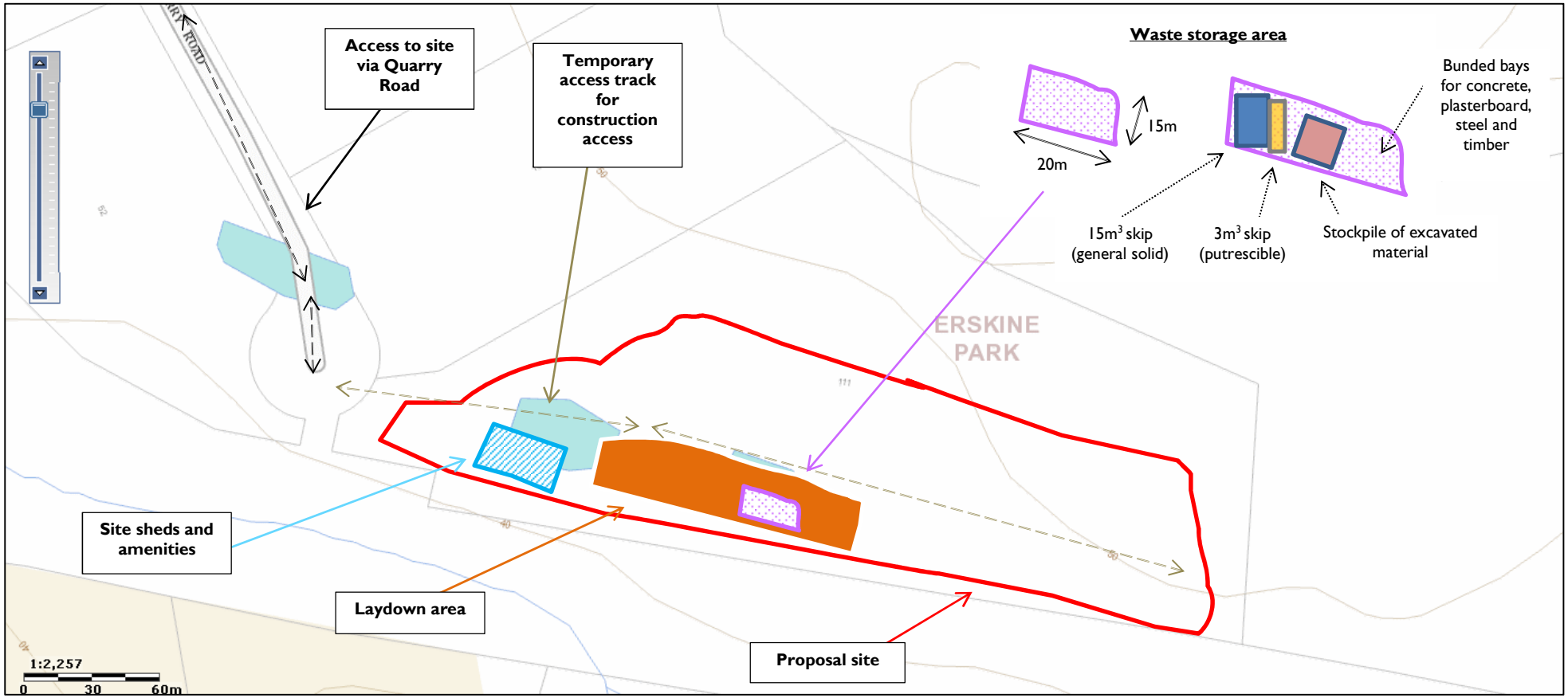
MATERIALS ON-SITE	DESTINATION			
TYPE OF MATERIAL	EXPECTED VOLUME (m^3)/Wt. (t)	REUSE AND RECYCLING		DISPOSAL
		ON-SITE *Specification of proposed reuse or on-site recycling methods	OFF-SITE *Specification of contractor and recycling outlet	*Specification of contractor and landfill site
Excavation Material	4320m^3	**Reuse** all clean cut material **on-site** as fill if deemed suitable by contaminated soil report	**Recycle** cut fill by sending excavation material to A&C Recycling Centre.	**Dispose** (if material cannot be reused/recycled)- Eastern Creek Landfill
Green Waste	None expected.	N/A	N/A	N/A
Bricks	None expected as no existing buildings will be demolished.	N/A	N/A	N/A
Tiles	None expected as no existing buildings will be demolished.	N/A	N/A	N/A
Concrete	10m^3	N/A	**Recycle** concrete by sending to Hallinans Haulage Recycling Centre.	**Dispose** (if material cannot be reused/recycled)- Eastern Creek Landfill

MATERIALS ON-SITE	DESTINATION			
TYPE OF MATERIAL	EXPECTED VOLUME (m^3)/Wt. (t)	REUSE AND RECYCLING		DISPOSAL
		ON-SITE *Specification of proposed reuse or on-site recycling methods	OFF-SITE *Specification of contractor and recycling outlet	*Specification of contractor and landfill site
Timber	100m^3		**Recycle** untreated timber by sending to SITA Environmental Solutions, Eastern Creek.	**Dispose** (if material cannot be reused/recycled)- Eastern Creek Landfill
Plasterboard	10m^3	N/A	**Recycle** waste plasterboard by sending to SITA Environmental Solutions, Eastern Creek	**Dispose** (if material cannot be reused/recycled)- Eastern Creek Landfill
Metals	10m^3		**Recycle** metals by sending scrap metal to SIMS Metal Management centre	
Putrescible	120m^3			**Dispose** (if material cannot be reused/recycled)- Eastern Creek Landfill
Other- non recyclable plastic and general waste	600m^3			**Dispose** (if material cannot be reused/recycled)- Eastern Creek Landfill

6.13.3 Construction waste management

Construction waste would be managed through a combination of stockpiling of construction materials, provision of bins for the disposal or recycling of materials, and establishment of a waste storage and collection area on site. Further details are provided in Technical Paper p and the layout of waste management arrangements during construction is shown in Figure 16.3.3a.

FIGURE 6.13.3A CONSTRUCTION WASTE STORAGE AND COLLECTION



6.13.4 Operational waste

The Proposal will process approximately 150 million litres of milk annually. It is anticipated that the two primary waste types will be generated during the ongoing operation of the new milk processing facility:

1. Solid waste such as paper, cardboard, timber, milk solids, e-waste and oily rags, and
2. Liquid waste such as waste milk and oils.

Solid waste

The following solid wastes are likely to be generated at the new milk processing facility. Table 6.13.4a outlines the method by which each waste type will be reused, recycled or disposed. Receipts are to be kept as proof of appropriate recycling or disposal paths for each waste material.

TABLE 6.13.4A SOLID WASTE MATERIAL MANAGEMENT

Waste Material	Management Option	On site storage requirement	Transport requirement	Disposal requirement
General	Where possible the waste hierarchy (avoid, reuse, recycling, recovery, disposal) for waste management will be adhered to.	In designated solid waste bins.	Collected by a waste contractor.	To a waste treatment facility licenced to take solid inert waste.
Stretch wrap	**Recycle**- bale using a compactor.	In designated stretch wrap bale.	Collected by waste recycling contractor.	Recycled at a plastic recycling facility.
Plastic bags (used to transport and store bottles and caps)	**Recycle**.	In designated plastic recycling binsstretch.	Collected by waste recycling contractor.	Recycled at a plastic recycling facility.
Plastic pallets (for transport of plastic bottles)	**Reuse** - Return to bottle supplier.	Empty pallets removed by bottle manufacturer when new pallet delivered.	Collected by bottle manufacturer.	Reused.
Other plastics (empty bottles)	**Recycle-** all plastic with recycling sign can be recycled.	In designated plastic recycling bins.	Collected by waste recycling contractor.	Recycled at a plastic recycling facility.
CHEP wooden pallets	**Reuse**- Pallets are removed and reused by CHEP.	Removed by CHEP when next delivery is made.	Collected by pallet company.	Reused.

