

## **ST MARYS FREIGHT HUB**

# **ENVIRONMENTAL IMPACT STATEMENT**

PREPARED FOR:  
PACIFIC NATIONAL

MAY 2019

PREPARED IN PARTNERSHIP WITH:

**urbanco**



# **PLANNING FREIGHT FRIENDLY CITIES + REGIONS**

# ST MARYS FREIGHT HUB ENVIRONMENTAL IMPACT STATEMENT

**MAY 2019**

## ISSUE 4C: LODGED WITH NSW DPE

Prepared for: **PACIFIC NATIONAL**

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## EXECUTIVE SUMMARY

SITE planning + design, Urbanco and the broader project team have been engaged by Pacific National Pty Ltd to prepare the following Environmental Impact Statement (EIS). The purpose of the EIS is to support State Significant Development Ref: SSD 7308 for the development of Lot 2 Forrester Road, Lots 3 Lee Holm Road and Lot 196 Christie Street, St Marys (the ‘broader site’) for the St Marys Freight Hub.

This document should be read in conjunction with the Secretary’s Environmental Assessment Requirements (SEARs) dated 23 October 2018 and the accompanying consultant reports provided as **Appendices 1 - 23**.

The proposed development seeks to:



**“Develop a ‘best practice’ freight hub at St Marys in Western Sydney to facilitate freight mode-shift, reduce road congestion and support supply-chain efficiency and productivity.”**

The proposed development includes the staged construction and operation of an intermodal (road and rail) terminal and container park with an ultimate operating capacity of 300,000 twenty-foot equivalent units (TEU) (shipping containers) annual throughput.

The broader site is formally described as:

- Lot 2 Forrester Road, St Marys on DP 876781;
- Lot 3 Lee Holm Road on Deposited Plan 876781; and
- Lot 196 Christie Street on Deposited Plan 31912 (comprising the rail siding).

The portion of the site subject to this EIS comprises a 9.6ha portion (the ‘subject site’) of the broader 43ha site (the ‘broader site’).

The broader site enjoys direct frontage to Christie Street, Forrester Road and Lee Holm Road, all of which are gazetted public roads under the control and management of the City of Penrith and connect the site to the regional and state freight road network.

The St Marys Freight Hub is proposed to operate up to 24 hours per day, 7 days per week, with 80% of the heavy vehicle movements expected to occur between 6am and 6pm, 7 days a week.





The proposed development will facilitate the introduction of a new container rail shuttle service between Port Botany and greater western Sydney, increasing the volume of import and export freight moved via rail and relieving the regional and state road network of heavy vehicle and container traffic, including primary freight roads servicing Port Botany.

The proposed development includes the following works:

- Construction of hardstand areas for container storage and laydown, rail and vehicle loading and unloading areas;
- Construction of new internal access roads providing separate ingress and egress for light and heavy vehicles as follows:
  - to/from Lee Holm Road for heavy vehicles; and
  - to/from Forrester Road for light vehicles;
- Construction of:
  - Wash bay area;
  - Office building pad site;
  - Fuel storage area;
  - Container workshop (repair bay) pad site;
  - Transport workshop pad site;
  - Staff and visitor light vehicle parking bays (parallel to the internal light vehicle access road connecting to Forrester Road); and
  - Heavy vehicle parking bays;
- Ancillary development includes:
  - Signage and landscaping;
  - Utility services to support the proposed development including drainage, potable water, water (for firefighting purposes), power, data, security and sewerage;
  - Minor realignment of a section of the Sydney Trains high voltage overhead power line at the southern end of the subject site;
  - Minor clearing of areas of vegetation regrowth, remediation (if required) and minor earthworks; and
  - Electrical transformer.

Refer to **Plan 1 - Concept Design** at the rear of this document.

The proposal aligns with, and supports, the Local, State and Federal Government's strategic intent and objectives as outlined in the:

- National Ports Strategy;
- Inquiry into National Freight and Supply Chain Priorities;
- Greater Sydney Region Plan;
- Western Sydney District Plan;
- Future Transport Strategy 2056;
- 2013 NSW Freight and Ports Strategy;
- 2017 NSW Draft Freight and Ports Plan;



- Penrith City Strategy; and
- Commonwealth's draft National Ports Strategy and National Freight and Supply Chain Strategy.

Once operational the Freight Hub will play an essential role in growing the volume of freight movements by rail, which in turn assists in alleviating road congestion and heavy vehicle movements on the regional and state road networks, particularly primary freight roads servicing Port Botany. It is projected that 10 million truck kilometres per year will be removed from Sydney's regional roads.

The proposed development is consistent with the State Government's commitment and policy objectives relating to the Port Botany expansion and achieving an ultimate throughput of 7,500,000 TEU's (shipping containers) annually.

### **The St Marys Freight Hub is expected to:**

- **Support an operating capacity of 300,000 TEU annual throughput;**
- **Support local employment through the creation of 150 (168 with train drivers) new full time equivalent (FTE) jobs during operation and 60 FTE jobs during construction; and**
- **Remove 10 million truck kilometres per year from the regional and state road networks, including primary freight routes servicing Port Botany.**

The proposed St Marys Freight Hub and associated port container rail shuttle service will result in a significant reduction in the road-based container transport in favour of rail, with local traffic impacts able to be managed on the existing adjoining road network. Noise, visual amenity, air quality and biodiversity impacts can be appropriately managed across the site through responsive design and mitigation measures. Findings of investigations and site responses are detailed in the following report and technical reports appended.

In accordance with Section 4.36 of the *EP&A Act*, the proposed development is a declared State Significant Development under the provisions of Schedule 1, Clause 19(1b) of the State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP). This is on the basis that the proposed development has a capital investment value of more than \$30 million for the following purposes:

*“(b) railway freight terminals, sidings and inter-modal facilities.”*

On that basis an Environmental Impact Statement (EIS) has been prepared, consistent with the SEARs, with the Sydney Western City Planning Panel being the consent authority on behalf of the Minister.

## KEY ENVIRONMENTAL CONSIDERATIONS AND DESIGN RESPONSE

SITE planning + design, Urbanco and the broader consultant team, have prepared this EIS on behalf of Pacific National in consideration of the environmental, economic and social impacts of the proposed development of Lot 2 Forrester Road, Lot 3 Lee Holm Road and Lot 196 Christie Street, St Marys (the ‘subject site’) for the St Marys Freight Hub.

The EIS and relevant accompanying reports have addressed the matters outlined in the SEARs dated 23 October 2018 and satisfy the obligations of Schedule 2 of the *EP&A Regulations* with respect to investigating and nominating appropriate mitigation measures to satisfy environmental approval requirements.

The proposed development is considered suitable for consideration and approval on the following basis.

- A detailed assessment of the proposal has demonstrated that the proposed development will not result in any significant environmental impacts that cannot be managed by appropriate management and mitigation measures. The proposal has been modified to acknowledge and respond to environmental site investigations and recommendations, particularly with respect to the following:

### Traffic & Transport

- The Traffic and Transport Assessment has informed preparation of the EIS and demonstrates that the proposed development can address SEARs Traffic and Transport requirements on the following basis:
- Operational traffic requirements have been addressed through completion of SIDRA analysis of eight (8) intersections identified in the SEARs. The completed SIDRA analysis confirms that there is no noticeable impact on intersection functionality as a result of the proposed development. A road safety assessment was also completed and confirmed that the minor increase in truck movements as a result of the proposed development would result in a negligible increase in crash likelihood;
- There is sufficient on-site vehicle parking to accommodate the needs of all fulltime staff members.
- The small number of permanent staff on-site does not warrant any specific provisions related to walking, cycling and public transport, notwithstanding sufficient on-site facilities are available.
- Both access points are on roads that are designed for and already carry industrial traffic. Both access locations have sufficient sight distances for safe entry and exit. Swept path assessments have also been run for B-doubles, with access and driveway area able to accommodate these vehicles.



- Within the site, manoeuvring areas for trucks are sufficient and the proposed light vehicle bays are consistent with light vehicle car parking requirements.
- Construction traffic can be accommodated, with truck movements less than those expected during the operational phase of the development and having a negligible impact on the surrounding road network.

## Noise

SEARs requirements relate to construction, operational and transport noise and vibration. A comprehensive Noise and Vibration Assessment was completed to inform the EIS and demonstrates that SEARs requirements can be satisfied in the following manner:

- While no sensitive nearby land uses will be 'highly affected', predicted construction noise levels exceed construction noise management levels at the closest noise sensitive receivers. To address this, it is proposed that an Environmental Management Plan (EMP) be developed and implemented for the Freight Hub prior to commencement of construction activities.
- Operational noise level assessment indicated that there may be changes to the existing noise levels as a result of the proposed St Marys Freight Hub and noise control measures may be required to mitigate any impacts on sensitive noise receivers along Kalang Avenue.
- Mitigation measures to be implemented during operation include:
  - The use of the best available equipment;
  - Application of soft-landing technology; and
  - Greater separation of empty container stacking areas to residential receivers.

## Biodiversity

- A Biodiversity Development Assessment Report was prepared to identify the sites environmental factors and to inform amendments to the initial development concept to avoid, minimise and mitigate impacts on the vegetation and species habitat. Measures are also proposed to minimise impacts during construction and operation of the development.
- The development footprint for the Freight Hub has been reviewed and refined in greater detail to minimise the impacts on native vegetation and flora. This has resulted in an additional 0.24 hectare of native vegetation and fauna habitat being preserved.
- The residual unavoidable impacts of the project were calculated in accordance with the Biodiversity Assessment Method Credit Calculator (BAMC) and determined that a total of 16 ecosystem credits are proposed to offset the residual impacts of the proposed project.
- The landscape design has adopted endemic species from the Mitchell Landscapes Hawkesbury-Nepean Channel to complement the existing native vegetation being retained onsite.



## Contamination

- A Preliminary Site Contamination Report prepared to inform this EIS determined that there are no identifiable ground water contamination issues. A range of Potential Areas of Environmental Concern were noted as requiring further investigation and remediation (if required).
- A subsequent Supplementary Site Contamination Assessment Report has as a consequence of the initial report now been completed. The report concluded that the site can be made suitable for development subject to undertaking successful remediation and validation of asbestos impacted soils over a small portion of the site and the implementation of an Unexpected Finds Protocol. Preparation of a remediation action plan (RAP) and an Unexpected Finds Protocol is now underway and will form part of the pre-construction phase of the development.

## Visual Impacts

- A Visual Impact Assessment was undertaken to inform the EIS in considering the visual impacts of the proposed development on nearby local roads and neighbouring sensitive receivers such as residential and commercial properties and public utilities (including schools and parks. The Visual Impact Assessment concludes that there is no highly or moderately impacted viewpoints as a result of the proposed development, including both the construction and operational stage.

## Flooding

- The Desktop Flood Study and Flood Impact Assessment undertaken in support of the EIS concludes that the development site is not significantly impacted by normal flood events. Any major event short term flooding from South Creek is proposed to be dealt with via shelter-in-place arrangements until the short-term flooding on surrounding roads has subsided.

All other general and specific matters outlined in the SEARs have been addressed in this EIS and accompanying consultant reporting provided as **Appendices 1 - 23**. The proposed development will facilitate the introduction of a new container rail shuttle service between Port Botany and greater western Sydney, increasing the volume of import and export freight moved via rail and relieve the regional and state road network of heavy vehicle and container traffic, including key freight roads servicing Port Botany.



## SEARS REQUIREMENTS AND REPORT CROSS-REFERENCE

GENERAL REQUIREMENTS	
The Environmental Impact Statement (EIS) must be prepared in accordance with, and meet the minimum requirements of Clause 6 and 7 of Schedule 2 the Environmental Planning and Assessment Regulation 2000 (the Regulation) and include the following:	
<ul style="list-style-type: none"> <li>detailed description of the development, including: <ul style="list-style-type: none"> <li>need for the proposed development</li> <li>justification for the proposed development</li> <li>likely staging of the development – including construction, and operational stage/s</li> <li>likely interactions between the development and existing, approved and proposed operations in the vicinity of the site</li> <li>plans of any proposed building works</li> <li>a terminal operating plan (including a methodology for determining capacity)</li> <li>details of any ancillary logistics functions to be undertaken on site (e.g. empty container park, container repairs).</li> </ul> </li> <li>consideration of all relevant environmental planning instruments, including identification and justification of any inconsistencies with these instruments.</li> <li>risk assessment of the potential environmental impacts of the development, identifying the key issues for further assessment.</li> <li>detailed assessment of the key issues specified below, and any other significant issues identified in this risk assessment, which includes: <ul style="list-style-type: none"> <li>a description of the existing environment, using sufficient baseline data</li> <li>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</li> </ul> </li> <li>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 and significant risks to the environment.</li> <li>a consolidated summary of all the proposed environmental management and monitoring measures, highlighting commitments included in the EIS.</li> </ul>	<p>Section 4</p> <p>Section 3</p> <p>Section 3</p> <p>Section 6.1</p> <p>Section 2.2</p> <p>Plan 1</p> <p>Section 5.1</p> <p>Section 4</p> <p>Section 7.2</p> <p>Section 9.11</p> <p>Section 9</p> <p>Sections 2.3, 2.4 and 9</p> <p>Section 9</p> <p>Section 9 and 11</p> <p>Section 9 and 11</p>
Notwithstanding the key issues specified below, the EIS must include an environmental risk assessment to identify the potential environmental impacts associated with development.	
The EIS must also be accompanied by a report from a qualified quantity surveyor providing:	
<ul style="list-style-type: none"> <li>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</li> <li>an estimate of the jobs that will be created by the future development during the construction and operational phases of the development</li> <li>certification that the information provided is accurate at the date of preparation.</li> </ul>	<p>Section 1.3</p> <p>Section 3.1.1</p> <p>Section 1.3</p>
STATUTORY AND STRATEGIC CONTEXT	
Address the statutory provisions contained in all relevant environmental planning instruments, including:	
<ul style="list-style-type: none"> <li><i>Biodiversity Conservation Act 2016</i></li> <li>State Environmental Planning Policy (State &amp; Regional Development) 2011</li> <li>State Environmental Planning Policy (Infrastructure) 2017</li> <li>State Environmental Planning Policy No. 33 – Hazardous and Offensive Development</li> <li>State Environmental Planning Policy No. 64 – Advertising and Signage</li> <li>State Environment Planning Policy No. 55 – Remediation of Land</li> <li>Sydney Regional Environmental Plan No. 30 – St Marys</li> <li>Draft State Environmental Planning Policy (Remediation of Land)</li> <li>Draft State Environmental Planning Policy (Environment)</li> <li>Penrith Development Control Plan 2014.</li> </ul>	<p>Section 7.1.3</p> <p>Section 7.1.4</p> <p>Section 7.1.5</p> <p>Section 7.1.6</p> <p>Section 7.1.7</p> <p>Section 7.1.8</p> <p>Section 7.1.9</p> <p>Section 7.1.10</p> <p>Section 7.1.11</p> <p>Sections 7.1.12.1 and 7.2.16</p>
Permissibility	Section 7.1.12
Detail of the nature and extent of any prohibitions that apply to the development.	
Development Standards	Sections 7.1.12, 7.1.12.1 and 7.2.16



Identify compliance with the development standards applying to the site and provide justification for any contravention of the development standards.	
<b>POLICIES</b>	
Address the relevant planning provisions, goals and strategic planning objectives in the following:	
▪ NSW State Priorities	Section 7.2.1
▪ A Metropolis of Three Cities - The Greater Sydney Region Plan	Section 7.2.2
▪ Western City District Plan	Section 7.2.3
▪ Future Transport Strategy 2056 and supporting plans	Section 7.2.4
▪ NSW Freight and Ports Plan 2018-2023	Section 7.2.5
▪ Penrith City Strategy	Section 7.2.6
▪ National Ports Strategy and National Freight and Supply Chain Strategy	Section 7.2.7
▪ State Infrastructure Strategy 2018 - 2038	Section 7.2.8
▪ Building Momentum Sydney's Cycling Future 2013	Section 7.2.9
▪ Sydney's Walking Future 2013	Section 7.2.10
▪ Sydney's Bus Future 2013	Section 7.2.11
▪ Austroads Guidelines for Planning and Assessment of Road Freight Access in Industrial Area	Section 7.2.12
▪ Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development	Section 7.2.13
▪ Crime Prevention Through Environmental Design (CPTED)	Section 7.2.14
▪ Greater Sydney Commission's Western City District Plan	Section 7.2.15
▪ Penrith Development Control Plan 2014.	Section 7.2.16
<b>STAGING</b>	
▪ Provide details regarding the staging of the proposed development (if any).	Section 6.1
<b>SITE SUITABILITY</b>	
▪ Provide detail regarding the suitability of the site to accommodate the proposal.	Sections 2.3, 2.4 and 2.7
<b>ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD)</b>	
▪ Detail how ESD principles (as defined in clause 7(4) of Schedule 2 of the Regulation) will be incorporated in the design and ongoing operation phases of the development.	Refer Section 3.2
<b>AIR QUALITY</b>	
▪ Provide a quantitative assessment of the potential air quality, dust and odour impacts, including modelling of peak and cumulative impacts taking into account predicted increases in local traffic.	Section 9.1 and Appendix 19
▪ Provide an assessment of construction related impacts and proposed mitigation measures and safeguards to control dust generation and to minimise impacts on nearby receptors.	Section 9.1 and Appendix 19
<b>TRAFFIC AND TRANSPORT</b>	
▪ Provide a Traffic Impact Assessment (TIA) that identifies upgrades and other mitigation measures required to achieve the objective of not exceeding the capacity of the following intersections: <ul style="list-style-type: none"> <li>i. Dunheved Road and Northern Road</li> <li>ii. Parker Street and Great Western Highway</li> <li>iii. Werrington Road and Great Western Highway</li> <li>iv. Glossop Street and Great Western Highway</li> <li>v. Mamre Road and Great Western Highway</li> <li>vi. Mamre Road and M4 Western Motorway</li> <li>vii. Carlisle Avenue and Great Western Highway</li> <li>viii. Aurora Drive and Debrincat Avenue.</li> </ul>	Section 9.2 Appendix 4
▪ The TIA must include, but is not limited to including, the following:	
– take into account the Guide to Traffic Generating Development (Roads and Maritime Services). Transport for NSW should be consulted on the proposed traffic generation rates	Sections 8.2.6 and 8.3
– provide details of the proposed access to the site, including emergency vehicle access arrangements, from the road network including intersection location, design and sight distance	Section 9.2
– service vehicle access, delivery and loading arrangements and estimated service vehicle movements (including vehicle type and the likely arrival and departure times)	Section 9.2
– details of proposed access arrangements, including car and bus pickup/drop-off facilities and impacts on public transport, pedestrian and bicycle networks, including pedestrian crossing and refuges and speed control devices and zones	Section 9.2





<ul style="list-style-type: none"> <li>provide detailed plans of the proposed layout of the internal road network and parking on site in accordance with the relevant Australian Standards</li> </ul>	Appendix 4
<ul style="list-style-type: none"> <li>accurate details of the current daily and peak hour vehicle, public transport, pedestrian and cycle movement and existing traffic and transport facilities provided on the road network located adjacent to the proposed development</li> </ul>	Appendix 4
<ul style="list-style-type: none"> <li>provide accurate daily and peak traffic forecasts, including vehicle, public transport, pedestrian and bicycle trips, generated by the project during construction and operation, including details of heavy vehicle transport routes to the State Road networks and types of vehicles</li> </ul>	Appendix 4
<ul style="list-style-type: none"> <li>provide an assessment of the predicted impacts of this traffic on road safety and the capacity of the road and bus network, including consideration of cumulative traffic impacts at key intersections using a traffic network traffic model pre-agreed with Transport for NSW and Roads and Maritime. Undertake detailed model analysis to confirm network operation and identify intersection upgrade requirements</li> </ul>	Section 9.2 and Appendix 4
<ul style="list-style-type: none"> <li>the impact of the proposed development on existing and future public transport infrastructure within the vicinity of the site in consultation with Roads and Maritime Services and Transport for NSW and identify measures to integrate the development with the transport network</li> </ul>	Section 9.2.5
<ul style="list-style-type: none"> <li>include detailed plans of any proposed road upgrades, infrastructure works or new roads required for the development</li> </ul>	Appendix 4
<ul style="list-style-type: none"> <li>the adequacy of public transport, pedestrian and bicycle networks and infrastructure to meet the likely future demand of the proposed development</li> <li>the proposed active transport access arrangements and connections to public transport services</li> </ul>	Section 9.2
<ul style="list-style-type: none"> <li>an assessment of road and pedestrian safety adjacent to the proposed development and the details of required road safety measures</li> </ul>	Appendix 4
<ul style="list-style-type: none"> <li>measures to maintain road and personal safety in line with CPTED principles</li> </ul>	Sections 7.1.2.14 and 9.2
<ul style="list-style-type: none"> <li>consider the constructability constraints of proposed intersection upgrades such as vehicle swept paths, geometry and sight lines, and avoidance of removal of bus lanes</li> </ul>	Appendix 4
<ul style="list-style-type: none"> <li>details of travel demand management measures to minimise the impact on general traffic and bus operations and to encourage sustainable travel choices and details programs for implementation</li> </ul>	Appendix 4
<ul style="list-style-type: none"> <li>the proposed car and bicycle parking provision, including end-of-trip facilities, which must be taken into consideration of the availability of public transport and the requirements of Council's relevant parking codes and Australian Standards</li> </ul>	Section 9.2
<ul style="list-style-type: none"> <li>proposed bicycle parking facilities in secure, convenient, accessible areas close to main entries incorporating lighting and passive surveillance.</li> </ul>	Section 9.2
<ul style="list-style-type: none"> <li>Demonstrate how the development will facilitate freight transport objectives, meet freight infrastructure requirements and address impacts to local and regional road and rail transport networks, including forecast origin and destination of containers within the proposed catchment of the terminal.</li> </ul>	Executive Summary, Section 3.1.2 and Appendix 4
<ul style="list-style-type: none"> <li>Include the identification of any dangerous goods likely to be transported on arterial and local roads to/from the site and, if necessary, the preparation of an incident management strategy.</li> </ul>	NA
<ul style="list-style-type: none"> <li>Consider the implications of the Western Sydney Corridors, including the Outer Sydney Orbital.</li> </ul>	Section 9.2.4
<ul style="list-style-type: none"> <li>Provide detailed design and engineering drawings of the rail sidings and connection(s) to the Main West Rail Line, prepared by an Asset Standards Authority Authorised Engineering Organisation.</li> </ul>	Plan 1 and Appendix 6
<ul style="list-style-type: none"> <li>Consider how the proposed terminal will connect to the Main West Rail Line, including accommodation of proposed network enhancements to the Main West rail line, in consultation with TfNSW.</li> </ul>	Appendix 6
<ul style="list-style-type: none"> <li>Consider potential enhancements of the rail corridor between Penrith and St Marys.</li> </ul>	Appendix 6
<ul style="list-style-type: none"> <li>Provide details of the train operating plans, including likely rail routes and destinations, train size and configuration, service frequency, anticipated train path requirements, expected ramp up periods and peak demand.</li> </ul>	Appendix 6
<ul style="list-style-type: none"> <li>Demonstrate engagement with and confirmation from TfNSW and all relevant rail networks owners regarding train path availability and future network enhancements which may be required to support the proposed operations and maintain sufficient capacity for other rail network users over the life of the project.</li> </ul>	Section 8.2.6 and Appendix 6
<ul style="list-style-type: none"> <li>Demonstrate consultation with stakeholders including TfNSW, Sydney Trains and Roads and Maritime Services to discuss aspects including, but not limited to:               <ul style="list-style-type: none"> <li>train configuration - requirements should include an agreed assessment of performance (schedule) and standards</li> </ul> </li> </ul>	Section 8.2.6
	Appendix 6





<ul style="list-style-type: none"> <li>– path availability - references to specific times of day and with and understanding of how paths may need to change in the future.</li> </ul>	Appendix 6
<ul style="list-style-type: none"> <li>▪ In relation to construction traffic, provide:           <ul style="list-style-type: none"> <li>– assessment of cumulative impacts associated with other construction activities (if any)</li> <li>– assessment of road safety at key intersection and locations subject to heavy vehicle construction traffic movements and high pedestrian activity</li> <li>– details of construction program detailing the anticipated construction duration and highlighting significant milestone stages and events during the construction process</li> <li>– details of anticipated peak hour and daily construction vehicles movements to and from the site</li> <li>– details of access arrangements of construction vehicles, construction worker to and from the site, emergency vehicles and service vehicles</li> <li>– details of temporary cycling and pedestrian access during construction</li> <li>– details of proposed construction vehicle access arrangements at all stages of construction and traffic and transport impacts during construction, including cumulative impacts associated with other construction activities, and how these impacts will be mitigated for any associated traffic, pedestrian, cyclists, parking and public transport, including the preparation of a draft Construction Traffic Management Plan to demonstrate the proposed management of the impact (which must include vehicle routes, number of trucks, hours of operation, access arrangements and traffic control measures for all demolition/construction activities).</li> </ul> </li> </ul>	Section 9.2 and Appendix 4 Section 9.2 and Appendix 4 Section 6.1 Section 9.23.2 Section 9.23.2 Appendix 4 Appendix 4
<b>ABORIGINAL HERITAGE</b>	
<ul style="list-style-type: none"> <li>▪ The EIS must identify and describe the Aboriginal cultural heritage values that exist across the whole area that will be affected by the development and document these in an Aboriginal Cultural Heritage Assessment Report (ACHAR). This may include the need for surface survey and test excavation. The identification of cultural heritage values must be conducted in accordance with the Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW (OEH 2010), and guided by the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011).</li> <li>▪ Consultation with Aboriginal people must be undertaken and documented in accordance with the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the ACHAR.</li> <li>▪ Impacts on Aboriginal cultural heritage values are to be assessed and documented in the ACHAR. The ACHAR must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the ACHAR must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to OEH.</li> <li>▪ Note: A due diligence report is not an adequate assessment for the purposes of these requirements.</li> </ul>	Section 9.3 and Appendix 23 Section 9.3 and Appendix 23 Section 9.3 and Appendix 23
<b>NON ABORIGINAL HERITAGE</b>	
<ul style="list-style-type: none"> <li>▪ The EIS must identify if there are any listed or potential heritage items within the proposed project area. If any listed or potential heritage items are likely to be affected, a Heritage Impact Assessment (HIA) must be prepared by a suitably qualified and experienced heritage consultant as part of the EIS. The HIA should assess how the development would impact on St Marys Railway Station Group and any places of heritage significance in or surrounding the SSD site.</li> <li>▪ A historical archaeological assessment should be prepared by a suitably qualified historical archaeologist in accordance with the Heritage Division, Office of Environment and Heritage Guidelines 'Assessing Significance for Historical Archaeological Sites and 'Relics' 2009. This assessment should identify what relics, if any, are likely to be present, assess their significance and consider the impacts from the proposal on this potential resource. Where harm is likely to occur, it is recommended that the significance of the relics be considered in determining an appropriate mitigation strategy. In the event that harm cannot be avoided in whole or part, an appropriate Research Design and Excavation Methodology should also be prepared to guide any proposed excavations.</li> </ul>	Section 9.4 and Appendix 21 Section 9.4 and Appendix 21
<b>NOISE AND VIBRATION</b>	
<ul style="list-style-type: none"> <li>▪ Provide a quantitative assessment of potential construction, operational and transport noise and vibration impacts, including potential impacts on nearby noise sensitive receivers.</li> <li>▪ Provide details and justification of the proposed noise mitigation and noise monitoring measures.</li> <li>▪ Provide an assessment of the impact on human health of 24-hour operations and predicted increases in traffic volumes</li> </ul>	Section 9.5 and Appendix 15 Section 9.5 and Appendix 15 Section 9.5 and Appendix 15



SOIL AND WATER		
<ul style="list-style-type: none"> <li>The EIS must describe background conditions for any water resource likely to be affected by the development, including:             <ul style="list-style-type: none"> <li>existing surface and groundwater</li> <li>hydrology, including volume, frequency and quality of discharges at proposed intake and discharge locations</li> <li>Water Quality Objectives including groundwater as appropriate that represent the community's uses and values for the receiving waters</li> <li>indicators and trigger values/criteria for the environmental values identified at (c) in accordance with the ANZECC (2000) Guidelines for Fresh and Marine Water Quality and/or local objectives, criteria or targets endorsed by the NSW Government.</li> </ul> </li> </ul>		
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>the nature and degree of impact on receiving waters for both surface and groundwater, demonstrating how the development protects the Water Quality Objectives where they are currently being achieved, and contributes towards achievement of the Water Quality Objectives over time where they are currently not being achieved. This should include an assessment of the mitigating effects of proposed stormwater and wastewater management during and after construction</li> </ul> </li> </ul>		Section 9.6 and Appendices 17 and 18
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>identification of proposed monitoring of water quality</li> </ul> </li> </ul>		Section 9.6 and Appendices 17 and 18
<ul style="list-style-type: none"> <li>The EIS must assess the impact of the development on hydrology, including:             <ul style="list-style-type: none"> <li>water balance including quantity, quality and source</li> <li>effects to downstream rivers, wetlands, estuaries, marine waters and floodplain areas</li> <li>effects to downstream water-dependent fauna and flora including groundwater dependent ecosystems</li> <li>impacts to natural processes and functions within rivers, wetlands, estuaries and floodplains that affect river system and landscape health such as nutrient flow, aquatic connectivity and access to habitat for spawning and refuge (e.g. river benches)</li> <li>changes to environmental water availability, both regulated/licensed and unregulated/rules-based sources of such water</li> <li>mitigating effects of proposed stormwater and wastewater management during and after construction on hydrological attributes such as volumes, flow rates, management methods and re-use options</li> <li>identification of proposed monitoring of hydrological attributes.</li> </ul> </li> </ul>		
		Section 9.6 and Appendices 17 and 18
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		Section 9.6 and Appendices 17 and 18
<ul style="list-style-type: none"> <li>Detail the proposed stormwater and wastewater systems, including the capacity of onsite detention systems, and measures to treat, reuse or dispose of any water, measures to avoid and reduce offsite impacts, and details of operational management and maintenance (frequency and responsibilities).</li> </ul>		Section 9.6.2 and Appendix 18
<ul style="list-style-type: none"> <li>Detail measures and procedures to minimise and manage the generation and off-site transmission of sediment, dust and fine particles.</li> </ul>		Section 9.6.2
<ul style="list-style-type: none"> <li>Consider impacts of potential disturbance of acid sulfate soils.</li> </ul>		Section 9.6.3
FLOODING		
<ul style="list-style-type: none"> <li>The EIS must describe flood assessment and modelling undertaken in determining the design flood levels for events, including a minimum of the 5% Annual Exceedance Probability (AEP), 1 % AEP, flood levels and the probable maximum flood, or an equivalent extreme event.</li> </ul>		Section 9.7.2 and Appendix 14
<ul style="list-style-type: none"> <li>The EIS must model the effect of the proposed development (including fill) on the flood behaviour under the scenarios above, including the 0.5% and 0.2% AEP year flood events as proxies for assessing sensitivity to an increase in rainfall intensity of flood producing rainfall events due to climate change.</li> </ul>		Section 9.7.2 and Appendix 14
<ul style="list-style-type: none"> <li>Modelling in the EIS must consider and document:             <ul style="list-style-type: none"> <li>existing council flood studies in the area and examine consistency to the flood behaviour documented in these studies.</li> <li>the impact on existing flood behaviour for a full range of flood events including up to the probable maximum flood, or an equivalent extreme flood.</li> <li>impacts of the development on flood behaviour resulting in detrimental changes in potential flood affection of other developments or land. This may include redirection of flow, flow velocities, flood levels, hazard categories and hydraulic categories</li> <li>relevant provisions of the Floodplain Development Manual (DIPNR 2005).</li> </ul> </li> </ul>		Section 9.7.2 and Appendix 14



<ul style="list-style-type: none"> <li>▪ The EIS must assess the impacts on the proposed development on flood behaviour, including:             <ul style="list-style-type: none"> <li>– whether there will be detrimental increases in the potential flood affectation of other properties, assets and infrastructure</li> <li>– consistency with Council floodplain risk management plans</li> <li>– consistency with any Rural Floodplain Management Plans</li> <li>– compatibility with the flood hazard of the land</li> <li>– compatibility with the hydraulic functions of flow conveyance in floodways and storage in flood storage areas of the land</li> <li>– whether there will be adverse effect to beneficial inundation of the floodplain environment, on, adjacent to or downstream of the site</li> <li>– whether there will be direct or indirect increase in erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses</li> <li>– any impacts the development may have upon existing community emergency management arrangements for flooding. These matters are to be discussed with the NSW SES and Council</li> <li>– whether the proposal incorporates specific measures to manage risk to life from flood. These matters are to be discussed with the NSW SES and Council</li> <li>– emergency management, evacuation and access, and contingency measures for the development considering the full range or flood risk (based upon the probable maximum flood or an equivalent extreme flood event). These matters are to be discussed with and have the support of Council and the NSW SES</li> <li>– any impacts the development may have on the social and economic costs to the community as consequence of flooding.</li> </ul> </li> </ul>	Section 9.7, and Appendix 14
<b>CONTAMINATION</b>	
<ul style="list-style-type: none"> <li>▪ Assess and quantify any soil and groundwater contamination and demonstrate that the site is suitable for the proposed use in accordance with SEPP 55.</li> </ul>	Section 9.8 and Appendix 11, 12 & 13
<b>WASTE</b>	
<ul style="list-style-type: none"> <li>▪ Identify, quantify and classify the likely waste streams to be generated during construction and operation and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste. Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones, mechanical plant) for the site.</li> </ul>	Section 6.6, Appendix 8 and Appendix 9
<ul style="list-style-type: none"> <li>▪ A Waste Management Plan will need to be provided to address the construction and operational phases of the development.</li> </ul>	Section 6.6, Appendix 8 and 9
<b>BIODIVERSITY ASSESSMENT</b>	
<ul style="list-style-type: none"> <li>▪ Biodiversity impacts related to the proposed development (SSD 7308) are to be assessed in accordance with Section 7.9 of the <i>Biodiversity Conservation Act 2017</i> the Biodiversity Assessment Method and documented in a Biodiversity Development Assessment Report (BOAR). The BOAR must include information in the form detailed in the <i>Biodiversity Conservation Act 2016</i> (s6.12), <i>Biodiversity Conservation Regulation 2017</i> (s6.8) and Biodiversity Assessment Method, including an assessment of the impacts of the proposal (including an assessment of impact prescribed by the regulations).</li> </ul>	Section 9.9 and Appendix 3
<ul style="list-style-type: none"> <li>▪ The BOAR must document the application of the avoid, minimise and offset framework including assessing all direct, indirect and prescribed impacts in accordance with the Biodiversity Assessment Method.</li> </ul>	Section 9.9 and Appendix 3
<ul style="list-style-type: none"> <li>▪ The BOAR must include details of the measures proposed to address the offset obligation as follows:</li> </ul>	Section 9.9 and Appendix 3
<ul style="list-style-type: none"> <li>– the total number and classes of biodiversity credits required to be retired for the development/project</li> </ul>	Section 9.9 and Appendix 3
<ul style="list-style-type: none"> <li>– the number and classes of biodiversity credits proposed to be retired in accordance with the variation rules</li> </ul>	Section 9.9 and Appendix 3
<ul style="list-style-type: none"> <li>– any proposal to fund a biodiversity conservation action</li> </ul>	Section 9.9 and Appendix 3
<ul style="list-style-type: none"> <li>– any proposal to make a payment to the Biodiversity Conservation Fund.</li> </ul>	Section 9.9 and Appendix 3
<ul style="list-style-type: none"> <li>▪ If seeking approval to use the variation rules, the BOAR must contain details of the reasonable steps that have been taken to obtain requisite like-for-like biodiversity credits.</li> </ul>	Section 9.9 and Appendix 3
<ul style="list-style-type: none"> <li>▪ The BOAR must be submitted with all spatial data associated with the survey and assessment as per Appendix 11 of the BAM.</li> </ul>	Section 9.9 and Appendix 3
<ul style="list-style-type: none"> <li>▪ The BOAR must be prepared by a person accredited in accordance with the Accreditation Scheme for the Application of the Biodiversity Assessment Method Order 2017 under s6.10 of the <i>Biodiversity Conservation Act 2016</i>.</li> </ul>	Section 9.9 and Appendix 3



<ul style="list-style-type: none"> <li>Where a Biodiversity Assessment Report is not required, engage a suitably qualified person to assess and document the flora and fauna impacts related to the proposal.</li> </ul>	Section 9.9 and Appendix 3
<b>BUSHFIRE</b>	
<ul style="list-style-type: none"> <li>Address bushfire hazard and, if relevant, prepare a report that address the requirements for Special Fire Protection Development as detailed in Planning for Bushfire Protection 2006 (NSW RFS).</li> </ul>	Section 9.10 and Appendix 16
<b>HAZARDS AND RISKS</b>	
<ul style="list-style-type: none"> <li>Complete a preliminary risk screening in accordance with State Environmental Planning Policy No.33 - Hazardous and Offensive Development and Applying SEPP 33 (DoP 2011).</li> </ul>	Section 9.11 and Appendix 10
<ul style="list-style-type: none"> <li>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).</li> </ul>	NA
<ul style="list-style-type: none"> <li>If underground petroleum storage system/s are proposed, details of the design of proposed fuel storage must consider the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2014.</li> </ul>	NA
<b>UTILITIES</b>	
<ul style="list-style-type: none"> <li>Prepare an Infrastructure Management Plan in consultation with relevant agencies, detailing information on the existing capacity and any augmentation and easement requirements of the development for the provision of utilities including staging of infrastructure.</li> </ul>	Section 5.3
<b>CONTRIBUTIONS</b>	
<ul style="list-style-type: none"> <li>Address Council's 'Section 94/94A Contribution Plan' and/or details of any Voluntary Planning Agreement, as required.</li> </ul>	Section 10
<b>LANDSCAPE DESIGN AND VISUAL ASSESSMENT</b>	
<ul style="list-style-type: none"> <li>Include detailed landscape and urban design plans, contextual analysis and visual impact analysis that support the development of the proposed architectural plans and spatial arrangements of works on the site.</li> </ul>	Section 9.12 and Appendix 5
<ul style="list-style-type: none"> <li>Assess the visual impact of the project on views and vistas; streetscapes, key sites and buildings; heritage items including Aboriginal places and environmental heritage; and local community.</li> </ul>	Section 9.12 and Appendix 20
<ul style="list-style-type: none"> <li>Details of any proposed visual amenity mitigation and management measures proposed.</li> </ul>	Section 9.12 and Appendix 20
<b>CONSULTATION</b>	
During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups, special interest groups including local Aboriginal land councils and registered Aboriginal stakeholders and affected landowners.	
In particular you must consult with:	
<ul style="list-style-type: none"> <li>local, State or Commonwealth government authorities, including the:             <ul style="list-style-type: none"> <li>Office of Environment and Heritage</li> <li>Transport for NSW</li> <li>Roads and Maritime Services</li> <li>Department of Primary Industries</li> <li>Fire and Rescue NSW</li> <li>NSW Rural Fire Service</li> <li>NSW Ports</li> <li>Penrith City Council</li> <li>Blacktown City Council.</li> </ul> </li> <li>service and infrastructure providers:             <ul style="list-style-type: none"> <li>Australian Rail Track Corporation</li> <li>Sydney Trains</li> <li>Sydney Water</li> <li>Endeavour Energy</li> <li>Jemena</li> <li>Telstra</li> <li>AGL Upstream Investments Pty Ltd.</li> </ul> </li> <li>specialist interest groups, including Local Aboriginal Land Councils</li> </ul>	Section 8.3 Section 8.2.6 Section 8.2.6 Section 8.3 Section 8.3 Section 8.3 Section 8.2.6 Section 8.2.2 Section 8.2.3 Section 8.3 Section 8.2.6 Section 8.3 Section 8.3 Section 8.3 Section 8.3 Sections 8.2.4, 8.3, 9.3

	and Appendix 23
▪ the public, including community groups and adjoining and affected landowners	Section 8.2.1, 8.3 and Appendix 23
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 8.2



## SIGNED DECLARATION

This Environmental Impact Statement (EIS) has been prepared in accordance with Schedule 2 of the *Environmental Planning and Assessment Regulations 2000*.

### Environmental Impact Statement prepared by:

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and

Guy Evans – Director  
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PYRMONT NSW 2009

### On behalf of:

Pacific National  
Level 16, 15 Blue Street  
NORTH SYDNEY NSW 2060

### Declaration:

We certify that the contents of this Environmental Impact Statement have, to the best of our knowledge, been prepared:

- In accordance with Schedule 2 of the Environmental Planning and Assessment Regulations 2000;
- In accordance with the requirements of the *Environmental Planning and Assessment Regulations 2000* and State Environmental Planning Policy (State and Regional Development) 2011;
- In accordance with the requirements of the requirements of the Secretary’s Environmental Assessment Requirements (SEARs) dated 23 October 2018.

This Environmental Impact Statement contains all available information that is relevant to the environmental assessment of the proposed development.

To the best of our knowledge the information contained in this report is neither false nor misleading.

Kareena May

Guy Evans



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23. ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT (ACHAR)



## 1. INTRODUCTION

Pacific National Pty Ltd (the ‘Applicant’) propose to redevelop 9.6ha of land zoned ‘General Industrial’ under the Penrith Local Environment Plan 2010 (Penrith LEP 2010) at Lee Holm and Forrester Roads, St Mary’s (the ‘subject site’) for the development of the St Marys Freight Hub (the ‘proposed development’). The subject site forms part of a broader 43ha land area (the ‘broader site’) owned by Pacific National Properties Operations Pty Ltd and Pacific National (NSW) Pty Ltd.

Refer to **Figure 1 – Local Context Plan** and **Figure 2 – Aerial Site Plan**.

### 1.1 PROPONENT DETAILS

The proponent for the proposed development is Pacific National, Australia’s largest private rail operator boasting an unrivalled freight rail and intermodal network across Australia with demonstrated national experience in freight supply chain operation, logistics delivery, property management, and a strong commitment to stakeholder engagement.

### 1.2 PROJECT OVERVIEW

The 9.6ha site is proposed to be developed for the operation of the St Marys Freight Hub with an operational capacity of 300,000 TEU (shipping containers) annual throughput and associated container handling operations. There is no immediate plan to develop the balance of the broader site.