Waste Material	Management Option	On site storage requirement	Transport requirement	Disposal requirement
Non-CHEP wooden pallets (used to deliver labels)	**Reuse** or **recycle**- Depends on structural quality of wooden pallet.	Stack pallets in storage area.	Reused on site or collected by licenced recycling contractor.	Recycled.
Backing paper (from labels)	**Recycle / Dispose** – Site should attempt to recycle before disposing	In designated waxed paper recycling bins or alternatively in general waste bin if unable to be recycled.	To be collected by waste recycling contractor or waste contractor.	To be recycled if opportunity is available otherwise disposal to landfill.
Paper	**Recycle**.	Waste paper is to be stored in paper bins located around the site where they are emptied into a central designated paper recycling bin/skip to await collection.	To be collected by waste recycling contractor.	Recycled at paper recycling facility.
Cardboard	**Recycle**.	Waste cardboard is to be stored in a designated cardboard recycling bin.	To be collected by waste recycling contractor.	Recycled at cardboard recycling facility.
Printer cartridges	**Recycle**- Cartridges can be reprocessed or recycled for the recovery of plastics, metals and inks that can then be used to make new products.	Store in printer cartridge recycling box in office area to await collection.	None.	Planet Ark in association with a number of retail outlets will collect and organise the recycling of printer cartridges.
Food scraps	**Reuse, Recycling /Landfill**- Site should assess option outside of landfill disposal which includes composting or food waste recycling service.	Segregrate into sealed plastic bags and place in designated general waste bins.	Collected by licensed waste contractor.	To a waste treatment licensed to take solid inert waste.

Waste Material	Management Option	On site storage requirement	Transport requirement	Disposal requirement
Milk Solids	**Reuse**- Any milk solids not utilised in the final product will be recovered by a milk solids recovery system and sold to pig farmers as feed stock.	In designated recovery tanks.	Collected by pig farmer.	Establish receiver agreements with local farms to ensure there will always be enough receivers.
Waste product from dairy processing (including DAF sludge)	**Reuse**- Management options are dependent of the particular waste generated however the waste hierarchy should be followed. Options include: **Re-processing** the waste product (concentrate / stock product) to make sub grade products. **Reuse** as an alternative product as stock feed (i.e. pig farms). **Reuse** of waste by pig farmers as pig feed. **Treated** in waste water treatment ponds and used as irrigation water.	Store in sealed Intermediate Bulk Containers (IBCs) preferable in a cool room to await collection. Store in on site silos. Keep in interceptor pit awaiting collection by waste contractor.	Where applicable an accredited agent accompanied by an EPA waste transport certificate must be obtained for the collection and transport of sludge's.	Verify that the relevant disposal facility is licensed to treat dairy processing waste products.
E-waste	**Recycle**- use an e-waste recycling contractor.	None.	None.	Recycled by registered e-waste recycler.
Oily rags	**Treatment** and **Recycling**- Oily rags can be treated and recycled	Securely stored in drums labelled with the waste type.	An accredited agent accompanied by an EPA waste transport certificate must be obtained.	Verify that the relevant disposal facility is licensed to treat waste oily rags.

Waste Material	Management Option	On site storage requirement	Transport requirement	Disposal requirement
Grease trap waste	**Recovery and Reuse-** collected by a licenced grease trap waste contractor	Stored in grease trap until ready for removal by vacuum trucks.	Removed via an accredited grease trap waste contractor and transported to an EPA compliant facility.	Verify that the relevant disposal facility is licensed to treat grease trap waste.
Autoclave waste (laboratory)	**Disposal**- Sterilisation of media waste to become non-hazardous.	In designated solid waste bins.	Collected by a waste contractor.	To a waste treatment facility licenced to take solid inert waste.
Laboratory sharps	**Disposal** - Segregate, label and put in specific sharps container.	Store in labelled sharps container.	An accredited agent accompanied by an EPA waste transport certificate must be obtained for the transport of all sharps.	Verify that the relevant disposal facility is licensed to treat the laboratory sharps.

Liquid waste

Table 6.13.4b outlines the method by which each liquid waste type will be reused. Receipts will be kept as proof of appropriate recycling or disposal paths for each waste material. Liquid waste from processing areas will be treated on-site in the wastewater system.

TABLE 6.13.4B LIQUID WASTE MANAGEMENT

Waste Material	Management Option	On site storage requirement	Transport requirement	Disposal requirement
Waste milk (from sampling bottles)	**Reuse / Recycling**- Milk will be drained to hoppers. First flush of milk will be segregated and sent to product recovery tank.	Stored in product recovery tank.	Collected by pig farmers or trucked off site to an energy recovery centre.	To be collected and reused by pig farmers where feasible or trucked off site as a biomass source for an energy recovery centre
Empty chemical drums (will be from bulk delivery of chemicals)	**Reuse**- All chemical drums should be triple rinsed immediately after use in an area where runoff will not contaminate the environment (i.e. over washbay interceptor pit) and stored.	Safe designated area.	Arrangement should be made with the retailer to collect used drums.	Retailer to collect used containers to be reused for repackaging.
Oils (from maintenance area)	Treatment and reuse- Waste oils can be treated and sold on to specialised used oil recyclers.	Securely stored in drums labelled with the waste type. Should be stored in a bunded area.	An accredited agent accompanied by an EPA waste transport certificate must be obtained.	Verify that the relevant disposal facility is licensed to treat waste oil.

6.13.5 Operational waste management

Design for waste reduction

The facility has been designed to minimise product wastage and to reduce the volumes of milk solids and grease trap waste produced. The automation of many processes will reduce manual handling and therefore the potential for damaged packaging materials. All recyclable and general waste materials will be securely stored in lidded waste bins to maintain site tidiness and to ensure the quality of recyclable materials. All recyclable solid wastes will be removed as required by a suitably licensed contractor for recycling at an appropriate facility.

Estimated Waste Generation

The volume of waste estimated to be generated by MGC during the ongoing use of the development is outlined in Table 6.13.5a. The amount of waste generated from the facility has been based on information derived from the owners and operators of existing MGC milk processing facilities of a similar size. Licensed waste and recycling contractors will be appointed through a tender process once the new development has been constructed.

TABLE 6.13.5A ESTIMATED WASTE GENERATION AT NEW PREMISES

TYPE OF WASTE TO BE GENERATED	EXPECTED VOLUME PER WEEK	PROPOSED ON-SITE STORAGE AND TREATMENT FACILITIES[1]	DESTINATION
General waste including food waste	$3m^3$	One $3m^3$ bin to be stored at the facility and collected weekly.	Disposal • **Licensed waste contractor**
Paper and cardboard recyclables	$2m^3$	One $6m^3$ bin to be stored at the facility and collected every three weeks. Paper and cardboard will be compacted using an onsite 31 m^3 compactor unit.	Recycling • **Licensed recycling contractor**
Plastic recyclables (other than stretch wrap)	$5m^3$	One $6m^3$ bin to be stored at the facility and collected weekly. Plastics will be compacted using an onsite $31m^3$ compactor unit.	Recycling • **Licensed recycling contractor**
Stretch wrap	$1m^3$	One $1.5m^3$ bin to be stored at the facility. Stretch wrap will be baled separately from other plastics. Stretch wrap bales will consequently be sold to a recycling contractor.	Recycling • **Licensed recycling contractor**

Arrangements for operational waste storage and collection are shown Figure 6.13.5a and described in detail in Technical Paper 8. This hard stand area on which the bins will be stored is accessed via a private ring road which surrounds the main site buildings.