The Capital Investment Value (CIV) of the proposed development is estimated to be \$33,212,000 (Refer to **Appendix 1**).

The proposed St Marys Freight Hub will be supported by a dedicated port rail shuttle service from Port Botany, with the road transport leg commencing at the St Marys Freight Hub.

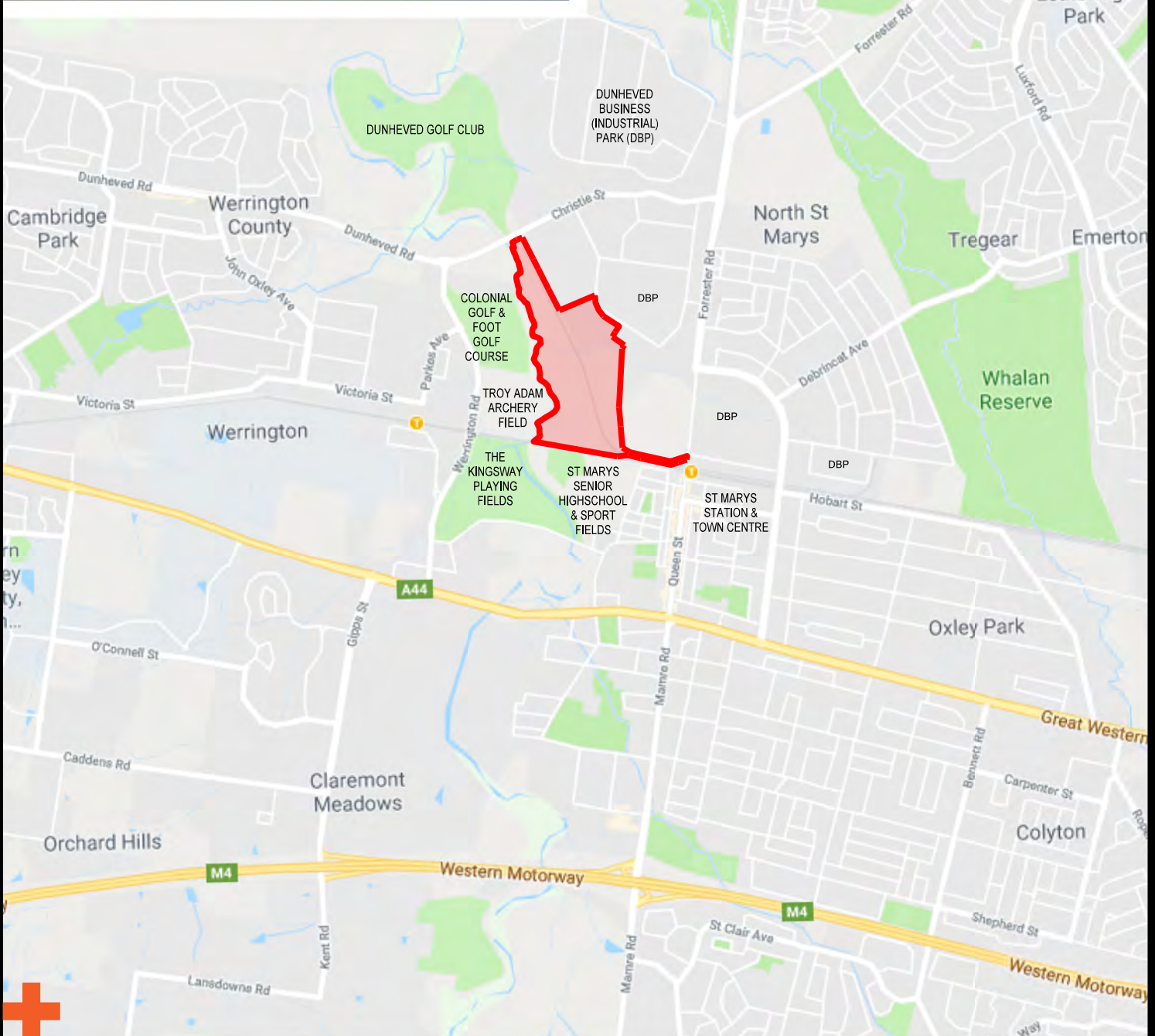
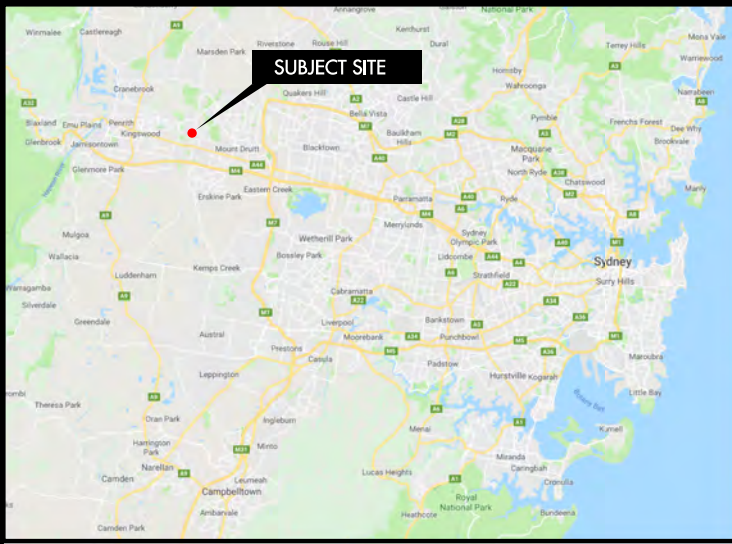
The St Marys Freight Hub will be operated by an independent intermodal freight forwarding organisation, with containers transported between Port Botany and St Mary’s via a maximum of five (5) 600 metre Pacific National trains per day.

Freight forwarding from St Mary’s to the customer (such as those located at Marsden Park, Eastern Creek, Erskine Park and Wetherill Park, amongst others) is estimated to generate a maximum of 436 total truck movements per day (i.e. 218 truck movements in and 218 truck movements out) based on conservative estimates by Bitzios Consulting. The conservative volumes presented below are likely to be higher than the average day site traffic generation, with further detail provided in Section 9.2 of this report.

80% of the heavy vehicle movements are expected to occur between the hours of 6.00am to 6.00pm, with the rail sidings and container park operating up to 24 hours, 7 days per week.

**FIGURE 1      LOCAL CONTEXT PLAN**





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ST MARYS FREIGHT HUB

CLIENT : Pacific National  
 PLAN NO. : 17-103-5-001  
 REVISION : A  
 DATE : 13 March 2019  
 DRAWN : BDL  
 SCALE : 1:35,000@A4

LEGEND  
 BROADER SITE

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LEIGHTON  
 Land development DRAFTING & VISUALS

**SITE**

PLANNING + DESIGN

LOCAL CONTEXT PLAN



0 350 700 1050 1400m

**FIGURE 2      AERIAL SITE PLAN**





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ST MARYS FREIGHT HUB

CLIENT : Pacific National  
PLAN NO. : 17-103-5-001  
REVISION : A  
DATE : 13 March 2019  
DRAWN : BDL  
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LEIGHTON  
Land development DRAFTING & VISUALS

LEGEND

BROADER SITE  
 SUBJECT SITE  
 LOT NUMBERS  
 BOUNDARIES

SITE

PLANNING + DESIGN

AERIAL SITE PLAN



0 75 150 225 300m





The proposed development will form an important part of a new port rail shuttle service to move containers to and from Port Botany. The port rail shuttle service and the Freight Hub will significantly increase the volume of freight being moved by rail, relieving the regional and state road network, including primary freight routes servicing Port Botany, of heavy vehicle and container freight traffic. Estimated to remove 10 million truck kilometres per year from the road network.

Key components of the proposed development are summarised as:

- construction of hardstand pavement areas;
- internal access roads and associated external road connections;
- pad sites for administrative and operational buildings and facilities;
- vehicle parking; and
- ancillary works.

The development is proposed to be constructed in four stages. Refer to **Section 6** for additional details.

### 1.3 CAPITAL INVESTMENT VALUE

The proposed development is defined as State Significant Development by its Capital Investment Value, a threshold that is defined in Schedule 1 of the SRD SEPP.

Capital Investment Value (CIV) is defined in in Clause 3 of the *EP&A Regulations* as follows:

*“capital investment value of a development or project includes all costs necessary to establish and operate the project, including the design and construction of buildings, structures, associated infrastructure and fixed or mobile plant and equipment, other than the following costs:*

- (a) amounts payable, or the cost of land dedicated or any other benefit provided, under a condition imposed under Division 7.1 or 7.2 of the Act or a planning agreement under that Division,*
- (b) costs relating to any part of the development or project that is the subject of a separate development consent or project approval,*
- (c) land costs (including any costs of marketing and selling land),*
- (d) GST (within the meaning of A New Tax System (Goods and Services Tax) Act 1999 of the Commonwealth).”*

The CIV for the proposed development has been determined by Chrysalis as approximately \$33,212,000 (AUD). A copy of the Chrysalis report confirming the CIV is included in **Appendix 1**.

### 1.4 PURPOSE AND STRUCTURE OF THIS REPORT

This document constitutes an EIS in response to the Secretary’s Environmental Assessment Requirements to accompany a development application for the State Significant Development (SSD) of the St Marys Freight Hub.



This EIS has been prepared in accordance with the requirements of the *Environmental Planning and Assessment Regulation 2000* and responds to the requirements of the SEARs issued 23 October 2018.

## 1.5 SEARS

The SEARs (Reference SSD 7308) was issued by the DPE on 23 October 2018. Refer to **Appendix 2**.

The SEARs generally specifies that this EIS must be prepared in accordance with Clause 6 and 7 of Schedule 2 of the Environmental Planning and Assessment Regulation 2000 and include:

- A detailed description of the proposed development;
- Consideration of all relevant environmental planning instruments;
- Risk assessments of potential environmental impacts;
- Detailed assessments of the key issues identified within the SEARs;
- Description of avoidance, minimise and/or offset negative environmental impacts; and
- A summary of all environmental management and monitoring measures.

### 1.5.1 SUMMARY OF SEARS

In addition to the general requirements summarised above, the SEARs specifies key issues that the EIS must address, including:

- Statutory and strategic context;
- Land use permissibility;
- Development standards;
- Policy requirements;
- Proposed staging;
- Site suitability;
- The incorporation of Eco Logically sustainable development (ESD) principles;
- Air quality assessment, monitoring and management;
- Traffic and transport impacts (during construction and operation);
- Aboriginal and non-Aboriginal heritage;
- Potential noise and vibration issues;
- Soil and water considerations;
- Flooding considerations;
- Site contamination;
- Waste management;
- Biodiversity assessments;
- Bushfire risks;
- Other hazards and risks;
- Utility servicing;
- Developer contributions;
- Landscape design and visual assessment; and
- Stakeholder consultation.

These requirements are addressed in detail in **Sections 7 - 9**.



## **2. SITE CONTEXT**

### **2.1 REGIONAL CONTEXT**

The broader site is located in the suburb of St Marys, approximately 45km west of Sydney's Central Business District and 49km west of Port Botany.

The region is characterised by established and emerging areas of urban, commercial, education, recreation and industrial development and conservation reserves typical of growth areas at the edges of the Sydney metropolitan region.

The region is well served by the local, regional and state road network, including the Western Motorway (M4) and the Great Western Highway (A44), connecting the region to eastern Sydney and western regional NSW, and the Westlink (M7) connecting to southern and northern NSW and the wider state road network.

Capitalising on the excellent access to the freight road network and availability of large greenfield sites, the region also boasts significant existing and emerging industrial areas comprising large scale freight forwarding, warehousing and distribution centres at Erskine Park, Eastern Creek, Wetherill Park, Arndell Park and Marsden Park, all of which are less than 20kms from the proposed St Marys Freight Hub.

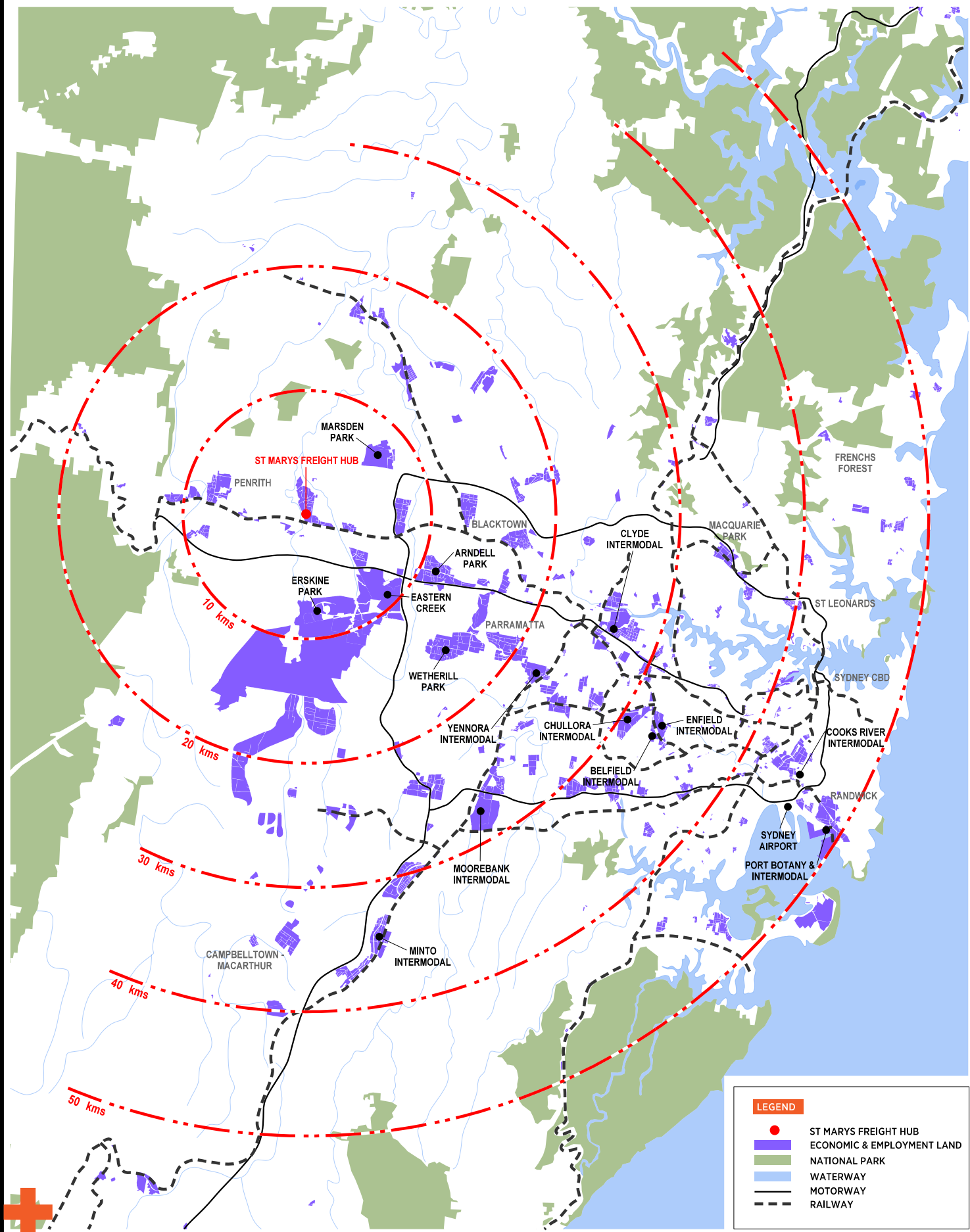
St Marys is located within proximity to the western road gateway to Sydney and on the Great Western Railway line, providing excellent freight road and rail connections between Sydney (including Port Botany), western Sydney and regional NSW.

The Great Western Railway line, abutting the subject site, provides freight rail connections between Sydney, regional NSW and interstate freight rail lines connecting to South Australia, the Northern Territory and Western Australia. Following completion of the Inland Rail, the Great Western Railway will also provide a freight rail connection through Parkes to Brisbane and Melbourne.

St Marys is ideally located for the development of Freight Hub and intermodal freight terminal to service the established and growing region.

Refer to **Figure 3 – Regional Context Plan**.

**FIGURE 3      REGIONAL CONTEXT PLAN**



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ST MARYS FREIGHT HUB

CLIENT : Pacific National REVISION : A DRAWN : BDL  
 PLAN NO. : 17-103-5-001 DATE : 13 March 2019 SCALE : 1:400,000@A4

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SITE

PLANNING + DESIGN

REGIONAL CONTEXT PLAN



0 4 8 12 16km



## 2.2 LOCAL CONTEXT

The broader and subject sites are located within the suburb of St Marys, which comprises a mix of commercial, industrial, residential, recreation and public purpose uses.

The subject site is located in the south-eastern portion of the broader site, where the broader site is bounded by:

- Lee Holm Road, Forrester Road and the Dunheved Business (Industrial) Park to the east;
- the Great Western Railway passenger and freight rail line, the St Marys Senior High School sports fields and public recreation fields to the south;
- the St Marys passenger train station and associated multi-level car parking station and the St Marys town centre, comprising commercial and retail services and facilities and car parking, to the south east;
- a portion of the broader site (west of the rail siding), South Creek, the Colonial Golf and Footgolf Course, the Troy Adams Archery Field and areas of public recreation to the west; and
- the Dunheved Business (Industrial) Park and the Dunheved Golf Course are located to the north.

The subject site is well located and ideally suited for the development of the proposed St Marys Freight Hub, enjoying direct access to the Greater Western Sydney rail line, proximity to the regional and state freight road network and benefits from compatibility with surrounding land uses, which provide a buffer to noise sensitive residential areas further afield. Consideration of potential environmental impacts and measures for mitigation are discussed in **Section 9**.

Refer to **Figure 1 – Local Context Plan** and **Figure 2 – Aerial Site Plan**.

## 2.3 LAND DETAILS

The subject site is described as:

- Lot 2 on Deposited Plan 876781 (2 Forrester Road) – owned by Pacific National (NSW) Pty Ltd;
- Lot 3 on Deposited Plan 876781 (69 – 81 Lee Holm Road) – owned by Pacific National Properties Operations Pty Ltd; and
- Lot 196 on Deposited Plan 31912 (196 Christie Street) – owned by St Marys Land Ltd, leased to Pacific National (NSW) Pty Ltd. Lot 196 contains existing rail infrastructure.

The broader site includes the above-mentioned lots, together with:

- Lot 2 on Deposited Plan 734445 (55 – 67 Lee Holm Road) – owned by Pacific National Properties Operations Pty Ltd; and
- Lot 2031 on Deposited Plan 815293 (western side / Links Road) – owned by Pacific National (NSW) Pty Ltd.

## 2.4 SITE DESCRIPTION

The subject site comprises approximately 9.6ha of previously developed industrial land in the suburb of St Marys within the Penrith local government area (LGA). Refer to **Figure 1 – Local Context Plan** and **Figure 2 – Aerial Site Plan**.



The subject site proposed to be developed for the St Marys Freight Hub is described as:

- A portion of Lot 2 Forrester Road, St Marys on Deposited Plan 876781;
- A portion of Lot 3 Lee Holm Road, St Marys on Deposited Plan 876781; and
- A portion of Lot 196 Christie Street, St Marys on Deposited Plan 31912.

The subject site enjoys direct frontage to Forrester Road, Lee Holm Road and Christie Street, which are gazetted public roads under the control and management of the City of Penrith and connect the site to the regional and state freight road network.

The subject site is predominantly cleared and levelled, resulting from previous development outlined in **Section 2.5**. Limited vegetation regrowth has occurred across the site, concentrated on and around stockpiled earth bunds. Vegetation is also concentrated along the banks of Little Creek.

Lot 196 contains existing rail infrastructure, including a metal shed, below rail pits and dam, historically used for the import of material excavated from the Northside Sewerage Tunnel Project.

A number of power, telecommunication and drainage lines traverse the site. A section of the Sydney Trains high voltage overhead power line is proposed to be realigned to facilitate the development and operation of the intermodal terminal.

There is no immediate plan to develop the balance of the broader site.

## 2.5 SITE HISTORY

The broader site was initially acquired by the State Rail Authority (SRA) as a site to house its Tangara train maintenance and storage facility in 1986. Initial earthworks to raise the level of the broader site commenced in 1987. However, this plan was abandoned in the late 1990s, during which time the broader site was unused. The broader site was then filled with material excavated from the Northside Sewerage Tunnel Project in 1999.

A previous designated development application (including an EIS) for the Western Sydney Rail Freight Terminal (WSRFT), was approved by the Minister of Planning in 2000 for a portion of the broader site. It is noted that this previous consent was issued to a different applicant and different landowner, both unrelated to Pacific National. The previous consent applied to a significantly larger-scale development, compared to the current proposal, and accordingly the potential environmental impacts of the current proposed development for the St Marys Freight Hub will be far less significant. Further details are provided in **Section 9**.

In June 2001 FreightCorp became the registered proprietor of the former SRA land, and in February 2002 Pacific National acquired the land, as per the ownership outlined in **Section 2.3**.

In December 2005, physical site works commenced in accordance with, and under, the previous development consent granted by the Minister (DA No. 170-05-2000) for the WSRFT.

A SEARs was issued for the site in October 2015 (Reference SSD 15-7308) for a development proposal





largely identical to the proposed development outlined in this report. The SEARs lapsed in October 2017.

In accordance with Section 4.36 of the *Environmental Planning and Assessment Act (EP&A Act)*, the proposal is a State Significant Development under the provisions of Schedule 1, Clause 19(1b) of the State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP). This is on the basis that it is Development that has a capital investment value of more than \$30 million for the following purposes: (b) railway freight terminals, sidings and inter-modal facilities.

## 2.6 ALTERNATIVES

The development of a brownfield industrial site for a road and rail intermodal facility provides the opportunity to significantly improve supply chain efficiency into Western Sydney, facilitate greater rail container mode share and facilitate a significant reduction in heavy vehicle container movements across the greater Sydney road network, and importantly on freight road routes servicing Port Botany.

The site features the following unique characteristics and competitive advantages, which support its use for intermodal land use and activities:

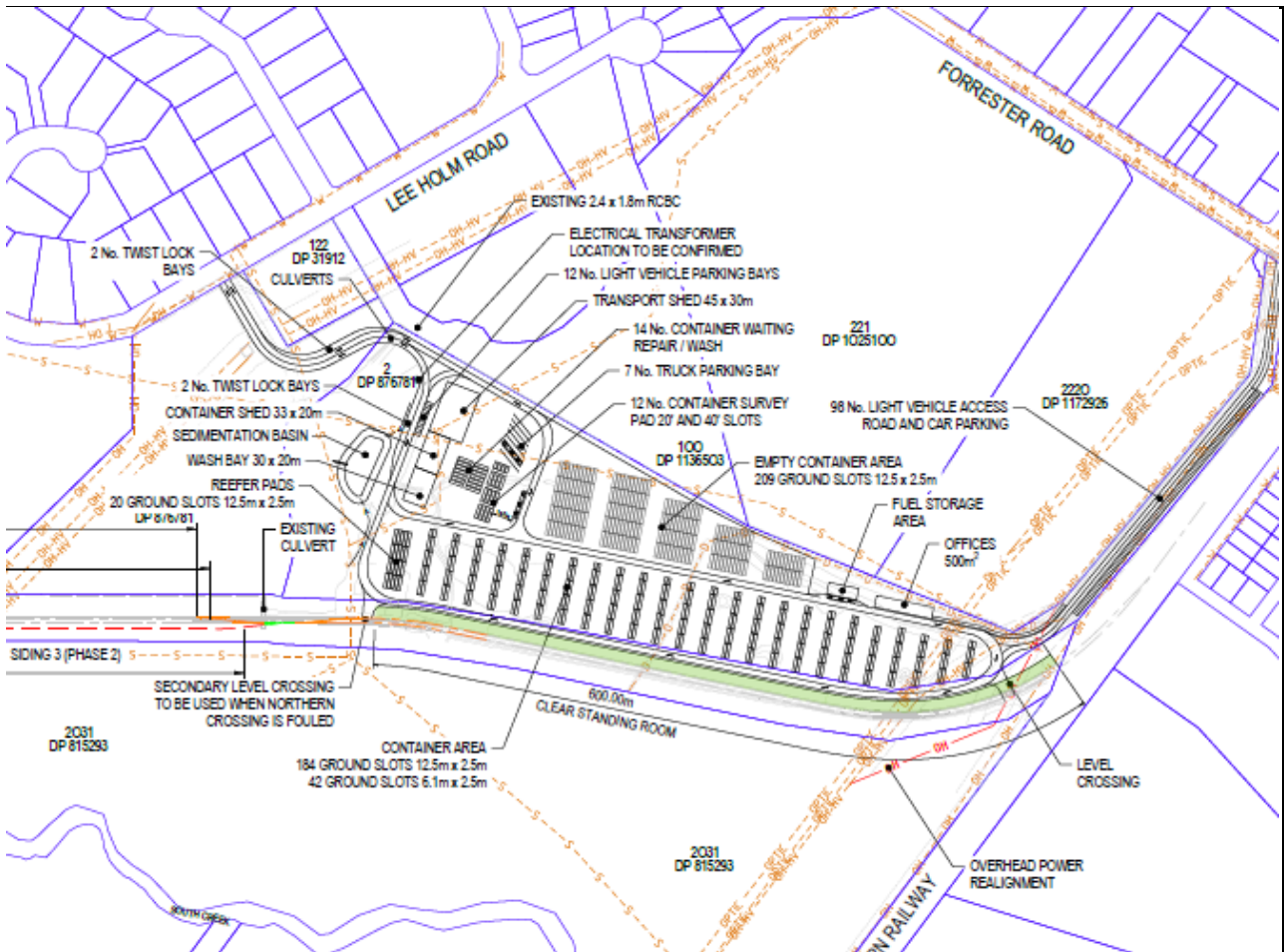
- Immediate and unrestricted access to an existing rail spur line and the broader freight rail network, connecting to Port Botany and the regional and national freight rail network;
- Immediate access to brownfield industrial land that is unconstrained by any significant site contamination, biodiversity, utilities or other construction and operational restrictions;
- Located within close proximity to strategic logistics land and key customers, including freight forwarders, warehousing and distribution centres at Erskine Park, Eastern Creek, Arndell Park, Whetherill Park and Marsden Park;
- Immediate access to designated heavy vehicle road networks; and
- The use is complimentary and consistent with adjoining industrial and commercial land uses.

On the above basis it is considered that there are unlikely to be any viable alternatives for the timely development of an intermodal facility to facilitate a mode shift from road to rail transport of containerised freight from Port Botany to Western Sydney for distribution to the local area and broader region.

### Alternative Design Concepts

Following the preparation of the initial concept plans as part of the Preliminary Environmental Assessment (PEA) a series of detailed technical studies have been prepared to inform and accompany the final proposal presented in this EIS. The initial concept design has also been scrutinised by the project team as part of the ongoing refinement of the proposal and has ultimately resulted in a more efficient, responsive and improved design outcome.

**FIGURE 4 ORIGINAL CONCEPT PLAN**



Original Concept Plan prepared by BG&E - submitted as part of PEA September 2018

**FIGURE 5 ORIGINAL (PEA) AND PROPOSED DEVELOPMENT FOOTPRINT**

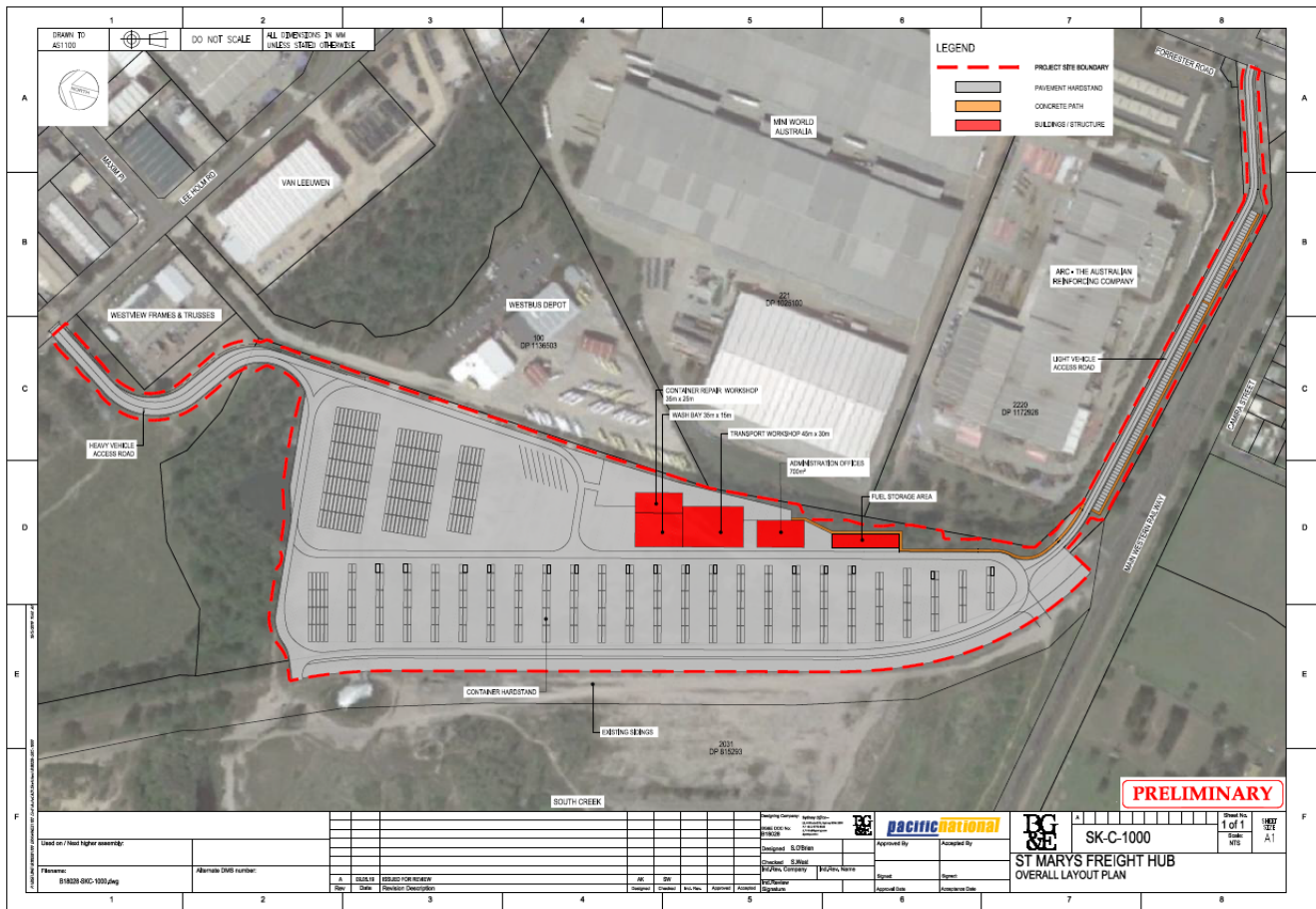


Original Footprint PEA submitted

Proposed Refined Footprint



**FIGURE 6 PROPOSED OVERALL DEVELOPMENT PLAN**



As illustrated in **Figure 4 – Original Concept Plan** The original development concept proposed to locate most of the built form to the west of the site in proximity to the existing sedimentation basin and Little Creek. In addition, empty container stacking was proposed towards the middle of the site in closer proximity to noise sensitive land uses. The new overall development plan (**Refer - Figure 6 Proposed Overall Development Plan**) has relocated the buildings to the centre of the site and relocated the empty container stacking towards the north west boundary of the development area. This alternative layout has resulted in an efficient, responsive and improved design outcome and has reduced the environmental impact of the proposal. Key improvements emanating from the modified design include:

#### Flood Mitigation and Management

- Buildings are located on higher areas of the site and typically above the PMF level;
- Buildings can provide shelter to occupants of the site during flooding of the creeks and local roads.

#### Biodiversity

- The development has been redesigned from the initial concept plan so that the development footprint is located in areas with little or no biodiversity value and retention of areas that have a higher vegetation integrity score. This resulted in a reduction in the impacted native vegetation



area from approximately 2.94 to 1.5ha (Refer **Figure 5 - Original PEA and Proposed Development Footprint**).

- Siting of the development footprint has sought to minimise the impact on high threat species and vegetation habitats. Redesign of the development footprint has also minimised the amount of clearing required.
- Ancillary construction and operational activities have been located within the development footprint to minimise any additional impacts on existing vegetation and species habitat.
- The redesign of the project to avoid impacts on existing infrastructure and waterbodies that may support microbat habitats.

#### Parking

- The revised design has now located the buildings in close proximity to the carparking areas.

#### Bush Fire Risk

- In the previous concept the buildings were subject to bushfire attack levels (BALs) as there were located closer to Little Creek. The internal layout was amended to move the buildings further away from the bushfire risk where asset protection zones between 102 metres to 252 metres are now available. With these large separation distances to the bushfire risk areas, no buildings are subject to higher construction standards to meet BALs specifications

#### Noise and Vibration

- The revised design has provides for greater separation of empty container stacking areas. Bangs and clangs of empty containers is significantly higher than full containers and the internal layout shown in the Concept Plan has been revised to locate the empty container stacking areas as far away from the sensitive receivers as possible

#### SITE SUITABILITY

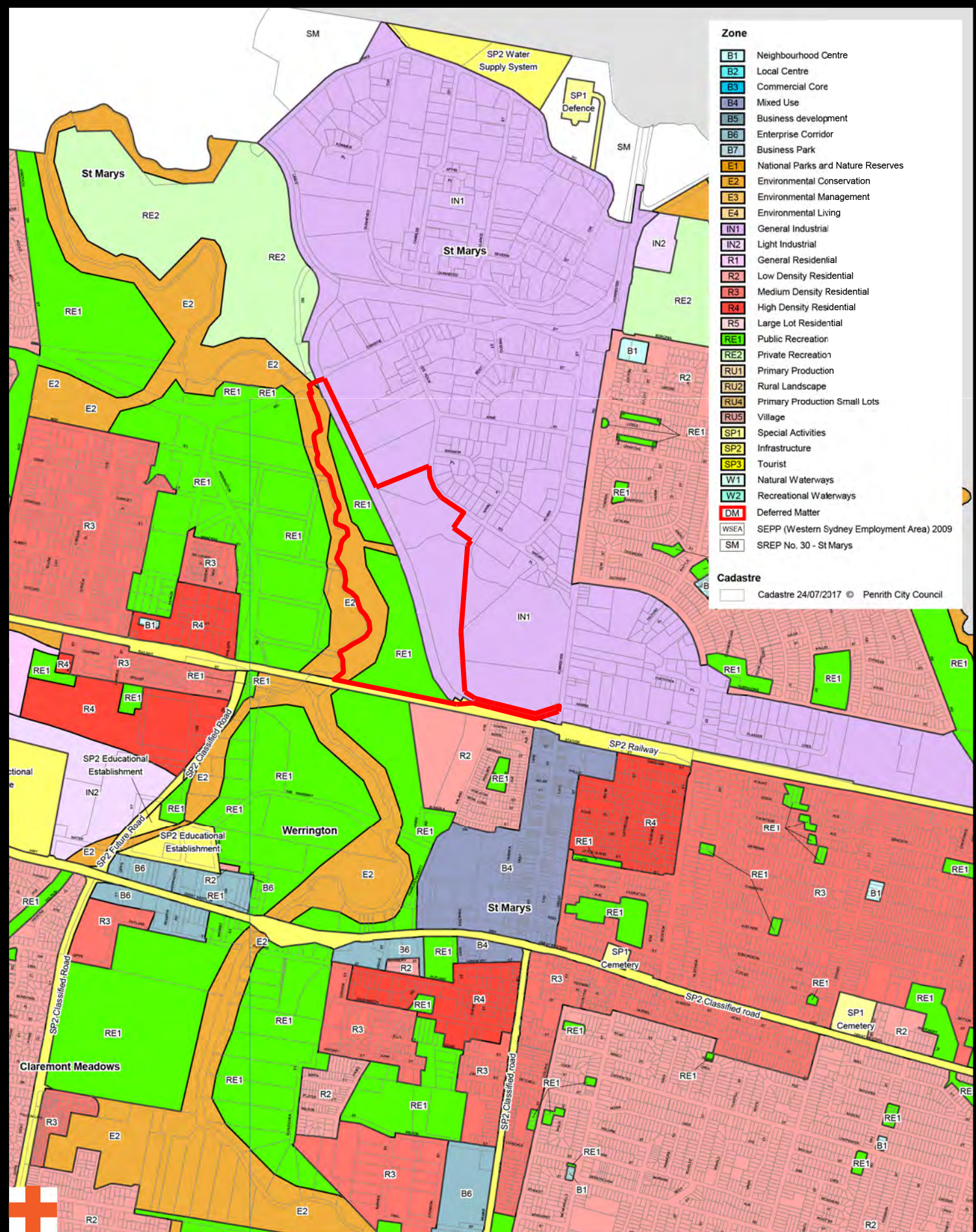
The subject site is surrounded by a mixture of commercial and industrial land uses to the immediate east and north, with recreational and public open space areas to the east and railway reserve areas to the south. The site is zoned 'IN1 General Industrial' under the Penrith Local Environmental Plan 2010, as shown in **Figure 7** and is therefore suitability zoned for the proposed development.

The site has been used for a range of industrial purposes and contains an existing rail spur line. Given the nature of adjoining land uses, accessibility of rail and heavy vehicle access and no limitations from an environmental perspective, the site is entirely suitable for the proposed development of the St Marys Freight Hub.

**FIGURE 7      EXTRACT FROM PENRITH LEP 2010 LAND ZONING MAP**







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ST MARYS FREIGHT HUB

CLIENT : Pacific National  
PLAN NO. : 17-103-5-001

REVISION : A  
DATE : 13 March 2019

DRAWN : BDL  
SCALE : 1:20,000@A4

LEGEND  
— BROADER SITE

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0 200 400 600 800m

LOCAL ENVIRONMENTAL PLAN 2010 EXTRACT





### 3. PROJECT NEED AND JUSTIFICATION

A range of key Commonwealth, NSW State and local government strategic land use and transport planning documents cite the pressure of population growth on existing infrastructure and the environment and the need to balance those pressures with economic growth, as key drivers for change in NSW.

With the Greater Sydney population forecast to grow from 4.7 million today, to 8 million over the next 40 years, the freight network will come under increasing pressure to move and distribute imports, exports and urban freight efficiently and in a manner that minimises the impact on urban amenity and liveability.

Whilst Port Botany has recently completed a major expansion of its container facilities to cater for long-term trade growth that will follow population growth and continued exports of Australian produce and raw materials, road and rail freight networks, including intermodal terminals, the St Marys Freight Hub will play an increasingly important role in providing an efficient and sustainable freight supply chain for Sydney and regional NSW.

On that basis the proposed St Marys Freight Hub is essential to support the forecast growth in the freight task and facilitate efficient freight movements to service western Sydney's growth areas, and in turn support the efficient operation of Port Botany.

#### 3.1 IMPACT

##### 3.1.1 LOCAL ECONOMIC IMPACT

The St Marys Freight Hub is expected to generate approximately 168 new full time equivalent (FTE) operational jobs, comprising:

- Thirty (30) administrative and management staff, generally operating during normal business hours, occupying the office;
- Six (6) reach stacker and forklift operators per shift across a 24-hour period, based on three shifts per day;
- Five (5) permanent service and maintenance staff, operating during normal business hours;
- Approximately thirty-five (35) to forty (40) truck drivers per shift across a 24-hour period, based on three shifts per day; and
- Sixteen (16) train drivers.

The proposed development will create local employment opportunities in an area with an above average unemployment rate. As a result, increased local employment contributes to greater local expenditure, supporting local business and contributing to increased gross regional product.

In addition to the 168 full time operational jobs, it is estimated that the proposed development will generate an additional 60 full time jobs during the construction phase.





### 3.1.2 FREIGHT AND TRANSPORT EFFICIENCY

The St Marys Freight Hub will support the movement of 300,000 TEU's (shipping containers) annually between Port Botany and St Marys, which is equivalent to removing 10 million truck kilometres per year from the freight road network, including primary freight road routes servicing Port Botany.

The operation of the container port rail shuttle service between the St Marys Freight Hub and Port Botany will provide significant benefits through the reduction of on-road heavy vehicles movements and associated road congestion.

The benefits of a container port rail shuttle service to St Marys Freight Hub include:

- **Traffic Congestion:** Currently road transport departing from Port Botany is significantly impacted by congestion on the M5 and restricted access onto the M1, with congestion on both roads anticipated to increase over coming years. A further compounding factor is that a significant portion of the beneficial freight owners request deliveries by midday. This requires truck drivers to negotiate the M5 during peak traffic periods.
- **Location:** The site is located in proximity to major industrial parks including Eastern Creek, Erskine Park and Wetherill Park. Delivering full containers to the site via the port shuttle service will allow these industrial parks to be more easily serviced and across a wider operating window.

### 3.1.3 PRODUCTIVE USE OF STRATEGIC LAND AND INFRASTRUCTURE

The site is zoned for the proposed land use (permitted with consent) and is generally consistent with surrounding and adjoining industrial, recreation and conservation land uses.

The site is vacant, suitable for the proposed redevelopment and will make use of existing infrastructure and utility services, where possible. A key component of the proposed development is the reuse of an existing rail spur through the site and connection to the T1 Great Western Railway line. Reuse of existing rail infrastructure is a key benefit, providing immediate rail access for container transportation.

In addition, the site gains direct access via the local road network to Great Western Hwy and the M4 via Forrester Road, Lee Holm Road, Christie Street, Wellington Road and Mamre Road. There may be potential for the Freight Hub to gain access to the future Outer Sydney Orbital corridor comprising a future motorway and freight rail line, which is proposed to be constructed to the immediate west of the site. However, delivery of the Outer Sydney Orbital adjacent to the site is not expected for over 10 years. Further information in relation to the future Outer Sydney Orbital is detailed in **Section 9.2.4**.

### 3.1.4 ENVIRONMENT

A key environmental benefit of the proposed development is a reduction in heavy vehicle road transportation of containers from Port Botany, which is expected to result in improvements in air quality and lower carbon emissions through a reduction in heavy vehicle exhaust emissions.

Reduced traffic volumes and congestion along some of western Sydney's main arterial roads is also anticipated. Improvements in transportation efficiency and the delivery of goods in a more efficient manner will benefit end receivers and have an overall net positive impact on GDP.