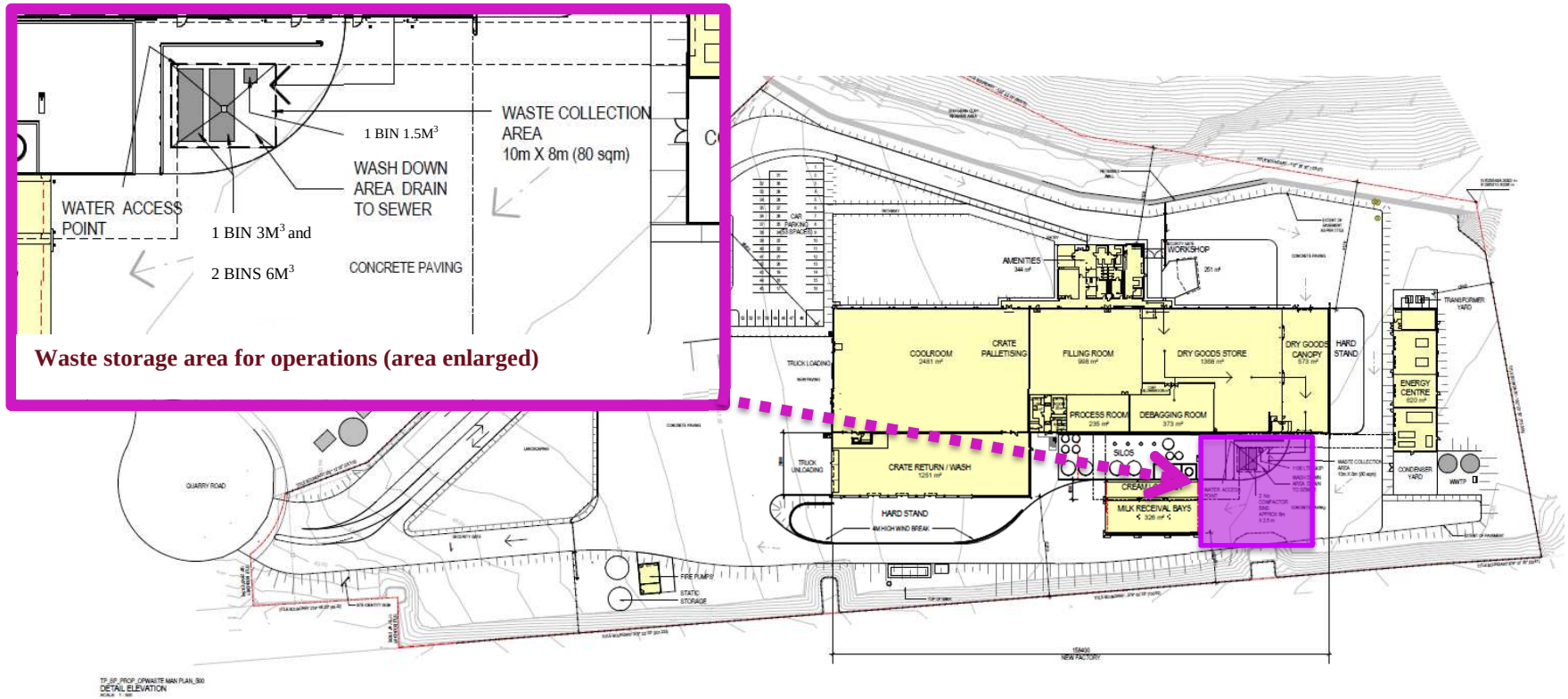


FIGURE 6.13.5A OPERATIONAL WASTE STORAGE AND COLLECTION

In summary, the waste management plan identifies the type and quantity of waste likely to be generated during construction and operation of the Proposal. It sets out a number of ways to manage this waste effectively through a combination of on-site and off-site measures. These measures have been incorporated into the design and operating procedures for the Proposal to ensure that the potential environmental impacts associated with waste generated are not significant.

6.14 Assessment of other issues

6.14.1 Aboriginal Heritage

Legislative framework

A preliminary due diligence investigation was undertaken for the Proposal to determine whether the Proposal site contained any items or places that are of Aboriginal heritage significance and to assess the potential impacts of the Proposal on Aboriginal heritage. The investigation concluded that there were no such items in the Proposal site and that the Proposal would not lead to any Aboriginal heritage impacts.

This investigation was conducted in accordance with the OEH *Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage (2011)* and *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (2010)* (Due Diligence Code). It involved the following:

- Review of relevant contextual environmental information and previous land use history;
- Search and review of the National Native Title Tribunal databases;
- Search and review of the OEH Aboriginal Heritage Information Management System (AHIMS) database;
- Search and review of the Commonwealth Heritage List, National Heritage List, Register of the National Trust of Australia, State Heritage Register;
- Search and review of Schedule 5 of the Penrith LEP 2010, and
- Search and review of Schedule 2 of the Penrith Local Environmental Plan 1991 (Environmental Heritage Conservation).

Under the Due Diligence Code, if the initial assessment process confirmed that Aboriginal objects will or are likely to be harmed, then further investigation and impact assessment will be required to prepare information about the types of items and nature of the harm. An Aboriginal Heritage Impact Permit (AHIP) would be needed if the initial assessment process determined that the activity/development will harm any known Aboriginal objects.

Based on a desktop review, it was concluded that the likelihood of Aboriginal heritage items or places occurring within the Proposal site would be highly unlikely. It was also determined that Proposal would not cause significant impact to any Aboriginal heritage items or places. Therefore, additional investigation and impact assessment, and an AHIP are not required for the Proposal.

The Due Diligence Code states that consultation with the Aboriginal community is not a formal requirement of the due diligence process. However, proponents may wish to consider undertaking consultation if it will assist in informing decision-making. Given the findings from the desktop review, it was determined that consultation with the Aboriginal community was not necessary, however, should the Proposal uncover any Aboriginal heritage items or artefacts during construction, OEH and relevant stakeholder and community groups would be notified.

Existing Environment and Findings

The Proposal is within the Erskine Park Employment Area (under Penrith DCP 2006), which is a predominantly industrial zone with several sections containing remnant bushland. Outside this zone are the primarily rural residential areas of Orchard Hills and Erskine Park to the south, east and west, and the medium density suburb of St Clair to the north. As most of the Erskine Park Employment Area is highly modified and developed, the potential presence of Aboriginal heritage is relatively low and is likely to be confined to the bushland areas.

As stated previously, the historical land use of the site was primarily related to manufacturing and subdivisions. Prior to 2012, the site has been used as a concrete production facility, a stone storage depot and a claypipe depot. The site does not contain any prominent trees, boulders, caves or other natural features that may contain any evidence of Aboriginal occupation or use of the site. It is also noted that the site is immediately underlain by fill ranging in thickness from approximately 2.9m to

7.2m. Based on the land use history and the current condition of the site, it is concluded that the site is heavily disturbed, and any evidence of Aboriginal occupation or use of the site is unlikely to remain.

A Native Title Search found no registered native title claimants, native title holders or registered Aboriginal Land Use Agreements for the site.

A summary of data-base and register searches is found in Table 6.14.1a.

TABLE 6.14.1A. SUMMARY OF HERITAGE REGISTERS SEARCH RESULTS – COMMONWEALTH, STATE AND LOCAL

Sources	Listed Aboriginal items and places
AHIMS database	None
Commonwealth Heritage List	None
National Heritage List	None
Register of the National Trust of Australia	None
State Heritage Register	None
Schedule 5 of the Penrith LEP 2010	None
Schedule 2 of the Penrith Local Environmental Plan 1991 (Environmental Heritage Conservation)	None

Based on the above findings, it was concluded that the site does not contain any listed Aboriginal heritage items and places.

Potential Impacts and Mitigation Measures

Construction

The only potential impact on Aboriginal heritage from the Proposal during construction is on unknown items and artefacts that are discovered during earthworks or excavation works. It is noted that the Early Works will involve the majority of the earthworks and site preparation works. Therefore, the likelihood of the Proposal uncovering unknown heritage items is low.

In the unlikely event that during construction, the discovery of items and artefacts of Aboriginal heritage significance or archaeological sites occurred, the following steps would be undertaken:

1. Work would stop immediately;
2. Find would be placed in a safe place or fenced off;
3. A qualified archaeologist would be contacted to make an assessment of the find, and
4. Aboriginal groups would be notified.

In the event that during construction, the discovery of human remains occurred, the following steps would be undertaken:

1. Work would stop immediately;
2. Remains would be left in place, fenced off and protected from damage;
3. NSW Police and State Coroner would be notified;

4. MGC and other key stakeholders would be notified;
5. Aboriginal groups would be notified;
6. OEH would be notified;
7. If the skeletal remains are of Aboriginal ancestral origin, an appropriate management strategy would be developed in consultation with the Aboriginal groups;
8. The find would be recorded in accordance with the NPW Act and the NSW NPWS Aboriginal Cultural Heritage Standards and Guidelines Kit (1997), and
9. The CEMP would be amended to include the newly discovered Aboriginal ancestral remains.

Operational impacts

It is anticipated that there would be no potential impacts on Aboriginal heritage during the operation of the Proposal.

6.14.2 Non-Aboriginal Heritage

Legislative framework

A desktop review of databases and registers was undertaken to determine whether the site for the Proposal contained any listed Non-Aboriginal heritage items or places and to assess the potential impacts of the Proposal on Non-Aboriginal heritage. It was concluded that the likelihood of Non-Aboriginal heritage items or places occurring within the site is highly unlikely. It was also determined that Proposal will not cause significant impact to any Non-Aboriginal heritage.

The desktop review involved a search and review of:

- State Heritage Register;
- Commonwealth Heritage List;
- National Heritage List;
- Register of the National Trust of Australia;
- Schedule 5 of the Penrith LEP 2010, and
- Search and review of Schedule 2 of the Penrith Local Environmental Plan 1991 (Environmental Heritage Conservation).

Existing Environment and Findings

The Proposal is not located in a heritage conservation area in accordance with the PLEP 2010. The site does not contain any buildings, relics, infrastructure or remnants of a structure that are of heritage value.

A summary of the results based on the desktop review of databases and registers are found in Table 6.14.2a.

TABLE 6.14.2A. SUMMARY OF HERITAGE REGISTERS SEARCH RESULTS – COMMONWEALTH, STATE AND LOCAL

Sources	Listed Aboriginal items and places
Commonwealth Heritage List	None
National Heritage List	None
Register of the National Trust of Australia	None
State Heritage Register	None

Sources	Listed Aboriginal items and places
Schedule 5 of the Penrith LEP 2010	None
Schedule 2 of the Penrith Local Environmental Plan 1991 (Environmental Heritage Conservation)	None

Based on the above findings, it was concluded that the site does not contain any listed Non-Aboriginal heritage items and places.

Potential Impacts and Mitigation Measures

Construction

The only potential impact on Non-Aboriginal heritage from the Proposal during construction would be on unknown items discovered during earthworks or excavation works. However, given that the Early Works will involve the majority of the earthworks and site preparation works, the likelihood of the Proposal uncovering unknown heritage items is low.

In the unlikely event that during construction, items and artefacts of heritage significance are discovered, the following steps would be undertaken:

- Work would stop immediately;
- Any find would be stored in a safe place or fenced off;
- A qualified archaeologist would be contacted to make an assessment of the find, and
- If the find is of heritage significance, the Heritage Council would be notified under section 146 of the Heritage Act 1977.

Operational impacts

It is anticipated that there would be no potential impacts on Non-Aboriginal heritage during the operation of the Proposal.

6.15 Cumulative impacts

6.15.1 Introduction

Cumulative effects are changes to the environment that are caused by an action in combination with other past, present and future human actions (Hegmann *et al.* 1999). An assessment of cumulative effects considers the combined and incremental impacts of a proposed development with existing and future developments in mind.

There is no prescribed method to undertake a cumulative impact assessment. The approach is usually dependent on the nature and scale of the proposal. This cumulative impact assessment broadly follows the guiding principles of the "Cumulative Effects Assessment Practitioners Guide", prepared for the Canadian Environmental Assessment Agency (Hegmann *et al.* 1999).

It considers the local impacts on potential land use, water, noise, air quality, traffic, flora and fauna, heritage and visual impacts associated with the Proposal.

The Director-General's Requirements (DGRs) for the Proposal, as they relate to Cumulative Impacts, are provided in Table 6.15a.

TABLE 6.15A DGRS FOR CUMULATIVE IMPACTS

Director-General's Requirements	Location addressed
Cumulative Impacts • particularly in relation to air, noise and traffic associated with the nearby industrial or commercial operations	section 6.15

6.15.2 Methodology

The Valued Ecosystem Components (VEC) were determined based on issues raised in the PEA, the DGRs and the outcomes of the assessments undertaken as part of preparing this EIS. Table 6.15.2a presents the VEC's, the related regional issues of concern as well as relevant indicators. This has been used as a guide in undertaking the cumulative impact assessment.

TABLE 6.15.2A VALUED ECOSYSTEM COMPONENTS (VECS)

Valued Ecosystem Components		
Environmental component	**Regional issues of concern**	**Indicators**
Air quality, odour and greenhouse gas	Offensive odour derived from waste materials.	Odour experienced at sensitive receivers
Bushfire	Impacts on the built form and employee and visitor safety. Potential impacts on adjacent biodiversity corridor in terms of providing asset protection zones.	Building design including setbacks, level of fuel and extent of tree canopy in adjoining biodiversity corridor.
Ecology	Impacts of construction and future operations on the site on adjacent biodiversity corridor, in particular, on any remnant Cumberland Plain Woodland.	Off-site impacts on flora and fauna, in particular, any threatened or endangered ecological communities.
Noise and vibration	Nuisance noise generated by manufacturing and associated	Noise levels at sensitive

Valued Ecosystem Components		
Environmental component	**Regional issues of concern**	**Indicators**
	traffic noise on sensitive receivers including residential areas.	receivers.
Ground conditions	Impacts of salinity on built form and on surrounding environment, land contamination and groundwater interference.	Presence of saline soils, contaminants from previous uses and height of ground water table.
Waste management	Waste management and disposal during construction and the operations of the facility.	Appropriate management and disposal of waste that occurs on-site.
Hazards and risks	Storage and use of chemicals that may make the land use hazardous or offensive industry.	Types and volumes of hazardous materials used and stored on site.
Water	Stormwater runoff during construction and management/reuse during the operation of the facility.	Changes in water quality of nearby waterways.
Traffic and transport	Increased traffic congestion, traffic noise and reduced pedestrian, motorist and cyclist safety.	Traffic volumes and noise levels.
Visual amenity	A reduction in the visual qualities of the locality as a result of the proposed built form.	Built form, urban design and landscaping plan.

The cumulative assessment considers interactions between impacts resulting from the Proposal (these are described as cumulative biophysical impacts and cumulative socio-economic impacts) and impacts resulting from the Proposal and other planned developments in the vicinity.

The assessment takes into the account the existing environmental conditions which are described in section 6.1.

6.15.3 Impact interactions - Cumulative Biophysical Impacts

Bushfire

The bushfire assessment, in conjunction with the design of the building, has ensured the Proposal would meet the acceptable requirements for buildings within designated bushfire prone areas, as in this case. The need for removal of vegetation from the biodiversity corridor has been avoided.

Ecology

The site adjoins a designated biodiversity corridor, which was retained as part of the strategic planning of the Western Sydney Employment Area. The potential impacts on this area, in particular, to its flora and fauna qualities, are likely to be a result of off-site impacts of previous, existing and proposed land uses within the vicinity of this area.

The potential cumulative impacts on the ecology of biodiversity corridor include sedimentation and soil erosion, stormwater run-off from existing and proposed development, traffic conflict with fauna which

live within or use this land as a corridor to other areas and clearing that may be necessary in order to reduce bushfire risk to life and property.

The Proposal has mitigated the potential cumulative impacts on the ecology of the biodiversity corridor through:

- Implementation of sedimentation and soil erosion control measures during the construction phase;
- Development of sensitive urban design drainage systems for the operations of the facility;
- Building and facility design which avoids the extension of Bushfire Asset Protection Zones into the Corridor, and
- A landscaping plan which is consistent with the flora of the Corridor.

The ecology assessment report has confirmed that the Proposal would not have any adverse impacts on the biodiversity corridor and, in particular, it is noted no referral would be required to the Commonwealth in respect of any potential controlled action.

Ground conditions

A comprehensive assessment of the ground conditions on-site has revealed that salinity, acid sulphate soils and contaminates do not occur at all and do not pose any adverse risks to development on the site or on adjoining properties. An Unexpected Finds Protocol has been developed to set out the procedures for dealing with identification of contamination on site, should this occur. There are no cumulative impact risks associated with the existing ground conditions on the site.

Waste management

Waste generated during construction and operation of the facility has been assessed and characterised as part of a Waste Management Plan. When considered with other existing and planned facilities in the Erskine Business Park Area, there is potential for significant cumulative waste generation.

The Waste Management Plan has identified those aspects of the waste stream that can be reused and recycled, reducing the overall waste going to landfill as a result of the Proposal. As advances in both the process and recycling technologies are made, there may be future potential for further segregation and recycling of waste streams.

Hazards and risks

The potentially hazardous chemicals to be stored on site include sodium hydroxide, nitric acid, Perform, Biosperse 261T, Drew 14-127, PC1PFG and anhydrous ammonia (or similar).

The hazard analysis for the Proposal has identified and examined a number of potential events/consequence scenarios that could occur on site.

The potential hazardous events identified were deemed as unlikely to occur due to the nature of the operation and the proposed prevention and protection measures designed for the Proposal.

The hazards associated with the accidental mixing of nitric acid and hydrogen peroxide solution (Perform) due to incorrect connections at the dispensing pumps were examined in greater detail to determine the potential off-site impacts. The amounts of NOx gas released were determined to be below the IDLH, ERPG2 and ERPG3 limits (refer to section 6.7 for definitions). Although one exceedance of the ERPG1 limit was predicted, this was considered to be the worst-case scenario and would not lead to significant off-site impacts.

The potential for hazardous events to have an adverse impact on air and water quality were considered as part of the hazards analysis. However, due to the nature of the operations and the hazard prevention and protection measures proposed for the subject site, it is expected that there would be no cumulative impacts or any increase in hazardous risks to the existing or future residents in the subject area or to the occupants of the industrial area.