### 3.2 ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD)

Ecologically Sustainable Development (ESD) principles are detailed in Part 3 of the *Environmental Planning and Assessment Regulations 2000*. These principles are summarised below, with comment relative to this project:

*a) the precautionary principle, namely, that 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.*

All SEARs environmental investigation and reporting requirements have been undertaken, confirming that there are no unresolved environmental impacts as a result of the proposed development.

*b) inter-generational equity, namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.*

As previously addressed in this report, the proposed development will facilitate the introduction of a new container rail shuttle service between Port Botany and greater western Sydney, resulting in significant mode shift given the increase in the volume of import and export freight moved via rail. This will result in a reduction in heavy vehicle and container traffic on the regional and state road network of approximately 10 million truck kilometres per year.

This will significantly reduce environmental emissions as a result of the removal of heavy vehicle traffic, as well as decreasing congestion which contributes to reduced road infrastructure requirements and associated general congestion emissions.

*c) conservation of biological diversity and Ecological integrity, namely, that conservation of biological diversity and Ecological integrity should be a fundamental consideration.*

The accompanying Biodiversity Assessment Report (Refer **Appendix 3**) confirms that there are limited existing environmental values on the area of the site subject to this EIS. Furthermore, the development offset arrangements and proposed site landscaping will result in an improved environmental benefit as a result of the proposed development.

The proposed development does not impact on existing flora communities associated with Little Creek and South Creek, with limited existing biological diversity on the area of the site proposed for development due to already disturbed and degraded site conditions.

*d) improved valuation, pricing and incentive mechanisms, namely, that environmental factors should be included in the valuation of assets and services.*

Vegetation offsets are proposed consistent with the recommendations of the completed Biodiversity Development Assessment Report (refer **Appendix 3**).



## 4. PROJECT DESCRIPTION - DEVELOPMENT

The proposed development includes the staged construction and operation of an intermodal (road and rail) terminal and container park with an operating capacity of 300,000 twenty-foot equivalent units (TEU) (shipping containers) annual throughput.

The broader site is formally described as:

- Lot 2 Forrester Road, St Marys on DP 876781;
- Lot 3 Lee Holm Road on Deposited Plan 876781; and
- Lot 196 Christie Street on Deposited Plan 31912 (comprising the rail siding).

The portion of the site subject to this EIS comprises a 9.6ha portion (the 'subject site') of the broader 43ha site (the 'broader site').

The broader site enjoys direct frontage to Christie Street, Forrester Road and Lee Holm Road, all of which are gazetted public roads under the control and management of the City of Penrith and connect the site to the regional and state freight road network.

The St Marys Freight Hub is proposed to operate up to 24 hours per day, 7 days per week, with 80% of the heavy vehicle movements expected to occur between 6am and 6pm, 7 days a week.

The proposed development will facilitate the introduction of a new container rail shuttle service between Port Botany and greater western Sydney, increasing the volume of import and export freight moved via rail, relieving the regional and state road network of heavy vehicle and container traffic, including primary freight roads servicing Port Botany, and improve supply chain efficiency into the growing western Sydney region.

### 4.1 PROPOSED DEVELOPMENT OVERVIEW

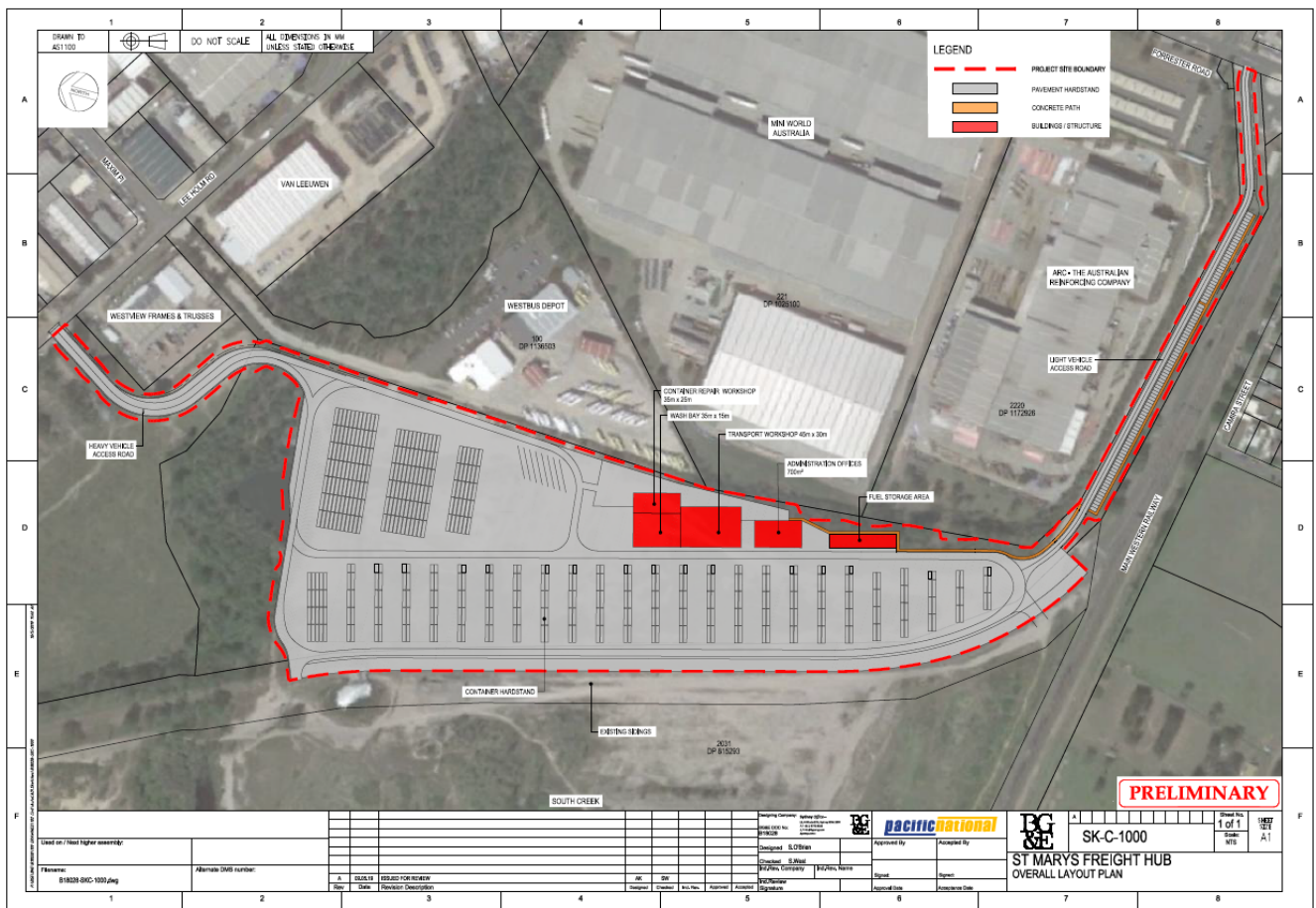
The proposed development includes the following works (refer Figure 8 – Overall Development Plan):

- Construction of hardstand areas for container storage and laydown, rail and vehicle loading and unloading areas;
- Construction of new internal access roads providing separate ingress and egress for light and heavy vehicles as follows:
  - to/from Lee Holm Road for heavy vehicles; and
  - to/from Forrester Road for light vehicles;
- Construction of:
  - Wash bay;
  - Office building pad;
  - Fuel storage area;
  - Container workshop (repair bay) building pad;
  - Transport workshop building pad;
  - Staff and visitor light vehicle parking bays (parallel to the internal light vehicle access road connecting to Forrester Road); and
  - Heavy vehicle parking bays;



- Ancillary development includes:
  - Signage and landscaping;
  - Utility services to support the proposed development including drainage, potable water, water (for firefighting purposes), power, data, security and sewerage;
  - Minor realignment of a section of the Sydney Trains high voltage overhead power line at the southern end of the subject site;
  - Minor clearing of areas of vegetation regrowth, remediation (if required) and minor earthworks; and
  - Electrical transformer.

**FIGURE 8 OVERALL DEVELOPMENT PLAN**



Refer to **Plan 1 - Concept Design**, at the rear of this document for the detailed set of design plans.

## 4.2 TRAFFIC AND TRANSPORT

As detailed in the attached Traffic and Transport Assessment, two access points are proposed for the development, being:

- two-way access near the southern (cul-de-sac) end of Forrester Road for light vehicles; and
- two-way access off Lee Holm Road for heavy vehicles.

Both access points are on roads that carry industrial traffic and are designed to cater for these vehicles.



Both access locations have well in excess of the required sight distances for safe entry and exit. Swept path assessments have been run for B-doubles and each access and driveway area can be constructed to accommodate these size vehicles.

Within the site, the design accommodates sufficient manoeuvring areas for truck types that will access the facility.

There are 98 car parking spaces and 1 universal access bay proposed along the light vehicle driveway off Forrester Road which is in excess of that required by the City of Penrith Development Control Plan 2014 C10 Transport Access and Parking. **Refer to Section 9.2 and Appendix 4 – Traffic and Transport Assessment.**

### 4.3 LANDSCAPE DESIGN

The proposed development includes detailed landscape treatments as illustrated in the Landscape Concept Plans prepared by Site Image. Refer to **Appendix 5 – Landscape Plans**.

The landscape proposed for the St Marys Freight Hub generally comprises:

- Retention of existing vegetation in internal road verges and outside of development areas;
- Treatment of the new internal road verges and carparking areas;
- Vegetation and screen planting:
  - at both site entrances from Lee Holm Road and Forrester Road;
  - along the boundary with adjoining properties to the east;
  - to the existing sedimentation basin to the north;
  - as an interface to existing vegetation associated with Little Creek; and
  - to the railway reserve to the south.

Landscape Concept Plans have been prepared for the site, comprising:

- Landscape Masterplan;
- Landscape Plans;
- Landscape Details; and
- Landscape Specification Schedule.

The proposed landscaping of the site will comprise a range of native endemic tree plantings which will present attractively to the adjoining streets, will soften the visual impact of the development and will enhance the scenic and environmental quality of the nature. The species selected for the landscaping treatment are almost entirely from the Mitchell Landscapes Hawkesbury-Nepean Channel as identified in the Biodiversity Assessment prepared by Eco Logical Australia (Refer **Appendix 3**). Using native flora species for replanting within existing areas of native vegetation and other landscaped areas throughout the site enhances the environmental attributes for the Freight Hub.

The landscape design will clearly identify the site entrances from Lee Holm Road and Forrester Road and has been formulated to incorporate existing vegetated areas into the overall landscape design.

The overall landscape design will be installed and maintained to a high quality, with nominated plantings



and hydro mulched areas connecting with and relating to existing surrounding development and bushland areas. The proposed landscaping will benefit future users by improving the natural landscape qualities of the site.



## 5. PROJECT DESCRIPTION – OPERATIONS

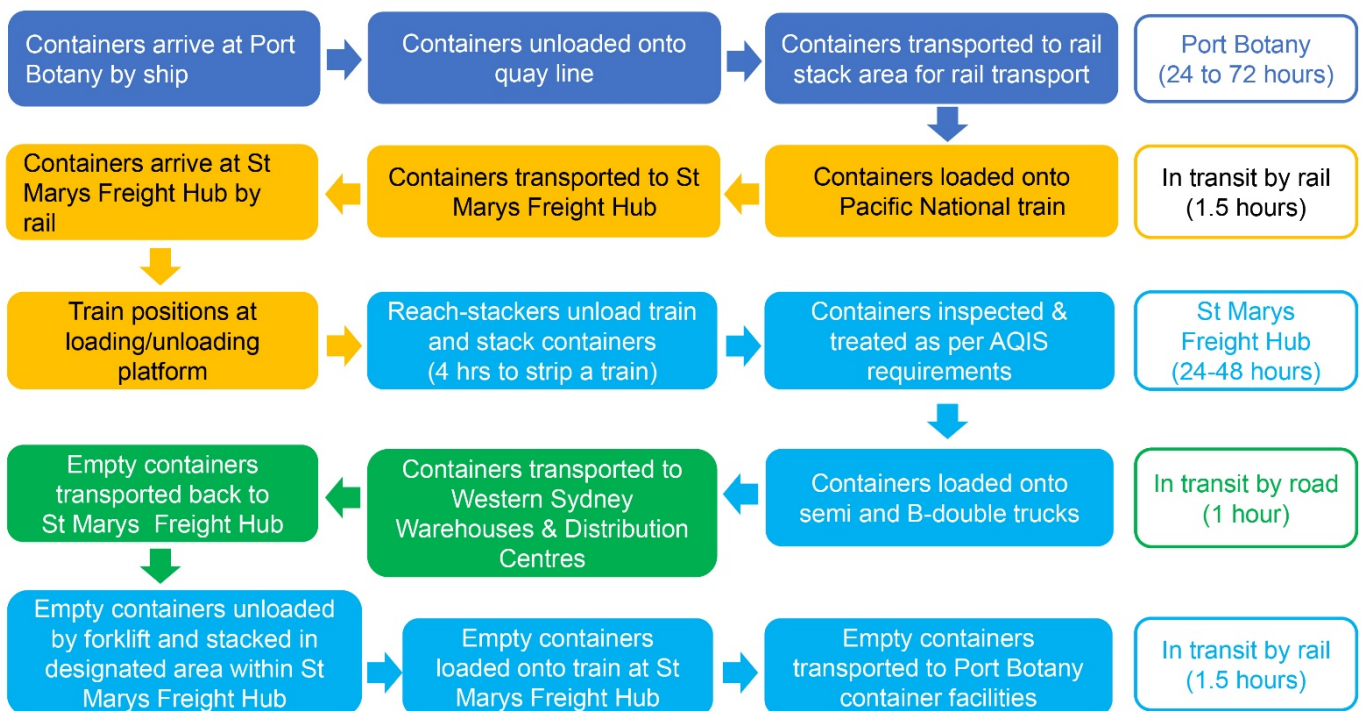
The proposed development includes the staged construction, and ultimate operation, of 9.6ha of the broader site for the St Marys Freight Hub, comprising an intermodal (road and rail) terminal and container park with an operating capacity of 300,000 TEU (shipping containers) annual throughput.

The proposed development will facilitate the introduction of a new container rail shuttle service between Port Botany and greater western Sydney, increasing the volume of import and export freight moved via rail and relieving the regional and state road network of heavy vehicle and container traffic, including primary freight roads servicing Port Botany.

St Marys Freight Hub containers will be loaded/unloaded to/from trains and heavy vehicles; and transferred to designated container storage areas by mobile container handling equipment (reach stackers and forklifts). The process flow of a container arriving at Port Botany to arriving at its typical destination in Western Sydney via the St Marys Freight Hub is outlined below.

**FIGURE 9 CONTAINER FREIGHT FLOW CHART**

### Port Botany to St Marys Freight Hub Container Freight Process Flow



Once loaded, the train trip from Port Botany is around 1.5 hours and it takes around 4 hours to strip or unload a train using up to three reach-stackers. Once unloaded at stacked within the Freight Hub, and treated to AQIS standards, the container will remain on the site for up to 48 hours before being loaded and transported to its final destination in Western Sydney. The final destination is where the container is opened and unloaded as no containers are unpacked on the Freight Hub site.

Empty containers are then transported back to the Freight Hub and reloaded on trains to be transported back to Port Botany. Forklifts are used to move empty containers as they can handle the lighter weight.





The St Marys Freight Hub will be operated by an independent intermodal freight forwarding organisation, with containers transported between Port Botany and St Mary's via five (5) 600 metre Pacific National trains per day.

Freight forwarding from St Mary's to the customer (such as those located at Marsden Park, Eastern Creek and Wetherill Park, amongst others) is estimated to generate a maximum of 436 truck movements per day (i.e. 218 truck movements in and out).

There is no immediate plan to develop the balance of the site. This EIS relates to the initial stage of development, with no further stages proposed at this time. Any further stages of development would likely be subject to a separate PEA, SEARs and EIS (subject to Capital Investment Value).

## **5.1 TERMINAL OPERATING PLAN**

Freight trains will be hauled with a Class 82 diesel locomotive that are 600 metres in length.

Pacific National currently holds five (5) train paths per day for the St Marys site to enable capacity of 300,000 TEU (shipping containers) annual throughput.

The St Marys Train Plan shows the daily trains movements and times from Monday to Sunday once the Freight Hub has commenced operation (Refer **Appendix 6 St Marys Train Plan**). The train movements are programmed around the curfew hours during the peak passenger services and occur throughout the day.

A shunting animation is submitted with this proposal to visually show indicative train movements from Monday to Friday occupying four of the five allocated paths. The animation illustrates the arrival and departures, internal movements to strip and load the trains through a 24-hour period,

## **5.2 OPERATION HOURS AND PEAK LOADING**

80% of the heavy vehicle movements are expected to occur between the hours of 6.00am to 6.00pm, with the rail sidings and container parks Intermodal facility operating up to 24 hours, 7 days per week, at approximately 70% capacity of the full container storage area's capacity.

The stack heights of the containers (full and empty) would be to a maximum of 5 high (i.e. 14.5m for a 2.9m high container), as the containers would be spread across the designated storage area to equalise the weight load and for the Health and Safety protection of working personnel.

Approximately 80% of the container loading and unloading activity will occur between the hours of 5am to 10pm, and the stack's height would vary throughout the day and would not reach more than 5 high full TEU's (shipping containers) during this period.

## **5.3 UTILITIES**

There are existing services traversing and surrounding the site that will support the proposed Freight Hub. A summary of how the proposal will be serviced is outlined below.



Potable Water:	Potable water can be supplied to the subject development via an existing 200CICL water main located in Forrester Road.
Fire Water:	Fire water will be fed off the potable main and hydrant coverage compliance will be achieved via booster or pumps and tanks as determined as part of detailed design considerations.
Wastewater:	Sewer connections will cut into existing gravity sewer lines that traverse the site via application to Sydney Water.
Electricity:	An application has been lodged with Endeavour Energy to bring power to the site off either Lee Holm Road or Forrester Road via a 1MVA transformer located within the developable site.
Telecommunications:	Telecommunications assets exist in the immediate area supplying the surrounding industrial developments. Application to extend these systems to service the development have been lodged with Telstra.
Gas:	Provision of gas is not intended for this development.

## 6. PROJECT DESCRIPTION – CONSTRUCTION

### 6.1 CONSTRUCTION TIMING AND STAGING

The construction of St Marys Freight Hub will be undertaken in a 4 Stage approach which is illustrated in **Figure 10 General Arrangement Stages** and comprises of the following key stages:

- Stage 1 – Bulk earthworks, construction of hardstand areas for internal manoeuvring of reach stackers, forklifts and container stackers, stormwater management.
- Stage 2 – Built form construction including administration building site, fuel storage, wash bay, transport workshop site and container repair workshop site.
- Stage 3 – Light vehicle access road and associated parking.
- Stage 4 – Construction of additional hardstand for empty container storage area.

The works are being staged to enable the early commencement of operations. Completion of the Stage 1 works will allow trains to be stripped, stacked and loaded to semi-trailers or B doubles to be transported to their respective destination in Western Sydney.

Following the pre-site works (i.e. sediment and erosion control, construction management requirements, signage, etc.) the earthworks, hardstand area and heavy vehicle access will form part of the first stage as will the detention basin. Then the area to contain the buildings, fuel storage and wash bay will be delivered, which will include the proposed wash bay building. The light vehicle access and car park will be delivered shortly after.

The first three stages will be delivered in around 5 months with the final stage including the additional hardstand area being delivered when the Freight Hub reaches capacity levels to require the additional stacking area.

**FIGURE 10 GENERAL ARRANGEMENT STAGES**





A Construction Program has also been prepared by McMahon Services and is provided in **Appendix 7 Construction Program (McMahon Services)**. This program delivers a staging program that includes the following key tasks and associated timeframes:

- Pre site works commencing in July 2019.
- August – December 2019 – Construction of heavy vehicle access road, bulk earth works and hard stand areas. The Stage 1 works enable the St Marys Freight Hub to commence operation at a reduced capacity whilst other parts of the project are still under construction.
- September – February 2020 – Construction of administration building site, fuel storage, wash bay, transport workshop and container repair workshop sites. These works are estimated to take 4 months with completion in February 2020 and approvals for the office/administration buildings and workshop buildings will be progressed separately.
- August – September 2019 – Light Vehicle Access Road and associated parking.
- November – January 2020 – Finishing Works including landscaping, lighting, fencing, signage.

The overall construction timeframe is expected to take approximately 5 months to be completed and the site will be operational based on approvals being in place by mid-February 2020. The staging will overlap as it is critical to delivery specific works early to enable the early operation of the Freight Hub.

## 6.2 ENVIRONMENTAL SITE MANAGEMENT

Various measures are to be implemented as part of the Environmental Site Management Plan (ESMP). Prior to construction an ESMP will be prepared to manage and mitigate environmental matters documented in this EIS and typical environmental managements issues that require management during construction.

The ESMP will address the following:

- Safety
- Protection of flora and fauna
- Stormwater management
- Erosion and Sediment Control
- Salinity Management
- Noise and vibration
- Air quality and dust
- Land Contamination
- Materials management
- Waste Management

The ESMP management measures will be informed by the various reports included in this EIS including the noise, ecology, air quality, waste management, traffic and contamination assessments.