Water

Water use and the interactions between the site and water bodies have been assessed and discussed in the EIS (refer to section 6.10).

The purpose of the assessment was to identify existing drainage patterns, identify opportunities for improving site drainage, and to collect information on the adjoining riparian land. The assessment recommended a number of mitigation measures for the control of sedimentation and run-off during construction and operation. This will avoid potential environmental impacts on the creek and biodiversity corridor located to the south of the site.

6.15.4 Impact interactions - Cumulative Socio-economic impacts

Visual amenity

The visual impact assessment of the proposal has concluded that:

'The visual impact of the proposal is nil or negligible in all distant views to the site. The site's location deep within the industrial precinct, behind changes in topography and a tall vegetated Biodiversity Corridor to the south effectively screen the proposal from creating any significant visual impact within its wider context.'

The landscaping design also plays an important role in terms of promoting a desirable visual contribution of the development. The landscaping design provided as part of this Proposal complements the adjoining Biodiversity corridor and ensures native endemic species are provided to achieve the desired future character of the locality. It also takes into account the recommendations of the Bushfire assessment by limiting the amount and type of planting which could provide additional bushfire risk.

Based on the reasons above, there would be no cumulative visual impacts as a result of the Proposal.

Air Quality

The primary air emissions from the Proposal are from:

- Combustion emissions from the boilers;
- Potential odour from the Wastewater System, and
- Potential dust emissions during construction.

In summary, the results indicated that the predicted maximum impacts from the Proposal would not exceed the NSW EPA criteria for NO_2, CO and H_2S at each sensitive receiver. Subsequently, there would not be any adverse cumulative impacts in respect of air quality as a result of the Proposal on the surrounding environment.

Noise

Operational noise is an important environmental consideration in any industrial area with surrounding residential receivers.

This, in itself, should not preclude development but rather result in the development and application of management plans for these employment generating areas. The existing background noise levels were used in the modelling of potential environmental impacts associated with the operational phase of the proposed development. Traffic noise was also assessed, hence assessing the cumulative impact on the community.

All relevant EPA noise criteria were readily satisfied, provided that all recommended noise controls were maintained throughout the life of the facilities operation.

6.15.5 Cumulative Impacts of planning development within Erskine Park

The cumulative impacts on the VEC's should not be just assessed in isolation with respect to the Proposal. The potential impact of the Proposal combined with those of other development planned within the locality has also been considered.

The following SSD projects (as listed in the DP&I 'Major Projects Register') are located within approximately 1.5km radius from the Proposal:

TNT Warehouse, Erskine Park

Lockwood Road, Erskine Park

The proposed development is a new purpose-built distribution warehouse and transport terminal for TNT Express.

Erskine Park Retail Ready Meat Facility

Templar Road, Erskine Park

The proposed development is a substantial food preparation and packaging facility with an ancillary administration component. It comprises a purpose-built, fully accredited fresh food packing centre where fresh cuts of meat and poultry will be packaged and labelled before being distributed to stores.

Kemps Creek Resource Recovery Facility

788-804 Mamre Road, Kemps Creek

The proposed development is a facility that is intended to process general solid waste associated with the construction and property development industries.

Erskine Park Chemical Warehouse and Distribution Facility

23-107 Erskine Park Road, Erskine Park

The proposed development will involve use of an existing building to store chemicals.

Figure 6.15.6a illustrates the location of these SSD projects in relation to the Proposal.

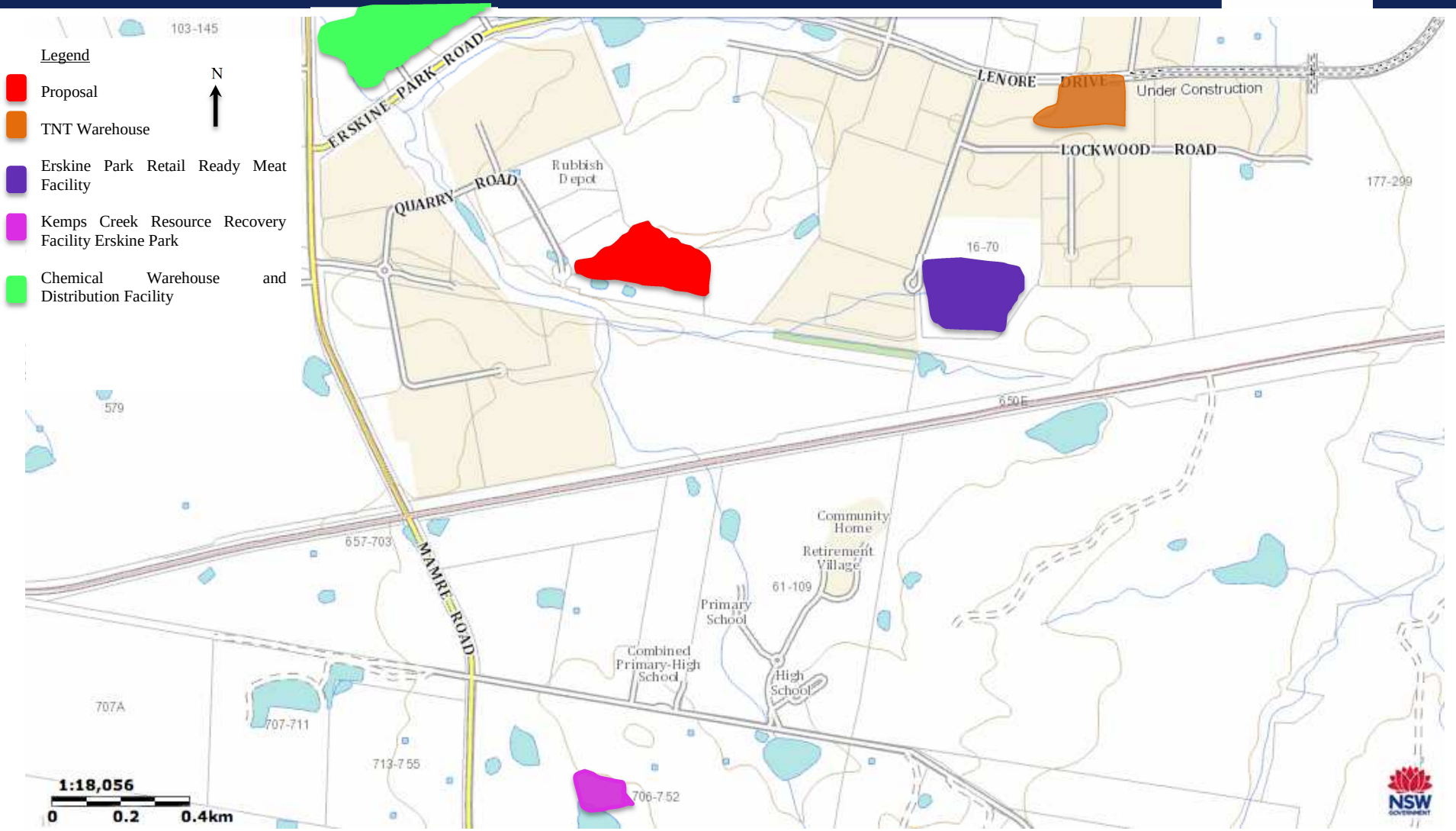


FIGURE 6.15.6A STATE SIGNFICANT DEVELOPMENT PROJECTS WITHIN 1.5KM FROM PROPOSAL (source: NSW Department of Finance and Services)

The key cumulative impacts identified when analysing the combined effects of planned development in this locality are provided as follows.

Traffic and transport

The Proposal site is conveniently located with respect to the arterial and sub-arterial road systems serving the region, in particular the Mamre Road corridor to the west of the site and the Erskine Park Road corridor to the north of the site. Having regard for these two corridors, the following traffic distribution assumptions have been applied to the development traffic:

1. 40% to/from Mamre Road to the south of its intersection with James Erskine Drive;
2. 60% to/from Mamre Road to the north of its intersection with James Erskine Drive;
3. 25% to/from Erskine Park Road, and
4. 35% to/from Mamre Road, north of its intersection with Erskine Park Road.

The cumulative traffic volumes and distributions have been added to the existing flows to generate the cumulative intersection performances. Therefore the intersections of importance have been remodelled to assess the cumulative effects on the surrounding road network during the AM and PM peak periods.

The results from the traffic assessment indicate that all three intersections will continue to operate well during both the morning and evening peak periods even on the basis of the very conservatively high trip rates that have been adopted.