## 6.3 CONSTRUCTION TRAFFIC MANAGEMENT

The SEARs requires the preparation of a draft Construction Traffic Management Plan to be included in the EIS. A draft Construction Traffic Management Plan is included in the Traffic & Transport Assessment



prepared by Bitzios Consulting (Refer **Appendix 4**).

The scope of the draft Construction Traffic Management Plan will need to be refined once the contractor to construct the project is engaged. However, the draft Construction Traffic Management Plan provides details on:

- number of trucks
- vehicle routes
- hours of operation
- access arrangements
- indicative traffic control measures

As the development predominately relates to the construction of a large hardstand area to support the moving and handling of full/empty containers between rail and road transport, construction traffic is mostly related to the movement of materials to the site.

Materials to be delivered to the site include:

- quarry products
- asphalts
- stormwater and pipe infrastructure
- services products
- stabilisation agents

The Traffic & Transport Assessment projects between 4,100 and 4,500 truck movements during the entire construction period with up to 100 and 140 movements per day and around 30 and 40 construction workers per day. The final Construction Traffic Management Plan will ensure the construction traffic generated during the delivery phase is managed to minimise impacts on surrounding land uses and roads with safety being paramount.

## **6.4 CONSTRUCTION WORK DAYS AND HOURS**

Proposed core construction work days and hours are 6am to 6pm Monday to Friday and 6am to 1pm on Saturdays, which is when the main construction activity will occur. It is also proposed to work outside of these core work hours during Monday to Friday for a portion of the entire 5-month construction period.

It is proposed to undertake certain works outside the core work hours nominated above (Monday to Friday 6am to 6pm and Saturday 6am to 1pm) to reduce the overall duration of the construction period. Whilst it will enable the Freight Hub to operate earlier, there are also a number of other benefits to reduce the construction period.

The period of extended hours will be less than four months duration. The works to be undertaken relate to the construction of the pavement only, which involves machinery and equipment that emit significantly less noise than the earthmoving equipment and the equipment to be used during operation.

Extended work hours will be limited to Monday to Fridays within 6pm to 6am with actual working times



up to a 10-hour duration.

The benefits for undertaking works outside normal working hours include:

- A shorter construction duration that minimises impacts and disruption to surrounding stakeholders.
- Less traffic on local road networks during peak hours.
- Works can occur during extended hours with minimal impacts on surrounding land uses.
- Early delivery of a regionally significant intermodal facility that has widespread benefits for employment, businesses and the transport network.

The type of work to be undertaken during the extended work hours will only include low noise impact works including:

- Delivery of pavement materials into site by truck for stockpiling.
- Construction of pavement layers using graders, water carts and rollers.
- Asphalt supply and lay.

The equipment used for pavement construction will be limited to:

- Semi-trucks delivering pavement materials and asphalt,
- 2 x Graders pushing out materials
- 2 x Loaders pushing out material
- Water cart spraying water for dust minimisation and moisture conditioning material
- 2 x rollers compacting the materials
- Asphalt paving machine

All the above equipment will be limited to speeds no greater than 25km/h during extended work hours and will emit typical traffic noise levels in an industrial area. In addition, reverse movements are infrequent as pavements are constructed in long forward runs and therefore minimal reversing beepers.

There will be no construction undertaken out of normal hours that will generate high noise activities such as piling, rock breaking and hammering.

## 6.5 EARTHWORKS

Earthworks for the Freight Hub project will not involve any importation or export of material, which is means significantly less heavy vehicle construction traffic generated by the development. The lower level of earthworks is largely due to the historical filling of the site resulting in mostly cut and some filling works to prepare the site for the broader construction phase.

As part of the Stage 1 works, earthworks will commence following the installation of sediment and erosions facilities for proper environmental site management.

Prior to commencing the bulk earthworks, the surface layers will undergo geotechnical testing and assessment to ensure that all geotechnically unsuitable matter will be stripped and removed.

Once areas of topsoil have been stripped, bulk earthworks will commence to:



- achieve the design subgrade levels (based on geotechnical assessment),
- trenching for services, and
- achieve grades and falls to ensure effective stormwater management.

The project design for the hardstand generally requires cutting operations in order to lay the pavement material, which is imported to site.

With advice from the contractor to build the Freight Hub, earthworks will be completed using the following equipment;

- 30t Excavator
- Semi Tippers
- Grader (GPS Controlled)
- 18t Padfoot Roller
- Tandem Truck
- Watercart
- Skid Steer Loader

Unused material will be stockpiled onsite and not leave site. The stockpiles will be documented and managed to required standards with a maximum height of 1.5 metres. All stockpiles will be located in a free draining area, away from tree roots, and managed to prevent runoff and dust.

The only material imported to site is that used to construct pavement layers.

## **6.6 WASTE MANAGEMENT PLAN**

### **6.6.1 CONSTRUCTION WASTE MANAGEMENT PLAN**

A Construction Waste Management Plan (WMP) has been prepared by Pacific National to manage waste generated during the construction phase, which is included in **Appendix 8**.

Pacific National is committed to best practice management of waste, waste minimisation and recycling. This WMP outlines the principles to be adopted in the delivery of the St Mary's Freight Hub Works to effectively manage waste and assisting to maximise project's sustainability performance.

The Construction WMP addresses the following:

- roles and accountabilities
- review and amendment
- waste management objectives
- waste mitigation measures
- waste containment and storage
- disposal methods

Implementation of the Construction WMP will ensure waste is managed properly and sustainable throughout the construction lifecycle.

The following general waste mitigation principles are proposed to apply during the construction phase





of the project:

- Reduce waste production
- Re-use of materials
- Recycling
- Disposal
- Excavated materials and concrete wastes
- Off-site waste monitoring
- Liquid waste materials
- Green waste
- Litter management
- Metals
- Asbestos waste

A range of specific waste management measures are proposed to address SEARs requirements with respect to identification, quantification and classification of likely waste streams during construction. The following table illustrates the key waste streams and proposed waste management practices.

**TABLE 1 WASTE MANAGEMENT MEASURES**

Key Waste Stream	Estimate Volume	Segregation Areas / Containers Commonly Available	Re-use/ Recycling/ Disposal Method
Concrete Wastes (solids)	5m <sup>3</sup>	10m <sup>3</sup> bins	Reused in temporary works or site levelling where practicable, or sent off-site to recycling
Liquid wastes from concrete washout.	10m <sup>3</sup>	Dedicated washout facility	Solids (Slurry) to recycling On site recycling of waste water if possible.
Scrap metal	<5m <sup>3</sup>	10m <sup>3</sup> bins	Off-site recycling
Organic food scraps	<5m <sup>3</sup>	240L bins	On-site compost heap/bin or Off-site to landfill with other non-recyclable municipal waste
Food packaging	<5m <sup>3</sup>	240L bins	Off-site to landfill
cans / bottles /	<5m <sup>3</sup>	240L bins	Off-site recycling
Paper and / or other office based recyclables	<5m <sup>3</sup>	240L bins	Off-site recycling
Asphalt	10-20m <sup>3</sup>	10m <sup>3</sup> bins	Reused in temporary works or site levelling where practicable, or sent off-site for recycling
Green waste	30-50m <sup>3</sup>	Wood chipped (trucks)	Green waste to be chipped and utilised onsite
Timber	<5m <sup>3</sup>	10m <sup>3</sup> bins	Off-site for recycling
Excavated spoil	30,000m <sup>3</sup>	Stockpiles	To be reused onsite exemption or license, or disposal to landfill
Liquid wastes from wet trades (paint, dry walls, renderers, tilers etc)	<1m <sup>3</sup>	Dedicated washout device / plant / facility Treatment system.	Off-site to landfill



## 6.6.2 OPERATION WASTE MANAGEMENT PLAN

An Operation Waste Management Plan has been prepared by NGH Environmental to support the proposed development. Refer **Appendix 9 – Operation Waste Management Plan**.

The purpose of the Waste Management Plan is to describe and guide how Pacific National will manage waste during the operation of the project. To satisfy this requirement, the Waste Management Plan details how Pacific National will:

- Ensure measures are identified and implemented to minimise waste and manage waste throughout the operation of the Project;
- Ensure the preferred waste management hierarchy of avoidance, minimisation, reuse, recycling and finally disposal is followed;
- Provide staff with an increased level of understanding and awareness of waste management issues; and
- Ensure appropriate measures are implemented to comply with all relevant legislation and other requirements.



## 7. PLANNING AND ASSESSMENT FRAMEWORK

### 7.1 STATUTORY AND STRATEGIC CONTEXT

The proposal is affected by a suite of statutory and strategic planning documents that guide and control the development of the site. These are considered in the following section.

#### 7.1.1 ENVIRONMENTAL PLANNING AND ASSESSMENT REGULATION 2000

Section 4(1) of the *Environmental Planning and Assessment Regulation 2000* states that development described in Part 1 of Schedule 3 is declared to be Designated Development.

The proposal for an intermodal freight hub does not constitute Designated Development as defined in Schedule 3.

#### 7.1.2 PROTECTION OF THE ENVIRONMENT OPERATIONS ACT 1979

Schedule 1 of the *Protection of the Environment Operations Act 1979* outlines list of activities that require a licence before operations may commence. An 'activity' is defined as

*“an industrial, agricultural or commercial activity or an activity of any other nature whatever (including the keeping of a substance or an animal).”*

The St Marys Freight Hub is not a Scheduled Activity that requires licencing based on the advice of the EPA in its letter dated 8 October 2019 in responding to the Preliminary Environmental Assessment to obtain the SEARs.

#### 7.1.3 BIODIVERSITY CONSERVATION ACT 2016

The *Biodiversity Conservation Act* aims to maintain a healthy, productive and resilient environment for the greatest well-being of the community, now and into the future. The *Biodiversity Conservation Act* applies to terrestrial animals and plants.

A Biodiversity Development Assessment Report (BDAR) was prepared by Eco Logical Australia (refer **Appendix 3**) and demonstrates that the proposed development responds to the requirements of the *Biodiversity Conservation Act 2016*. The BDAR has assessed the ecological communities and species on the site and impacts from the proposal. Environmental impacts on flora and fauna have been assessed in accordance with the *Biodiversity Act* and biodiversity offsets have been calculated accordingly.

#### 7.1.4 STATE ENVIRONMENTAL PLANNING POLICY (STATE AND REGIONAL DEVELOPMENT) 2011

State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP) identifies development that is considered State Significant Development (SSD), State Significant Infrastructure or critical State Significant Infrastructure.



Clauses 19 of the SDR SEPP identifies SSD as including:

*19. “Rail and related transport facilities*

- 1) Development that has a capital investment value of more than \$30 million for any of the following purposes:*
  - (a) Heavy railway lines associated with mining, extractive industries or other industry,*
  - (b) Railway freight terminals, sidings and inter-modal facilities.*
- 2) Development within a rail corridor associated with railway infrastructure that has a capital investment value of more than \$30 million for any of the following purposes:*
  - (a) Commercial premises or residential accommodation,*
  - (b) Container packing, storage or examination facilities,*
  - (c) Public transport interchanges.”*

Rail and Related Transport Facilities are deemed to be ‘of state significance’ if they have a capital investment value (CIV) over \$30 million. A Capital Investment Valuation Report, prepared by Chrysalis (Refer **Appendix 1**), determines the likely development cost as \$33.2 million. Based on the CIV the proposed development is a SSD under Clause 19(1)(b) of the SRD SEPP and development consent is required consistent with Part 4, Division 4.7 of the *EP&A Act*.

### **7.1.5 STATE ENVIRONMENTAL PLANNING POLICY (INFRASTRUCTURE) 2017**

The Infrastructure SEPP aims to facilitate the effective delivery of infrastructure across the State. The Policy states:

*“The aim of this Policy is to facilitate the effective delivery of infrastructure across the State by:*

- a) improving regulatory certainty and efficiency through a consistent planning regime for infrastructure and the provision of services, and*
- b) providing greater flexibility in the location of infrastructure and service facilities, and*
- c) allowing for the efficient development, redevelopment or disposal of surplus government owned land, and*
- d) identifying the environmental assessment category into which different types of infrastructure and services development fall (including identifying certain development of minimal environmental impact as exempt development), and*
- e) identifying matters to be considered in the assessment of development adjacent to particular types of infrastructure development, and*
- f) providing for consultation with relevant public authorities about certain development during the assessment process or prior to development commencing, and*



- g) providing opportunities for infrastructure to demonstrate good design outcomes.”*

The Infrastructure SEPP was prepared by the NSW Government to create a clear and simple process for delivering and providing new infrastructure, including rail and road projects. Clause 104 ‘Traffic Generating Development’ requires certain types of development proposals to be referred to the RMS, which are outlined in Schedule 3 of the Infrastructure SEPP.

Schedule 3 ‘Traffic-generating development to be referred to Roads and Maritime Services’ identifies a ‘freight transport facilities’ of any size or capacity with access to a road requiring referral to the RMS.

### **7.1.6 STATE ENVIRONMENTAL PLANNING POLICY NO. 33 – HAZARDOUS AND OFFENSIVE DEVELOPMENT**

The Hazardous and Offensive Development SEPP is a state-wide policy that aims to control the impact of hazardous and offensive industries.

A comprehensive Hazardous and Offensive Development Risk Screen was undertaken by Environmental Resources Management (ERM) Australia in support of this EIS (Refer **Appendix 10**). The risk screen reporting demonstrates that the proposed development adheres to the requirements of the Hazardous and Offensive Development SEPP.

### **7.1.7 STATE ENVIRONMENTAL PLANNING POLICY NO. 64 - ADVERTISING AND SIGNAGE**

The Advertising and Signage SEPP is a state-wide policy that aims to ensure signage is compatible with the desired amenity and visual character of the area. The intent of the Policy is outlined below.

*“This Policy aims:*

- a) to ensure that signage (including advertising):*
  - i. is compatible with the desired amenity and visual character of an area,*
  - and*
  - ii. provides effective communication in suitable locations, and*
  - iii. is of high-quality design and finish, and*
- b) to regulate signage (but not content) under Part 4 of the Act, and*
- c) to provide time-limited consents for the display of certain advertisements, and*
- d) to regulate the display of advertisements in transport corridors, and*
- e) to ensure that public benefits may be derived from advertising in and adjacent to transport corridors.*

*This Policy does not regulate the content of signage and does not require consent for a change in the content of signage.”*

The proposed Freight Hub will include the provision of corporate signage, and the provisions of the Policy are therefore applicable. A Signage Plan that complies with the requirements of the Advertising and Signage SEPP will be prepared as part of a subsequent detailed Development Application.



### 7.1.8 STATE ENVIRONMENT PLANNING POLICY NO. 55 - REMEDIATION OF LAND

The Remediation of Land SEPP is a state-wide policy that aims to facilitate and promote the remediation of contaminated land in order to reduce the risk of harm to human health or any other aspect of the environment. The Policy states that:

1. *“The object of this Policy is to provide for a Statewide planning approach to the remediation of contaminated land.*
2. *In particular, this Policy 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:*
  - 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 meets certain standards and notification requirements.”*

A Preliminary Site Contamination Investigation, prepared by Douglas Partners in support of this EIS (Refer **Appendix 11**), demonstrates that the proposed development adheres to the requirements of the Remediation of Land SEPP.

### 7.1.9 SYDNEY REGIONAL ENVIRONMENTAL PLAN NO. 30 - ST MARYS

The Sydney Regional Environmental Plan No. 30 – St Marys does not apply to land within the site.

### 7.1.10 DRAFT STATE ENVIRONMENTAL PLANNING POLICY (REMEDIATION OF LAND)

For almost 20 years the State Environmental Planning Policy for the Remediation of Land, SEPP 55, and Contaminated Land Planning Guidelines, have provided the planning framework for the management of contaminated land in NSW. It is proposed that the new land remediation SEPP will maintain successful aspects of the existing framework, introduce certification and operational requirements, and clearly differentiate between remediation works that do and don't require development consent.

A Preliminary Site Contamination Investigation, prepared by Douglas Partners in support of the EIS (Refer **Appendix 11**), demonstrates that the proposed development adheres to the requirements of the Draft Remediation of Land SEPP.

### 7.1.11 DRAFT STATE ENVIRONMENTAL PLANNING POLICY (ENVIRONMENT)

The NSW government has been working towards developing a new State Environmental Planning Policy (SEPP) for the protection and management of the natural environment. The new SEPP will simplify planning control measures over a number of areas and will consolidate seven (7) existing SEPPs (Bushland in urban areas; Sydney drinking water catchment; Canal estate development; Georges river





catchment; Hawkesbury-Nepean River; Sydney harbour catchment; and World heritage property) into a single policy.

To address environmental policy requirements as outlined in the SEARs a range of targeted environmental reports have been prepared, including:

- Biodiversity Assessment Report prepared by Eco Logical (Refer **Appendix 3**);
- Hazardous and Offensive Development Risk Screen prepared by Environmental Resources Management Australia (Refer **Appendix 10**);
- Preliminary Site Contamination Investigation prepared by Douglas Partners (Refer **Appendix 11**);
- Supplementary Site Contamination Assessment prepared by Douglas Partners (Refer **Appendix 12**);
- Remediation Action Plan prepared by Douglas Partners (Refer **Appendix 13**);
- Desktop Flood Study and Flood Impact Assessment prepared by BG&E (Refer **Appendix 14**);
- Noise and Vibration Assessment prepared by AECOM (Refer **Appendix 15**);
- Bushfire Assessment prepared by Eco Logical (Refer **Appendix 16**);
- Groundwater Level Investigation prepared by Douglas Partners (Refer **Appendix 17**);
- Stormwater Management Report prepared by BG&E (Refer **Appendix 18**); and
- Air Quality Report prepared by AECOM (Refer **Appendix 19**).

These reports demonstrate that the proposed development adheres to the requirements of the Draft Environment SEPP.

### 7.1.12 PENRITH LOCAL ENVIRONMENTAL PLAN 2010

The Local Environmental Plan aims to create a planning framework for the management, orderly and economic development, and conservation of land in Penrith; promote development to nurture a prosperous and sustainable region; and accommodate population growth.

The Local Environmental Plan applies to all land within the Penrith Local Government Area (as identified on the Land Application Map) and is therefore applicable to the site.

#### Clause 2.1 Land Use Zones

The site is zoned 'IN1 General Industrial', as shown in **Figure 7 – Extract from Penrith LEP 2010 Land Zoning Map**.

The objective of the IN1 General Industrial zoning under the Penrith LEP 2010 is:

- To provide a wide range of industrial and warehouse land uses.
- To encourage employment opportunities.
- To minimise any adverse effect of industry on other land uses.
- To support and protect industrial land for industrial uses.
- To promote development that makes efficient use of industrial land.
- To permit facilities that serve the daily recreation and convenience needs of the people who work in the surrounding industrial area.



The proposed inland container terminal is best defined as a ‘freight transport facility’ as the proposed development involves an intermodal container terminal.

A ‘freight transport facility’ is defined as:

*“Freight transport facility means a facility used principally for the bulk handling of goods for transport by road, rail, air or sea, including any facility for the loading and unloading of vehicles, aircraft, vessels or containers used to transport those goods and for the parking, holding, servicing or repair of those vehicles, aircraft or vessels or of the engines or carriages involved.”*

A ‘freight transport facility’ is permitted with consent within the ‘IN1 General Industrial’ zone under Penrith LEP 2010.

These provisions have informed the proposed development and are addressed through the EIS. Where variations to the requirements of the Local Environmental Plan are sought, they are appropriately addressed and justified.

#### **Clause 4.3 Height of buildings**

A maximum building height of 12 metres applies to the site.

The current proposal does not include the erection of any buildings or structures as they will be submitted under a separate development application. Notwithstanding, the EIS has considered and assessed the visual impact of future buildings and structures (sheds, etc.) within the St Marys Freight Hub (Refer **Appendix 20 Visual Impact Assessment**), which will be built within the 12-metre building height limit.

#### **Clause 5.10 Heritage Conservation**

Clause 5.10 requires development consent for certain types of development involving heritage items and/or conservation areas.

There are no items of heritage significance with the site. However, the site is adjacent to the State Listed St Marys Railway Station Group, which was identified in the SEARs.

The Statement of Heritage Impact prepared by NGH Environmental (Refer **Appendix 21**) has assessed the heritage impacts of the proposed development on the St Marys Railway Station Group. The Statement of Heritage Impact confirms the proposal will not impact on the heritage significance of the State Listed Heritage. The Statement also recommends that trees existing within the Main West Line be retained.

#### **Clause 7.1 Earthworks**

The site has already been significantly filled and some excavation works will be required as part of the construction. There is no import or export of material from the site proposed.



## Clause 7.2 Flood Planning

A Flood Impact Assessment prepared by BG&E provides a detail assessment of the flooding conditions in relation to the proposal (Refer **Appendix 14**). BG&E obtained flood model information from Penrith City Council to inform the assessment for the St Marys Freight Hub.

The Flood Impact Assessment confirms the proposed development complies with Council's DCP criteria that flood levels (outside of the development application area) are not increased by more than 0.1m by the proposed filling. In addition, the proposed development is not considered to expose any resident to unacceptable levels of risk or property to unreasonable damage and will not increase flood hazard or risk to other properties.

The site is not expected to be significantly at risk from a PMF event on Little Creek, however a PMF event on South Creek would inundate approximately half of the development area. It is recommended that a formal evacuation management plan be prepared to ensure human safety in a PMF event.

## Clause 7.5 Protection of Scenic Character and Landscape Values

The site is located within an area identified as having scenic land values. The objectives of the clause are to:

- “(a) to identify and protect areas that have particular scenic value either from major roads, identified heritage items or other public places,*
- (b) to ensure development in these areas is located and designed to minimise its visual impact.”*

A Visual Impact Assessment and Statement of Heritage Impact have been prepared by NGH Environmental. The Visual Impact Assessment recommends screen planting to the south to mitigate visual impacts to the school to the south of the Main West Rail Line and the Statement of Heritage Impact recommends existing trees within the Main West Line Rail Reserve to minimise impacts of the St Marys Railway Group.

Both assessments have considered the scenic values of the site and confirm that impacts on the scenic values will be minimal with the implementation of mitigation measures.

## Clause 7.6 Salinity

The Preliminary Site Investigation Report by Douglas Partners identifies the site as having potential for moderate to high salinity potential. Land within the site has been historically filled and a groundwater assessment also by Douglas Partners has measured groundwater levels at 3 metres below the surface. Salinity is to be tested as part of the detailed construction assessment and salinity management and mitigation will be included in the Environmental Site Management Plan for construction.

## Clause 7.7 Servicing

There are existing services traversing and surrounding the site that will support the proposed Freight Hub. A summary of how the proposal will be serviced is outlined below.



Potable Water:	Potable water can be supplied to the subject development via an existing 200CICL water main located in Forrester Road.
Fire Water:	Fire water will be fed off the potable main and hydrant coverage compliance will be achieved via booster or pumps and tanks as determined as part of detailed design considerations.
Wastewater:	Sewer connections will cut into existing gravity sewer lines that traverse the site via application to Sydney Water.
Electricity:	An application has been lodged with Endeavour Energy to bring power to the site off either Lee Holm Road or Forrester Road via a 1MVA transformer located within the developable site.
Telecommunications:	Telecommunications assets exist in the immediate area supplying the surrounding industrial developments. Application to extend these systems to service the development have been lodged with Telstra.
Gas:	Provision of gas is not intended for this development.

#### 7.1.12.1 Penrith Development Control Plan 2014

The Development Control Plan aims to guide development in Penrith consistent with the Council's vision; deliver high-quality, sustainable development. The Control Plan applies to all land within the Penrith Local Government Area and is therefore applicable to the site. The Development Control Plan states:

*“The Penrith Development Control Plan 2014 (Penrith DCP 2014) has been prepared to support all planning instruments applying to the Penrith Local Government Area (LGA), including the Penrith LEP 2010. It represents a consolidation of all previous DCPs which applied to the City so that a single, City-wide DCP applies to the LGA. In addition, the DCP includes two new sections to guide development in the Penrith Health and Education Precinct and the Riverlink Precinct.”*

The Penrith Development Control Plan contains design guidelines relating to:

- Vegetation management;
- Water management;
- Land management;
- Waste management;
- Landscape design;
- Culture and heritage;
- Public domain;
- Advertising signage;
- Transport, access and parking;
- Subdivision;



- Noise and vibration;
- Infrastructure and services;
- Rural land uses;
- Residential development;
- Commercial and retail development; and
- Industrial development.

These design guidelines have informed the proposed development and are addressed through the EIS, satisfying the requirements of the Development Control Plan.

## 7.2 POLICIES

The proposal is affected by a suite of planning provisions, goals and strategic planning objectives at state and local levels. These are considered in the following section.

### 7.2.1 NSW STATE PRIORITIES

The NSW State Priorities are:

- Making it easier to start a business
- **Encouraging business investment**
- Boosting apprenticeships
- **Accelerating major project assessment**
- Increasing housing supply
- Protecting our credit rating
- Delivering strong budgets
- Improving Aboriginal education outcomes
- Transitioning to the National Disability Insurance Scheme
- Better Government digital services
- Cutting wait times on planned surgeries
- Increasing cultural participation
- **Ensuring on-time running of public transport**
- Creating sustainable social housing
- Reducing violent crime
- Reducing adult re-offending
- Reducing road fatalities
- **Improving road travel reliability**

There are four (4) priorities that are directly supported by the St Marys Freight Hub development.

#### 1. Encouraging business investment

The St Marys Freight Hub is a major project of global and State-wide significance. It results in a more efficient freight network for distributing freight between Port Botany and Western Sydney to support the growth of existing and future business in NSW.



## 2. Accelerating major project assessment

The State priority to accurate major project assessment can be fulfilled with the St Marys Freight Hub. It is an identified major project under State Significant Development and timely assessment of the proposal will enable the early delivery of a major intermodal (rail and road) facility in Western Sydney.

## 3. Ensuring on-time running of public transport

The management of rail paths and imposition of curfews at peak travel periods for passenger rails ensures minimal disruption to public transport.

## 4. Improving road travel reliability

The St Marys Freight Hub will remove 10 million truck kilometres from Sydney's regional road network between Port Botany and Western Sydney. This includes significantly less trucks using Sydney's motorways which reduces pressure on traffic congestion, in particular the M4, M5, and M7 roads.

### 7.2.2 GREATER SYDNEY REGIONAL PLAN – A METROPOLIS OF THREE CITIES

The Greater Sydney Region Plan envisages the growth of Greater Sydney into a metropolis of three cities, where most residents will live within 30 minutes of their jobs, education and health facilities, services and great places. It also acknowledges that the retention of industrial land close to centres and transport is critical to supporting businesses and services.

The Region Plan identifies a metropolis of three cities, described as:

- Western Parkland City
- Central River City
- Eastern Harbour City

Objective 16 of the Greater Sydney Region Plan (2018) states:

*“The forecast increase in the movement of goods will require a freight network that can support safe, efficient and reliable journeys between centres, freight precincts, trade gateways and intermodal terminals across Greater Sydney”.*

St Marys is specifically identified as a ‘Metropolitan Cluster’ intermodal terminal within the Western Parkland City “that will be required by 2056” as part of the vision for the Greater Sydney freight network.

The proposed intermodal terminal directly aligns with the details specified within Objective 16 of the Greater Sydney Region Plan and contributes to achieving supply-chain efficiency and security within metropolitan Sydney.

### 7.2.3 WESTERN SYDNEY DISTRICT PLAN (2018)

Consistent with the Greater Sydney Region Plan, the Western City District Plan (WSDP 2018) sets out planning priorities and actions for the Western Parkland City.

Planning Priority W10 of the Western Sydney Region Plan identifies the importance of “Maximising freight and logistics opportunities and planning and managing industrial and urban services land” and





reiterates objectives outlined in Objective 16 of the Greater Sydney Region Plan.

Planning Priority W10 specifically identifies St Marys as a ‘Strategic Centre’ within the ‘Western Sydney District industrial and urban services land and freight assets’ plan (Figure 18). The Proposed St Marys Intermodal Terminal is also identified on Figure 18, with recognition that the intermodal will form part of the broader freight and logistics network.

The importance of improving supply-chain efficiency forms a key priority of the Western City District Plan, including the provision of associated protected industrial and urban services land. The proposed Freight Hub is therefore entirely consistent with the strategic objectives of Planning Priority W10 of the WSDP 2018.

#### **7.2.4 FUTURE TRANSPORT STRATEGY 2056**

The Future Transport Strategy 2056 (2018) is a long-term vision for Sydney and recognises the importance of “integrated road and rail logistic chains supported by intermodal terminals and dedicated, high performing freight pathways” required to support NSW’s future population and economy.

The Strategy acknowledges the need for integration of transport and land use planning to effectively plan collection points in proximity to centres and at network interchanges. The proposed St Marys Freight Hub is wholly consistent with these objectives, providing for the expansion of intermodal rail capacity in Western Sydney.

#### **7.2.5 DRAFT NSW FREIGHT AND PORTS PLAN (2017)**

The (draft) NSW Freight and Ports Plan (2017) is one of the ‘issue-specific’ plans that supports the Future Transport Strategy 2056 and seeks to update the NSW Freight and Ports Strategy (2013). The Freight and Ports Plan states that:

*“intermodal terminals (IMTs) play a crucial role in the transport of containerised and bulk freight, facilitating improved productivity and efficiency across the network, and acting as a key enabler for increasing rail share”.*

The proposed St Marys Freight Hub is identified within the metropolitan network plan (Figure 25) and its development forms an important part of the intermodal terminal network identified in the Freight and Ports Plan.

#### **7.2.6 PENRITH CITY STRATEGY**

The purpose of the Penrith City Strategy is to identify key issues facing the City over the next 10-20 years and outlines how Council will respond.

The Penrith City Strategy identifies St Marys as a strategic centre on the ‘Transport and Access City Strategy’ and recognises the opportunities afforded to the locality due to the presence of an accessible rail line. The proposed St Marys Freight Hub supports the growth of St Marys as an important centre



within the City of Penrith.

The City of Penrith acknowledges the need to “*improve road and rail transport connections... to support Penrith’s role as a regional hub*”. The proposed intermodal terminal provides the interface between road and rail infrastructure and achieves this key objective.

## 7.2.7 NATIONAL PORTS STRATEGY AND NATIONAL FREIGHT AND SUPPLY CHAIN STRATEGY

### National Ports Strategy

The Federal Government’s National Ports Strategy acknowledges that ports are critical to our national productivity and economic growth and aims to encourage best practice operations and planning for Australian Ports to address the challenges ports and landside logistic chains face from growth in trade.

The Strategy highlights the importance of road and rail infrastructure requirements to productive and efficient port operations and outlines several actions to achieve best practice. Actions relevant to the Port Botany container rail shuttle service to the St Marys Freight Hub are outlined below.

- *“Identify the landside access routes of strategic importance to the efficient function of the system of the relevant port and designate these as national port freight corridors;*
- *Identify for each metropolitan area the inland intermodal terminals, industrial / warehousing lands or other nodes that generate substantial amounts of port related freight traffic;*
- *Policies and incentives should be introduced to encourage the greater spreading of urban national port-related freight traffic into off-peak and weekend periods, induce higher levels of truck and train loading, and secure the shift in modal shares that is advocated in government announcements;*
- *Advice on technology opportunities to improve supply chain efficiency should include:*
  - *more reliable movement of freight within ports, among ports and on land transport systems;*
  - *port community systems that increase the scope of information exchange across a wider variety of transactions;*
  - *consideration of impediments to early completion of regulatory formalities by traders;*
  - *compatibility with international trading partners;*
  - *empty-container parks and intermodal terminals into the systems;*
  - *achieve interoperability across Australian container ports;*
  - *conform with relevant regulatory provisions; and*
  - *whole-of-port business continuity.”*

The Strategy warns of major efficiency implications for Australia if significant improvements are not made to our ports and related landside road and rail systems over the coming decades. The major freight rail improvements that will be delivered by St Marys Freight Hub and the associated Port Botany



container rail shuttle service are entirely consistent with the intent of the National Port Strategy.

### National Freight and Supply Chain Strategy

On 18 May 2018, the Council of Australian Governments' Transport and Infrastructure Council agreed a framework for developing a 20-year national Freight and Supply Chain Strategy (the Strategy) to provide an integrated national approach to making it faster, easier, and less expensive to move goods and thereby helping to increase the competitiveness of Australian businesses and our standard of living.

The purpose of the National Freight and Supply Chain Strategy is to build on the outcomes of the recommendations of the Inquiry into National Freight and Supply Chain Priorities, a report that was released in May 2018 following extensive consultation with stakeholders and industry.

The Inquiry acknowledged consistent stakeholder feedback in regard to inadequate allocation of land for intermodal terminals and recognised the role of intermodal terminals in supporting efficient supply chains, with a particular recognition of the need for:

*“dehiring empty containers at intermodal terminals (for return to port by rail) and industrial lands away from the main port precincts.”*

Stakeholders highlighted that increased use of rail and intermodal terminals should be considered to respond to peak congestion around ports and the need for greater protection for lands for intermodal terminal development. These findings are supported by research undertaken by the Bureau of Infrastructure, Transport and Regional Economics into short-haul rail intermodal services.

Ultimately intermodal terminals and associated industrial land, in addition to associated ports and airports are critical to meet the increasing freight demands over the next 20 years.

The St Marys Freight Hub and the Port Botany container rail shuttle service work towards addressing the challenges highlighted by the Inquiry and meeting the objectives of the Strategy.

### 7.2.8 STATE INFRASTRUCTURE STRATEGY 2018-2038: BUILDING MOMENTUM

The intention of the State Infrastructure Strategy is to provide a general policy framework to provide highly productive infrastructure to meet the needs of a growing population and a growing economy.

The Strategy identifies that:

*“Efficient trade gateways and freight and logistics networks within Greater Sydney will continue to be critical to NSW’s global competitiveness. New gateways like the Western Sydney Airport and intermodal terminals will help to support the growing freight task across Greater Sydney.”*



The Strategy acknowledges the need for planning instruments to be updated to:

*“preserve strategically important clusters of industrial land in proximity to international gateways and freight related infrastructure (such as intermodal terminals, major roads and freight rail lines).”*

Specifically, in relation to Western Sydney, the Strategy highlights that:

*“Western Sydney has ready access to the National Land Transport Network and emerging global gateways, but strong growth in freight movements in western Sydney over the next 20 years will expose capacity constraints on existing networks. To address congestion issues on key arterial roads and enable the efficient distribution of containers to and from Port Botany, rail will need to play a much greater role via dedicated lines linked to a network of intermodal terminals across Sydney.”*

The proposed development is wholly consistent with the objectives of the Strategy, on the basis that it takes advantage of existing infrastructure and increases the efficiency of existing infrastructure assets to the net benefit of the State. In addition, once the St Marys Freight Hub is operating, there are future opportunities to link freight routes with inland NSW to transport agricultural and associated products to overseas export markets.

#### **7.2.9 SYDNEY’S CYCLING FUTURE 2013**

Given the limited number of permeant site staff, it is unlikely that significant numbers of staff will cycle to the site. Onsite facilities are however available with footpaths, cycleways, bus stops and a train station all surrounding the site. This is confirmed with the Traffic & Transport Assessment by Bitzios Consulting (**Appendix 4**) and has been discussed during early consultation meetings with Transport for NSW.

#### **7.2.10 SYDNEY’S WALKING FUTURE 2013**

Onsite facilities connect to footpaths, bus stops and a train station all surrounding the site.

#### **7.2.11 SYDNEY’S BUS FUTURE 2013**

Onsite facilities connect to footpaths, bus stops and a train station all surrounding the site.

#### **7.2.12 AUSTROADS GUIDELINES FOR PLANNING AND ASSESSMENT OF ROAD FREIGHT ACCESS IN INDUSTRIAL AREAS**

Heavy vehicle access and movement requirements, including consideration of Austroads Guidelines have been addressed in the Traffic and Transport Assessment Report provided as **Appendix 4**. The Austroads design requirements are also applied to the engineering concept design prepared by BG&E.

#### **7.2.13 AUSTROADS GUIDE TO TRAFFIC MANAGEMENT PART 12: TRAFFIC IMPACT OF DEVELOPMENT**

Vehicle access and movement requirements, including consideration of Austroads Guidelines have been



addressed in the Traffic and Transport Assessment Report provided as **Appendix 4**.

#### **7.2.14 CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED)**

The proposed development will be a fully monitored and secured facility operating on a 24/7 basis which will result in a significant increase in the active and passive surveillance of the site and adjoining areas.

#### **7.2.15 GREATER SYDNEY COMMISSION'S WESTERN SYDNEY PLAN**

The vision of the Greater Sydney Commission's Western Sydney Plan is to ensure that residents of the Western City District have quicker and easier access to a wider range of jobs, housing types and activities.

The Plan acknowledges that:

*"Industrial activity and urban services are important to Greater Sydney's economy and the nature of this economic sector is continuing to change, with emerging technologies and new industries with different requirements. Industrial land is evolving from traditional industrial and manufacturing lands, and freight and logistics hubs, into complex employment lands."*

Furthermore, with respect to managing industrial land the Plan identifies the:

*"Increasing demand for local urban services and an innovative and adaptable industrial sector will require well-connected, serviced and economically viable land for businesses such as mechanics, repair centres, wholesale warehousing, light manufacturing, creative industries, freight, logistics and construction materials warehousing and supply centres."*

With respect to St Marys specifically, the plan acknowledges the role of northern St Marys in providing industrial and employment opportunities, with a recommendation to *"review and maximise opportunities from its location at the intersection of the north-south and east-west corridors"*

#### **7.2.16 PENRITH DEVELOPMENT CONTROL PLAN 2014**

The Development Control Plan aims to guide development in Penrith consistent with the Council's vision; delivers high-quality, sustainable development; and applies to all land within the Penrith Local Government Area and is therefore applicable to the site. The Development Control Plan states:

*"The Penrith Development Control Plan 2014 (Penrith DCP 2014) has been prepared to support all planning instruments applying to the Penrith Local Government Area (LGA), including the Penrith LEP 2010. It represents a consolidation of all previous DCPs which applied to the City so that a single, City-wide DCP applies to the LGA. In addition, the DCP includes two new sections to guide development in the Penrith Health and Education Precinct and the Riverlink Precinct."*



The Penrith Development Control Plan contains design guidelines relating to Vegetation management; Water management; Land management; Waste management; Landscape design; Culture and heritage; Public domain; Advertising signage; Transport, access and parking; Subdivision; Noise and vibration; Infrastructure and services; Rural land uses; Residential development; Commercial and retail development; and Industrial development.

Whilst there are no specific design requirements relevant to the proposal, the design and management of all impacts have been comprehensively assessed. This includes comprehensive assessment and reporting on traffic, parking, flooding, biodiversity, bushfire, stormwater quality and management, services and noise impacts.

These design guidelines have informed the proposed development and are addressed through the EIS, thereby generally adhering the requirements of the Development Control Plan.





## 8. STAKEHOLDER AND COMMUNITY CONSULTATION

### 8.1 CONSULTATION STRATEGY

Pacific National is dedicated to active engagement for the St Marys Freight Hub and has formulated a Consultation Strategy with Primary Communication to establish a framework for engaging and consulting with government, business and community stakeholders, and to address the requirements outlined in the SEARs.

The Consultation Strategy outlines the engagement objectives and tools that have been established to ensure all stakeholders are informed and can provide input on the St Marys Freight Hub project. Refer **Appendix 22 – EIS Community Engagement Report and Ongoing Consultation Strategy**.

The engagement tools already in place include:

- a community engagement website: **stmarysfreighthub.com.au**
- Users can obtain information about the project and register their email addresses to received regular email updates about the progress of the project.
- a toll free information line: **1800 137 929**
- **Public notices** in local newspapers
- **Community drop-in centres** in the St Marys town centre.
- Information letters sent by mail.
- The community engagement tools offer a range of methods to ensure all people in the community can access information on the St Marys Freight Hub project.

### 8.2 EARLY CONSULTATION AND ENGAGEMENT TO DATE

There has been various engagement and consultation steps commenced with government, business and the community.

#### 8.2.1 ENGAGEMENT WITH THE COMMUNITY

Primary Communication with Pacific National has actively been engaged with the community. A summary of the issues and responses is outlined below.

**TABLE 2 COMMUNITY ENGAGEMENT**

COMMUNITY ENGAGEMENT	
St Marys Freight Hub website - stmarysfreighthub.com.au	Over 700 unique visitors and 16 registered users
1800 toll free information line	Less than 10 calls
Public notices have been placed in local newspapers on: Western Weekender – 16 November 2018 Western Weekender – 23 November 2018 Nepean News – 23 November 2018 Western Weekender – 30 November 2018	
Community drop-in centres in the St Marys Village Shopping Centre for the local community were held on: Friday 23rd November: 11am – 3:00pm	23 attendees



Thursday 29th November: 3:00pm - 7:00pm Saturday 1st December: 10am - 2:00pm	
Information letters sent by mail	Over 90 stakeholder letters sent (including letters to government, council and business stakeholders)

The Communication Strategy by Primary Communication provides a detailed account of the issues and responses (Refer **Appendix 22**). A summary of the information sought and/or issues raised by the community include:

- Location of the project
- Hours of operation
- Information on what is being built
- Noise from operations and rail
- Number of trucks on roads
- Truck routes
- Rail travel times
- Impacts on passenger services
- Employment generation

The early engagement with community stakeholders has been essential to ensuring the reporting in this EIS is comprehensive in addressing all community issues and informative for the broader community.

### 8.2.2 ENGAGEMENT WITH PENRITH CITY COUNCIL

Pacific National met with the Mayor and senior staff on the St Marys Freight Hub on 2 November 2018 and subsequently presented the project at a Councillor briefing session on 19 November 2018.

The briefing provided a detail on the site, design and delivery of the project. It also provided information on the operations including truck routes, site access, safety and integration with major infrastructure projects such as the Outer Sydney Orbital and North/South Rail Link.

### 8.2.3 ENGAGEMENT WITH BLACKTOWN CITY COUNCIL

Pacific National has written to Blacktown City Council and a briefing of the St Marys Freight Hub project is being arranged.