Noise

With the exception of this Proposal and the Ready Retail Meat Facility the majority of planned developments are warehouses. Therefore, the primary noise source would be that from associated traffic and transport as well as loading and unloading. Other noise associated with the Proposal and the meat facility may include noise associated with manufacturing processes.

The acoustic assessments for the Proposal and others within the vicinity of the site have had, in general, regard for the common sensitive receivers within the same locality for both traffic and noise associated with the land uses themselves. Furthermore, all have undertaken cumulative assessments. These assessments confirm that noise associated with all planned development within the site's proximity can either be controlled through mitigation measures or would not generate noise at 'nuisance' levels.

Air quality

The main issues pertaining to air quality associated with Proposal and planned development relates to potential air quality impacts from the boiler and odour from the wastewater treatment system. The nature of other planned facilities in the vicinity, such as the Retail Ready Meat Facility, may lead to cumulative odour and/or air quality impacts.

The air quality assessment undertaken predicts the incremental impact on existing air quality conditions in the vicinity of the Proposal. The methodology and data used for the assessment are described in the air quality assessment. This will allow air quality assessments for subsequent development applications to build on the air quality assessment for the Proposal, allowing the incremental impacts of these subsequent proposals to be assessed.

Visual amenity

All of the planned development within the locality, including the Proposal, generally complies with the relevant built form controls and development standards. The designs combined with the provision of landscaping would ensure there are no adverse visual amenity impacts, particularly when the industrial area is viewed from residential and rural lands surrounding the WSEA.

As a result of the above, the developments planned and the Proposal would be consistent with that anticipated within the industrial area.

7 Statement of Commitments

This section consolidates into one location a description of the mitigation measures which the Proponent is committed to implementing for the Proposal and addresses the Director-General's Requirement to provide a 'consolidated summary of all the proposed environmental management and monitoring measures, highlighting commitments included in the EIS.' These mitigation measures are termed 'commitments' which are based on the environmental assessment of all key and other issues as well as any recommendations proposed by the project team.

Table 7a provides a list of Commitments by environmental risk.

TABLE 7A STATEMENT OF COMMITMENTS

Statement of Commitment No.	Mitigation measures
Air quality, odour and greenhouse gas	
AQ1	Construction dust impacts shall be managed through implementation of the Construction Environmental Management Plan.
AQ2	The boiler design and operation management shall comply with all the relevant emissions limits and requirements under the POEO Act and POEO CA Regulation.
AQ3	The boiler shall utilise a low NO_X emitting design and a waste heat economiser to maximise energy efficiency and minimise gas consumption.
AQ4	The wastewater system shall be a fully contained system with hard piping for transferring wastewater with no surface discharge points.
AQ5	The wastewater system shall adequately process the maximum volume of process wastewater under normal operations and avoid prolonged storage and biological decomposition.
AQ6	Monitoring and assessment of odour at the facility shall take place after commencement of operations, at a time to be agreed with the EPA, and a report submitted to the EPA.
Bushfire	
B1	Asset protection zones shall be provided to meet the aims and objectives of *Planning for Bush Fire Protection 2006* and the Bushfire assessment.
B2	Incorporation of specific building construction standards for parts of the facility within the 20m asset protection zone. This includes: • The milk receival bay canopy and northern portion of the energy centre (within 20m of the boundary) are to be constructed with non-combustible materials; • Openable windows (including louvres) and doors shall be externally screened with metal mesh screens having a maximum aperture size of 3mm; • All external doors are fitted with weather strips where the doors do not close on a rebated edge, and

Statement of Commitment No.	Mitigation measures
	• Roller doors are to be boxed in or sealed in a manner that restricts ember penetration.
B3	Southern landscaping adjacent to the biodiversity corridor shall not have continuous native vegetation in the form of shrubs and trees.
B4	Planting of trees and shrubs shall not occur within 10m of the facility.
B5	Species selection shall use less flammable species (ie those with a high moisture content, high level of salt, low volatile content of leaves, smooth barks without 'ribbons' hanging from branches or trunks, dense crown and elevated branches).
B6	Organic mulch shall not be used in landscaping.
B7	Reticulated water supply shall use a ring main system for areas with perimeter roads.
B8	Fire hydrant spacing, sizing and pressures shall comply with AS2419.1 (2005).
B9	Hydrants shall not be placed within any road carriageway.
B10	All above ground water and gas pipes external to the building shall be metal, including taps.
B11	A 65mm Storz outlet with a gate or ball valve shall be provided as a suitable connection for fire fighting purposes within the asset protection zones.
B12	Gate or ball valve and pipes shall be metal.
B13	Underground tanks shall have an access hole of 200mm to allow tankers to refill straight from the tank.
B14	Above ground tanks shall be concrete or metal and raised tanks shall have their stands protected. Tanks on the hazard side of the building shall be provided with shielding to protect fire fighters.
B15	All above ground water pipes external to the water pipe shall be metal including any taps. Pumps shall be shielded.
B16	Preparation of Emergency/Evacuation Plan consistent with the RFS Guidelines for the Preparation of Emergency/Evacuation Plans.
Ecology	
E1	A project ecologist shall undertake a search of the area proposed for the stormwater pipe and outlet and relocate any Cumberland Plan Land Snail specimens into nearby bushland prior to construction works commencing.
E2	Phytopthera control protocols shall be followed to minimise the risk of plant pathogens spreading.
E3	Weed control measures shall be undertaken for Blackberry.
E4	All native vegetation areas disturbed as a result of the proposed stormwater works shall be stabilised and revegetated with native ground layer and shrub species post completion of works to minimise erosion and sedimentation.

Statement of Commitment No.	Mitigation measures
E5	Temporary open weave jute mesh, not jute mat, shall be installed for stabilising disturbed grounds to promote natural regeneration.
E6	Weed control for noxious weed species such as Castor Oil Plant shall be undertaken in the Proposal site, in accordance with the NW Act.
Food protection	
FP1	A site specific Quality Management System shall be prepared for the facility.
Ground conditions	
GC1	In the event that fill material is to be imported onto the site, this material should meet the following importation criteria for salinity, aggressively and fertility criteria: • pH within the range 5.5 – 7. Material in this range shall generally be non-aggressive towards built structures and within the optimal range for plant growth; • ECe <2 – 4 (dS/m). Material in this range is non-saline to slightly saline and generally considered acceptable for plant growth; • CEC in the range 12 - 25 meq/100g. Material in this range is generally considered acceptable for plant growth; • ESP <5%. Material in this range is generally acceptable from a soil dispersion perspective; • Sulphate and Chloride <5,000 mg/kg. Material in this range shall generally be non-aggressive towards piles/foundations, and • Resistivity >5,000 ohm.cm. Material in this range shall generally be non-aggressive towards piles/foundations.
GC2	The proposed earthworks should be designed to minimise disturbance of the natural site drainage patterns wherever possible. Where these patterns are altered, appropriate artificial drainage should be installed in order to minimise water logging and localised flooding;
GC3	Subsoil drains should be provided in areas where seepage discharge from the underlying soil may occur, such as retained cuts, cut slopes, or changes in grade. Slabs, foundations and retaining walls should be designed with subsoil drains and good drainage to avoid water logging.
GC4	Stormwater should be managed appropriately in order to reduce infiltration. Stormwater infrastructure should be designed to minimise leakage. Guttering and down pipes should be properly connected and maintained at all times.
GC5	All roads, pavements, footpaths and hardstand areas should be graded to prevent surface water ponding. Subsoil drains should be provided in all such areas to collect stormwater and surface water run-off.
GC6	As salinity is a natural phenomenon that can change over time especially during extreme wet or dry conditions, regular inspections and maintenance of facilities should be undertaken in order to identify issues at an early stage.

Statement of Commitment No.	Mitigation measures
GC7	Surplus fill material shall be disposed of to a NSW EPA licensed facility. The fill tested shall meet the classification of General Solid Waste.
GC8	A suitable Unexpected Finds Protocol should be developed and implemented during future development works at the site. The unexpected finds protocol shall provide a mechanism to identify and manage potential contamination issues.
GC9	Bunded areas (with impervious flooring) shall be used for storage of potentially hazardous and/or contaminating materials and activities. The bund shall have a capacity to capture 110% of the volume of the largest container being stored.
GC10	Hazard materials shall be located a suitable distance from stormwater drainage areas so as to avoid stormwater contamination.
GC11	Spill clean-up kits shall be located in suitable, easily observed locations throughout the site and use of items within the spill kit shall be demonstrated to all construction personnel.
GC12	Spills of fuel, oil or other hazardous materials shall be promptly cleaned up and any impacted soil removed from site and disposed to an approved facility.
Hazards and risks	
HR1	Dangerous good storage areas shall comply with the following standards: AS 3780:2008 - “The storage and handling of corrosive substances”; AS 4326:2008 – “The storage and handling of oxidising agents”; AS NZS 4452:1997 – “The storage and handling of toxic substances”; AS NZS 1596:2008 – “Anhydrous ammonia – Storage and handling”; AS/NZS 1677.2:1998 – “Refrigeration systems – Safety requirements for fixed applications”; and AS/NZS 3833:2007 – “The Storage and Handling of Mixed Classes of Dangerous Goods in Packages and Intermediate Bulk Containers”.
HR2	Specific on-site personnel shall be trained in specific site procedures, emergency and first aid procedures and the use of fire extinguishers and hose reels.
HR3	Fire extinguishers and spill control kits shall be provided near high risk areas such as the Chemical Storage Area.
HR4	The storage of combustible or flammable materials should be prevented near high risk areas such as the Chemical Storage Area.
HR5	Site management shall prepare and maintain operational procedures to minimise the number of hazardous incidents and accidents on site and to mitigate the consequences of incidents regarding the handling of dangerous goods and chemicals.
HR6	Site employees and milk truck drivers shall be trained in the Milk Spill Management Plan prepared for the site.
HR7	A site Emergency Management Plan shall be prepared and include measures to notify neighbouring premises in the event of an emergency with potential offsite

Statement of Commitment No.	Mitigation measures
	impacts.
HR8	The chilled water system shall be installed, tested, operated and maintained in accordance with the manufacturer's instructions by trained professionals or personnel. The ammonia detection system shall be installed and maintained in accordance with AS/NZS 1677.2:1998 (Refrigerating systems - Safety requirements for fixed applications)
Noise	
N1	Construction related noise should be managed in accordance with the Construction Environmental Management Plan
Socioeconomic	
SE1	Consultation will continue with local business and residential community to identify, and where appropriate, address issues related to the further development and operation of the Proposal
Surface Water	
SW1	Erosion and sediment controls shall be implemented during construction works, generally in accordance with the Early Works Soil and Water Management Plan, and updated as necessary. Erosion and sediment controls shall be designed, installed and maintained in accordance with Managing Urban Stormwater: Soils and Construction (Landcom, 2004) (the "Blue Book"). Appropriate erosion and sediment controls shall be installed early in the construction program and in advance of the works they are designed to protect. Controls shall remain in place until such time as the works they protect are completed and the land stabilised, in accordance with Blue Book requirements.
SW2	A stormwater drainage system shall be designed and installed in accordance with the Penrith City Council's requirements, and generally as outlined in the Stormwater Management Strategy. The stormwater system shall convey stormwater to the trunk drainage system in a manner that minimises potential flooding and downstream water quality impacts. An On-site Stormwater Detention (OSD) system shall be installed within the site drainage system, with the purpose of detaining stormwater flows to maintain post-development peak flows at pre-development levels, in accordance with the requirements of the Penrith City Council and generally as proposed in the Stormwater Management Strategy.
SW3	A stormwater treatment device shall be installed within the site capable of achieving pollutant retention in accordance with the requirements of Penrith Council and generally as proposed in the Stormwater Management Strategy.
SW4	Site operating procedures and operational management plans shall be developed that identify and assess potential risks to stormwater quality, and demonstrate appropriate management of these risks. This shall include reference to operational equipment, policies and procedures, maintenance and monitoring requirements, and individual responsibilities, aimed at protecting stormwater quality.

Statement of Commitment No.	Mitigation measures
SW5	Emergency procedures shall be put in place to manage the containment and cleanup of hazardous materials in the event of a spill. Areas identified as posing a potential hazard to stormwater quality (e.g. hazardous materials storage areas and bulk product handling areas) shall be suitably isolated from the stormwater drainage system.
SW6	A stabilised drainage path shall be constructed near the eastern property boundary to convey inter-allotment drainage from areas to the north and east, safely through and away from the site. This is expected to require construction (or reconstruction) of grade control structures in the northeast and southeast of the site, to rectify the current unacceptable drainage conditions, which are causing appreciable erosion. Liaison with neighbouring landowners shall likely be required as works on adjoining lands may be required.
SW7	Upon completion of construction the site shall be stabilised such that it does not present an ongoing erosion hazard, including through landscaping of areas that do not contain buildings or hardstand areas. The southern batter shall be landscaped to halt the existing erosion.
Traffic and transport	
T1	In relation to parking, the Proposal shall include disabled parking in accordance with Penrith City Council requirements and be designed in accordance with AS 2890.6 (Parking Facilities: Off-street parking for people with disabilities).
T2	In relation to bicycle parking facilities, the Proposal shall provide adequate bicycle parking facilities so as to provide the opportunity to reduce car dependency
Visual and Landscape	
V1	The landscape plan shall be implemented to provide visual screening of the facility.
Waste management	
WM1	Recommendations on waste management in the Waste Management Plan shall be implemented to adequately manage wastes generated during construction of the Proposal.
WM2	Recommendations on waste management in the Waste Management Plan shall be implemented to adequately manage wastes generated during operations.
Aboriginal heritage	
AH1	A suitable Unexpected Finds Protocol shall be developed and implemented during construction of the Proposal.
Non-Aboriginal heritage	
NH1	A suitable Unexpected Finds Protocol shall be developed and implemented during construction of the Proposal.

8 Project justification and conclusion

This section presents a summary of the strategic justification for the Proposal including a consideration of how the Proposal addresses the objectives of the EP&A Act and the principles of Ecologically Sustainable Development. It also provides concluding remarks for the EIS.

8.1 Strategic Justification

8.1.1 Summary of Strategic and Proposal Justification

The milk processing facility proposed for the Quarry Road site in Erskine Park signals the commencement of a new growth phase for MGC into Sydney and NSW. The Proposal would be the first major investment in milk processing facilities in NSW since the dairy industry deregulation in 2000. It would bring benefits to Australian dairy farmer families as the beneficial owners of MGC. As such, the net earnings from the processing site would be retained for the benefit of Australian farming families.

Since deregulation in 2000, the dairy industry has seen a reduction in the number of farms and an increase in herd size and per-cow production as well as a reduction in the number of processors in the processing industry.[i] One of the outcomes of deregulation has been lower and more volatile milk prices to NSW dairy farmers.[ii]

MGC's planned involvement in the Sydney milk market would aim to restore stability to the NSW dairy industry. MGC plans to source its milk (for the Proposal) from NSW dairy farmers located in a number of sub-regions of the state including Hunter Valley, Mid-North Coast, South Coast and Hinterland, the Riverina and Central West. MGC's involvement in the NSW industry as an integrated farmer-owned business and its proposed policies for milk sourcing and payment would offer much needed confidence and stability for the dairy farming sector. In doing so, the Proposal supports the objectives of the NSW State Plan 2021[iii] to 'Drive Economic Growth in Regional NSW' (Objective 3) which includes a target to improve agricultural productivity.

MGC's supply agreement with Coles and its ability to more effectively balance milk flows across the NSW and Victorian regions would enable the company to offer a higher milk price to NSW suppliers in future. The Proposal would improve milk prices to NSW dairy farmers and create greater stability in returns from the marketplace. This would consequentially create stability and growth in supporting sectors.

The Proposal would create at least 45 full-time positions and including up to 4 full-time positions in farm field services and commercial milk management.

If the facility were not developed, bottled milk would need to be hauled by road freight between Melbourne and Sydney to fulfil MGC's contractual obligations under its 10 year agreement to supply private and Devondale branded milk to Coles.

The long haul of fresh bottled milk is not considered to be in the economic interest of the State of NSW and as such, the decision by the proponent to commit a $64 million investment to develop a new facility in Western Sydney is justified.

In the event the Proposal does not proceed, MGC would not be able to supply milk on a long term basis to the NSW market. Strategies to supply fresh milk from Melbourne or from another plant would not be sustainable financially. These and other options have been assessed in the event that plant construction in Sydney is delayed, and are only considered to offer a short term solution.

The selection of a site that falls within the Western Sydney Employment Area is consistent with State and Metropolitan planning directives as provided for under the State Plan, the 2005 Sydney Metropolitan Strategy and the draft 2013 Metropolitan Strategy for Sydney as discussed in section 3 of the EIS.

In advancing the Proposal, the Proponent has liaised extensively with the DP&I and Penrith City Council. These discussions have confirmed that the intent of the Proposal is supported at both a State and local Government level, subject to the Proposal satisfying the appropriate environmental legislation.

8.1.2 Objectives of the Environmental Planning & Assessment Act

The following table provides a commentary on how the Proposal addresses the objectives of the EP&A Act, where applicable.

TABLE 8.1.2A OBJECTIVES OF THE ENVIRONMENTAL PLANNING & ASSESSMENT ACT

EP&A Act Objective	Comment
To encourage the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, waters, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment.	The Proposal is fully contained within a remediated site, making good use of a previously disturbed site and avoiding direct or indirect impact on agricultural land, natural areas, forests, minerals, cities, towns or villages. Particular attention has been paid to the site layout and stormwater management system to minimise any potential impact on the Biodiversity Corridor and Creek located adjacent to the southern boundary of the site. The production process at the proposed facility minimises the generation of waste products with surplus fat and cream being converted into a feedstock to be returned to farms. The creation of temporary employment during construction, and permanent employment during operation, contributes to the social and economic welfare of the region.
To encourage the promotion and co-ordination of the orderly and economic use and development of land.	The Proposal is fully contained within a remediated site, making good use of a previously disturbed site. Given the daily transport needs of the facility (i.e. to receive raw milk from farms and to dispatch bottled milk to Eastern Creek) the site is ideally located close to major transport arteries.
To encourage the protection, provision and coordination of communication and utility services.	The Proposal would primarily utilise existing communication and utility services. Where new services are required and/or where connection to existing services are required, consultation has been undertaken with the relevant Agencies and service providers to ensure services are planned in a coordinated way.
To encourage the provision of land for public purposes.	As a food production facility with strict hygiene and security requirements, the Proposal is not compatible with public access or use.
To encourage the provision and co-ordination of community services and facilities.	As a food production facility with strict hygiene and security requirements, the Proposal is not compatible with provision of community services

EP&A Act Objective	Comment
	and facilities.
To encourage the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats.	As a newly remediated site on several metres of fill the Proposal would not lead to ecological impacts within the site area. Particular attention has been paid to the site layout and stormwater management system to minimise any potential impact on the Biodiversity Corridor and Creek located adjacent to the southern boundary of the site.
To encourage ecologically sustainable development.	The assessment of the Proposal against the principles of Ecologically Sustainable Development (ESD) is provided below.
To encourage the provision and maintenance of affordable housing.	The Proposal does not provide affordable housing.
To promote the sharing of the responsibility for environmental planning between different levels of government in the State.	Throughout preparation of this EIS for the Proposal, consultation has been undertaken with the relevant levels of government. A separate application for Early Works has been approved by Penrith City Council.
To provide increased opportunity for public involvement and participation in environmental planning and assessment.	A community consultation and communications plan has been developed and, where appropriate, provides opportunities for the community and businesses in the Erskine Park area to input to the further development of the project, in addition to the opportunities afforded by the statutory Exhibition process.

8.1.3 Ecologically Sustainable Development

Sustainable development is defined by the World Commission on Environment and Development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (UN, 1992). The EP&A Act encourages ecologically sustainable development (ESD) in line with four sustainability principles set out under the EP&A Regulation. The sustainability principles are:

- the precautionary principle;
- the principle of intergenerational equity;
- conservation of biological diversity and ecological integrity; and
- improved valuation, pricing and incentive mechanisms.

ESD requires the effective integration of social, economic and environmental considerations in decision-making processes. Table 8.1.3a summarises how the Proposal is consistent with the principles of ESD.

TABLE 8.1.3A PRINCIPLES OF ECOLOGICALLY SUSTAINABLE DEVELOPMENT

ESD Principle	Overview of Principle	Proposal
Precautionary principle	*If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by:* *(i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and* *(ii) an assessment of the risk weighted consequences of various options.*	The Proposal has considered the precautionary principle by carrying out detailed environmental investigations in order to gain as much knowledge as is reasonably possible about the environmental characteristics of the site and surrounding area. This knowledge has been used to determine the potential environmental impact and to recommend environmental management practices and mitigation measures to ensure significant impacts do not occur and residual environmental impacts are minimised. Where it has not been possible to obtain detailed information about an aspect of the site or Proposal, conservative assumptions have been made to ensure potential environmental risks are not underestimated. An Environmental Risk Assessment has been undertaken (refer section 5) and an assessment of the main environmental impacts and mitigation measures is provided in section 6. While the ERA identifies a number of potential environmental risks, all are considered unlikely to cause serious or irreversible environmental damage when the project design and management and mitigation measures are taken into account.
Intergenerational equity	*The present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.*	The location of the Proposal on a recently remediated site avoids the need to use previously undeveloped land and thereby minimises impacts on land resources. The decision to locate a facility in Sydney rather than servicing the Coles Sydney market by transporting bottled milk from Victoria also represents a substantial reduction of impacts, in terms of transported related Greenhouse Gas emissions. The Biodiversity Corridor to the south of the facility is owned by the DP&I and is part of a wider corridor in the Region which preserves important ecological habitat for present and future generations. The design of the stormwater management system for the Proposal has taken into account the need to minimise indirect impacts to the Corridor and Creek thereby preserving its ecological integrity. Benefits to future generations would also be realised through the provision of temporary

ESD Principle	Overview of Principle	Proposal
		(construction) and permanent (operation) employment.
Conservation of biological diversity and ecological integrity	*Conservation of biological diversity and ecological integrity should be a fundamental consideration.*	As the Proposal site is a recently remediated site on several metres of fill, there are no potential biological or ecological impacts within the site boundary. However, given the location of the Biodiversity Corridor to the south of the site which is subject to a Biodiversity Management Plan, the planning and design of the site stormwater system has taken into account the need to minimise run-off related impacts to the Corridor and Creek.
Improved valuation, pricing and inventive mechanisms	*Environmental factors should be included in the valuation of assets and service, such as:* *(i) polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement;* *(ii) the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste;* *(iii) environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.*	This principle identifies that environmental factors should be included in the valuation of assets and services, such as polluter pays, full life cycle costing, and utilising incentive structures/market mechanisms to meet environmental goals. It is difficult to assign a monetary value to the environment of the locality given a lack of precedent in valuing environmental resources not considered for commercial use. Therefore, the approach taken was to manage environmental impacts by identifying site-specific safeguard measures to mitigate against adverse environmental effects and to include the cost of these measures in the overall cost of the Proposal. This enables the value and price of the environmental resources to be more accurately reflected. In addition, MGC is putting in place measures to deal with any pollution or waste generated by the Proposal. This includes the preparation of a waste management plan for the facility which identifies opportunities for avoidance of waste through the reuse of materials, as well as measures to contain any material or liquid spills.

8.1.4 Conclusion

This EIS has addressed the key issues identified in the DGRs issued in accordance with the EP&A Act. A checklist showing where the DGRs are addressed in this EIS is provided in section 3. The assessment has also addressed the additional key issues identified in the environmental risk analysis in section 5. The key issues identified include:

- Air quality, odour and greenhouse gases;
- Bushfire protection;
- Ecology;
- Food security;
- Ground conditions;
- Hazards;
- Noise;
- Socio-economic;
- Surface water;
- Traffic and transport;
- Visual amenity;
- Waste management; and
- Cumulative impacts.

The EIS also reports on a database search for potential heritage impacts as well as setting out a plan for ongoing consultation and communications with businesses and the community in the Erskine Park area.

Overall, the environmental assessment concludes that the environmental impacts of the Proposal are not significant. A number of features of the Proposal contribute to this outcome, including:

- Its location in the heart of an industrial area, surrounded by other industrial land uses, and the distance to the nearest residential areas and other sensitive receptors;
- Its proximity to an established road network including the recently constructed Erskine Park Link Road, providing convenient access to the facility and to the Chilled Distribution Centre at Eastern Creek;
- The 24 hour operation of the facility which distributes traffic movements throughout the day and reduces peak hour impacts on the local road network; and
- The recent remediation of the site, which is overlain by fill material of up to 8.5 metres depth, and is devoid of any native vegetation.

Where the assessment identifies potential environmental impacts, it concludes that these can be adequately managed through the incorporation of mitigation measures into the design of the Proposal and the implementation of management measures during its operation.

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[i] NSW Department of Primary Industries, Overview of the NSW Dairy Industry, 2013
[ii] NSW Department of Primary Industries, Overview of the NSW Dairy Industry, 2013
[iii] NSW Government, NSW 2021: A Plan to Make NSW Number One, 2011