### 8.2.4 ENGAGEMENT WITH ABORIGINAL GROUPS

As part of the statutory process for undertaking an assessment of Aboriginal Cultural Heritage, the Local Aboriginal Land Council and other Aboriginal representatives have met with Pacific National and NGH Environmental. A site visit was held on 11 March 2019 with Pacific National representatives present to inform the Aboriginal Groups about the project and respond to questions as required.

### 8.2.5 ENGAGEMENT WITH NSW TRANSPORT AGENCIES

Following issue of the SEARs, Pacific National has met with NSW Government and private transport organisations, including:

- Transport for NSW



- Roads & Maritime
- Sydney Trains
- NSW Ports

Meetings were held on 29 November 2018 and 10 January 2019. The purpose of the meetings was to obtain a comprehensive understanding of the transport issues relating to the St Marys Freight Hub and to refine the scope of requirements outlined in the SEARs. The key issues discussed at these meeting include:

- Proposed development and program
- Traffic modelling & assessment
- Outer Sydney Orbital
- Connection to Main West Line
- Rail Property & Infrastructure

The meetings were very beneficial to better understand the various traffic and transport issues across rail and road and have formed the basis for the scope of investigation in the Traffic and Transport Assessment in this EIS (Refer **Appendix 4**).

### **8.3 FUTURE CONSULTATION AND ENGAGEMENT**

The Communication Strategy by Primary Communication outlines the ongoing framework for engaging with government, business and the community. The proactive community engagement program will be complemented by the formal exhibition and consultation process required by the State Significant Development assessment process. Government, business and community groups to be consulted during the formal consultation process include but not limited to:

- Local, State or Commonwealth government authorities:
  - Environment Protection Authority;
  - Office of Environment and Heritage;
  - Transport for NSW;
  - Roads and Maritime Services;
  - Sydney Trains;
  - Department of Primary Industries (Water);
  - NSW Rural Fire Service;
  - NSW Health;
  - Penrith City Council; and
  - Blacktown City Council.
- Service and infrastructure providers, including:
  - Australian Rail Track Corporation;
  - Sydney Water Corporation;
  - Endeavour Energy;
  - Jemena;
  - Telstra; and



- AGL Upstream Investments Pty Ltd.
- Specialist interest groups and community groups, including the Local Aboriginal Land Councils.



## 9. TECHNICAL INVESTIGATIONS, FINDINGS AND MITIGATION MEASURES

A series of detailed technical reports have been prepared as part of this EIA to address all aspects of the proposed development including those requirements identified in the SEARs. This section of the report seeks to outline the methodology, key findings and mitigation measures to respond to these findings, while fulfilling the obligations of the SEARs.

### 9.1 AIR QUALITY

A comprehensive Air Quality Impact Assessment has been undertaken by AECOM to address SEARs requirements. A copy of the Air Quality Impact Assessment is provided as **Appendix 19 - Air Quality Impact Assessment**.

#### 9.1.1 METHODOLOGY

The approach taken by AECOM in preparing the Air Quality Impact Assessment for the proposal comprised:

- A qualitative assessment of the proposed earthworks and construction activities. This considers the potential impacts of:
  - Dust emissions from earthworks and bulk material stockpiles;
  - Dust emissions from construction materials at loading and unloading transfer points;
  - and
- A quantitative assessment of terminal operations. This considers combustion emissions from operational mobile equipment such as train locomotives, forklifts and trucks.

The scope of the assessment is broadly summarised as being:

- Identification of relevant ambient air quality criteria;
- Discussion of existing air quality based on available Office of Environment and Heritage (OEH) data;
- Discussion of local meteorology and climate conditions based on available Bureau of Meteorology (BoM) data;
- Identification of potential sources of air emissions from surrounding land uses;
- A qualitative risk assessment of particulate emissions from earthmoving and construction activities;
- A quantitative assessment of emissions associated with road and rail activities associated with terminal operations; and
- Provision of recommendations including suggestion of potential safeguards.

#### 9.1.2 KEY FINDINGS

The Air Quality Impact Assessment addresses air quality impact during both earthworks and construction and from ongoing operations. The report concludes that provided appropriate mitigation measures are implemented then no significant air quality impacts from construction or operation of the St Marys Freight Hub are anticipated.

The unmitigated risk of air quality impacts during earthworks and construction have been predicted to



be low for dust soiling on people and property and low for human health. To further minimise the predicted level of risk, the following precautionary management and mitigation measures are recommended:

- Minimise exposed surfaces, such as stockpiles and cleared areas, including partial covering of stockpiles where practicable;
- Implement dust suppression measures, such as watering of exposed soil surfaces, dust mesh, water trucks and sprinklers to minimise dust generation;
- Avoid dust generating activities and water stockpiles and exposed areas during adverse weather conditions such as high winds and dry periods;
- Establish hard surfaced haul routes which are regularly damped down and cleaned;
- Perform regular visual inspections to identify areas that may require watering;
- Establish defined site entry and exit points to minimise tracking of soil on surrounding roads; and
- Ensure vehicles entering and leaving the site are covered to prevent escape of materials during transport.

### 9.1.3 MITIGATION MEASURES

- The construction phase of the development will implement those recommendations presented by AECOM to ensure that they are below the relevant EPA air quality criteria.

## 9.2 TRAFFIC AND TRANSPORT

As part of this proposal a detailed range of issues relating to on and off-site transport and traffic issues have been considered which also seek to address those matters raised in the SEARs. These include the need to prepare a Traffic Impact Assessment, address freight and rail issues and address impact of construction traffic on the surrounding area.

These matters have been addressed in three parts; those relating to traffic and parking implications of the development during construction and operation, those matters relating to the Outer Sydney Orbital and matters relating to detailed designs relating to the rail line.

### 9.2.1 TRAFFIC AND TRANSPORT ASSESSMENT

In order to address the need for a Traffic Impact Statement Bitzios Consulting were engaged to assess traffic and parking implications of the proposed development. Refer **Appendix 4 – Traffic and Transport Assessment**.

### 9.2.2 METHODOLOGY

The purpose of the Traffic and Transport Assessment was to address the following key categories:

- operational period impacts on traffic capacity and safety;
- operational period needs and impacts associated with active transport, public transport and the need for Travel Demand Management (TDM);
- the suitability of vehicular access to the site and the ability for development traffic to manoeuvre and park within the site; and
- construction period traffic and transport impacts.





### 9.2.3 KEY FINDINGS

Whilst the site area is relatively large, the traffic generation is low, and the maximum truck-trip generated by the site is essentially limited by the five train paths in and out daily. The maximum of 15 trucks per hour in and 15 trucks per hour out, when assigned to the road network, does not significantly impact on the traffic capacity or road safety conditions across the network.

The small number of permanent staff on-site does not warrant any specific provisions related to walking, cycling and public transport, notwithstanding sufficient facilities are available. Both site access points can be accommodated from industrial standard roads and the site layout accommodates on-site needs during both construction and operations.

The Traffic and Transport assessment (as outlined in greater detail below) demonstrates that the development will not generate any significant impacts on the surrounding traffic and transport networks, with no mitigation works warranted external to the site.

#### 9.2.3.1 Operational Period

##### Operational Period: Traffic Capacity and Safety Assessment

The development proposal is for a container terminal which will be operational 24 hours a day and 7 days per week.

Full containers will arrive from Port Botany by freight train and will be unloaded into the terminal. They will then be collected by semi-trailers or B-doubles and distributed to customers within Sydney, with empty containers returned to the site. The number of truck movements is directly linked to the number of train movements, with a maximum of five train paths per day resulting in a truck trip generation calculation of 15 movements in and 15 movements out

Around 40-45 staff will be on-site during the day and will start and end their shifts before the road network's AM and PM peak hours. For these reasons, staff-based traffic impacts have not been considered further and the assessment was focused on truck trip impacts on the surrounding road network in peak hours.

The distribution of trucks to/from local areas has been based on the database of Pacific National's third-party logistics partner ACFS Port Logistics customer locations and through identifying those customer locations that would be more effectively serviced via St Marys rather than directly via Port Botany. Trucks are expected to make use of approved B-double routes for access to/from the site, with the eight intersections nominated in the SEARs for operational period capacity assessment subjected to SIDRA analysis as part of the Traffic and Transport Assessment. At all nominated intersections the intersection LoS and DoS increased by less than 5%. The analysis did foreshadow potential peak traffic capacity issues at the Parker Street and the Werrington Road intersections with the Great Western Highway in the 2030 Base Case, however the Freight Hub's trucks do not worsen this situation.

A road safety assessment was completed by evaluating the crash patterns identified at the eight intersections listed above against the specific turning movements that the Freight Hub's trucks will be



making at those intersections. In all locations, the very small increase in truck movements at these intersections will result in a negligible change in crash likelihood and hence crash risk at these locations.

#### Operational Period: Site Access, Manoeuvring and Parking

Two access points are proposed for the development, namely:

- an entry only near the southern (cul-de-sac) end of Forrester Road; and
- a two-way access off Lee Holm Road.

Both access points are on roads that already carry industrial traffic and are designed to cater for these vehicles and both access locations have well in excess of the required sight distances for safe entry and exit. Swept path assessments have also been run for B-doubles and each access, and each driveway area, can be constructed to accommodate these vehicles.

As part of the development 98 car parking bays and 1 universal access bay will be constructed along the driveway off Forrester Road. At its peak a total of 40-45 staff will be on site.

The City of Penrith Development Control Plan 2014 C10 Transport, Access and Parking stipulates that a freight transport facility must meet the following parking requirements *'1 per transport vehicle present at peak vehicles accumulation plus 1 per 2 employees'*. Under these provisions the staff on site will generate a need for 23 car parking bays. Truck drivers will be expected to arrive onsite by truck from their depots and so will not be parking their cars onsite. The development will therefore not generate a transport vehicle requirement. The development proposes 98 car parking bays which is 75 bays in excess of the statutory requirement. In the event that a truck needs to park onsite, 7 truck parking bays have also been provided adjacent to the central internal truck road. Truck passing bays have also been provided for along the internal truck access off Lee Holm Road.

#### Operational Period: Alternative Transport Mode Assessment

The Freight Hub will have approximately 40-45 staff during daytime hours.

Based on the location of the development and the proposed shift times, the site is unlikely to attract many (if any) active transport or public transport trips. If there was a need for site staff to walk, cycle or use or public transport to access the site, sufficient facilities are available with footpaths, cycleways, bus stops and a train station all surrounding the site. The fit out of the office building will also include end of trip facilities to encourage and provide for staff using active transport modes.

### **9.2.3.2 Construction Period**

#### Construction Period Traffic and Transport Assessment

The construction period is expected to generate between 8-12 trucks per hour carting in materials for construction of the hardstand and driveway areas, as well as for the on-site buildings. The truck volumes are less than those expected during the operational period and would similarly be expected to have negligible impact on the surrounding road network.

There is sufficient room within the site to accommodate parked construction worker vehicles as well as waiting delivery trucks and these requirements can be specified as part of the Construction Traffic

Management Plan (CTMP). The construction of the two access points is likely to also require Traffic Control Plans (TCPs) which would need to be created in due course.

#### 9.2.4 OUTER SYDNEY ORBITAL

A small portion of the proposed St Marys Freight Hub is within the identified Outer Sydney Orbital (OSO) recommended corridor (Refer to **Figure 11**).

A portion of the development footprint traverses the eastern edge of the corridor and the south where access to Forrester Road is obtained. The existing rail spur, which is required as part of operations of the Freight Hub, also extends north into the corridor.

The existing access leg to Forrester Road at the south is the main access to the site and is a key requirement for the safe function and operation of the St Marys Freight Hub, as is a dedicated access for light vehicles. It ensures that light vehicles and heavy vehicles can be separated to provide the highest level of safety for both light and heavy vehicles accessing the Freight Hub.

**FIGURE 11 OUTER SYDNEY ORBITAL CORRIDOR OVERLAY**

#### Outer Sydney Orbital recommended corridor

St Marys



(Source: [www.transport.nsw.gov.au/corridors/oso](http://www.transport.nsw.gov.au/corridors/oso))

Pacific National met with Transport for NSW on held on 29 November 2018 which included discussion with Transport for NSW representatives on the Outer Sydney Orbital.

A summary of the discussion points as follows:



- TfNSW provided background on the exhibited draft Western Sydney Corridors.
- Based on previous meetings with NSW Government representatives, Pacific National understands that the St Marys Freight Hub will not be impacted by OSO.
- TfNSW noted that the exhibited corridors affect some of the Pacific National lands and that the corridors are still being refined based on submissions received during the public consultation process.
- TfNSW requested additional detailed drawings on future sidings as this may be affected by future OSO.
- TfNSW noted potential impacts of the corridor on container operations on-site.
- Pacific National advised that an operational plan will be prepared and will consider the impact of the OSO, and requested information on the corridor requirements, including any limitations and design information.
- TfNSW advised that the future OSO would be elevated adjacent to the Pacific National site and supported by pylons.
- TfNSW advised that there was only a reference design to formulate the corridor boundaries and no details on alignments or elevations was available.

The informative discussions during the meeting have been beneficial to better understand how the OSO and the St Marys Freight Hub will coexist.

Key imperatives for the function and operation of the St Marys Freight Hub include:

- Unrestricted vertical access for reach stackers to load/unload from trains parked in the existing two rail lines.
- Maintain continued rail access to the Main West Line 24/7.
- Provision for a future direct western connection to Main West Line towards central NSW.
- Future use of land on western side of existing rail line for future warehousing activities.

As it is not possible to respond to a design for the OSO, a set of design and operation principles are to be implemented by Pacific National to ensure that both the OSO and Freight Hub can exist without significant disruption.

These principles are as follows:

- Limit all loading/unloading of trains to the loading area in this proposal.
- Maintain ongoing consultation and communication with TfNSW regarding the design and delivery of the OSO project.
- Ensure future buildings and structures maintain adequate vertical and horizontal separation to the OSO.
- The full functionality of the rail corridor is to be maintained for its full length within Pacific National's parcel of land.

### 9.2.5 SYDNEY METRO NORTH SOUTH RAIL LINE AND ST MARYS STATION

The southern portion of the proposed St Marys Freight Hub is within the identified North South Rail Line Tunnel investigation area in the Outer Sydney Orbital (OSO) consultation plans (Refer to **Figure 12**).



The North South Rail Line Tunnel investigation corridor is depicted by a wide corridor area that is expected to be subject to further refinement.

Recent media releases suggest the future North South Rail Line will extent from the future Western Sydney Airport and will connect with the existing T1 Western Line at St Marys, which is consistent with the detail in the OSO consultation plans.

## FIGURE 12 NORTH SOUTH RAIL TUNNEL CORRIDOR

(Source: [www.transport.nsw.gov.au/corridors/oso](http://www.transport.nsw.gov.au/corridors/oso))

### Outer Sydney Orbital recommended corridor

St Marys



The existing access leg to Forrester Road at the south is the main access to the site and is a key requirement for the safe function and operation of the St Marys Freight Hub, as it is a dedicated access for light vehicles. It ensures that light vehicles and heavy vehicles can be separated to provide the highest level of safety for both light and heavy vehicles accessing the Freight Hub.

It is documented in the OSO consultation plans that the North South Rail Line Tunnel investigation corridor will be underground, and therefore, it is anticipated that provision of the North South Rail Line





and interchange with St Marys Station will have no material impact on the construction and operation of the St Marys Freight Hub.

Undergrounding the future St Marys interchange and associated rail connection to the south will minimise disruption to existing activities and protect the State Heritage Listing of St Marys Station Group. It will also provide a practical interchange between any future metro line and the existing T1 Western line.

The existing rail line connection within the St Marys Freight Hub site to the Western Line and approved train paths for freight trains into the site from Port Botany will therefore function without interruption during the construction cycle of the future North South Rail Line passenger service.

Given the intent to tunnel the North South Rail Line adjacent to the St Marys Freight Hub, it is considered the delivery of the North South Rail Line will not adversely impact the St Marys Freight Hub, which is on a site that uniquely benefits from an existing rail connection for freight.

### 9.2.6 MITIGATION MEASURES

As demonstrated in the Key Findings, the Traffic and Transport assessment demonstrates that the development will not generate any significant impacts on the surrounding traffic and transport networks, with no mitigation works warranted external to the site.

Discussions to date in regard to the Outer Sydney Orbital suggest the development of St Marys Freight Hub can exist without significant disruption. A set of design and operational principles will be implemented by Pacific National to facilitate this.

## 9.3 ABORIGINAL HERITAGE

NGH Environmental (Aboriginal heritage consultants) have been engaged to undertake an assessment of Aboriginal Cultural Heritage for the site and are in the process of completing an Aboriginal Cultural Heritage Assessment Report (ACHAR). Refer **Appendix 23** for the completed ACHAR report that is currently under review by the Local Aboriginal Groups, which is due to be completed by 30 April 2019. (This The final report will be submitted under separate cover following its completion).

### 9.3.1 METHODOLOGY

The purpose of the draft Aboriginal Cultural Heritage Assessment Report (ACHAR) is to provide an assessment of the Aboriginal cultural values associated with the project area and to assess the cultural and scientific significance of any Aboriginal heritage sites.

The objectives were to:

- Conduct Aboriginal consultation as specified in clause 80c of the National Parks and Wildlife *Regulation*, using the consultation process outlined in the *Aboriginal cultural heritage consultation requirements for proponents 2010*;
- Undertake an assessment of the archaeological and cultural values of the project area and any Aboriginal sites therein;



- Assess the cultural and scientific significance of any archaeological material; and
- Provide management recommendations for any objects found.

The ACHAR was prepared in accordance with the following documents:

- Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011);
- Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales (OEH 2010a), and
- *Aboriginal cultural heritage consultation requirements for proponents 2010* (OEH 2010b) produced by the NSW Office of Environment and Heritage (OEH).

### 9.3.2 KEY FINDINGS

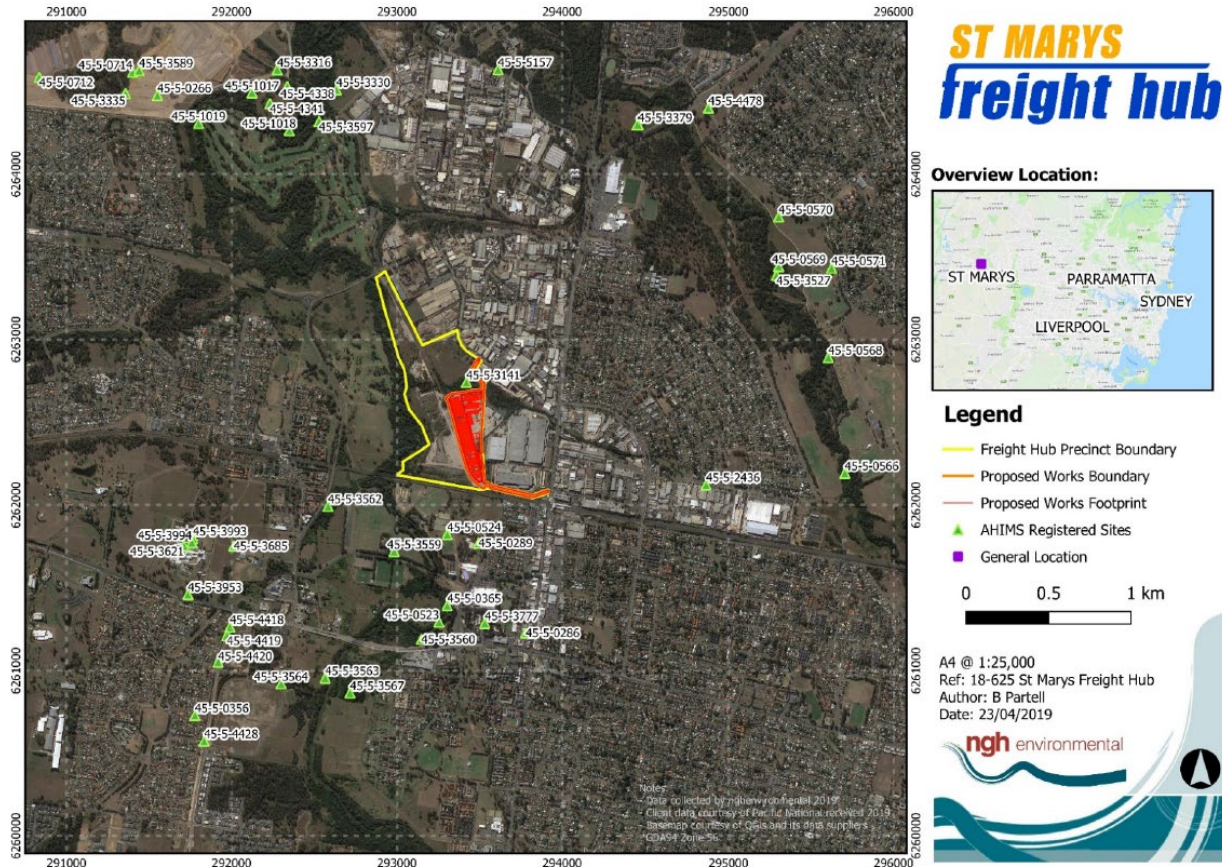
The draft ACHAR includes a review of the Aboriginal Archaeological Context, Aboriginal consultation and a site survey to provide an assessment of the Aboriginal cultural values associated with the project area and to assess the cultural and scientific significance of any Aboriginal heritage sites

#### Aboriginal Archaeological Context

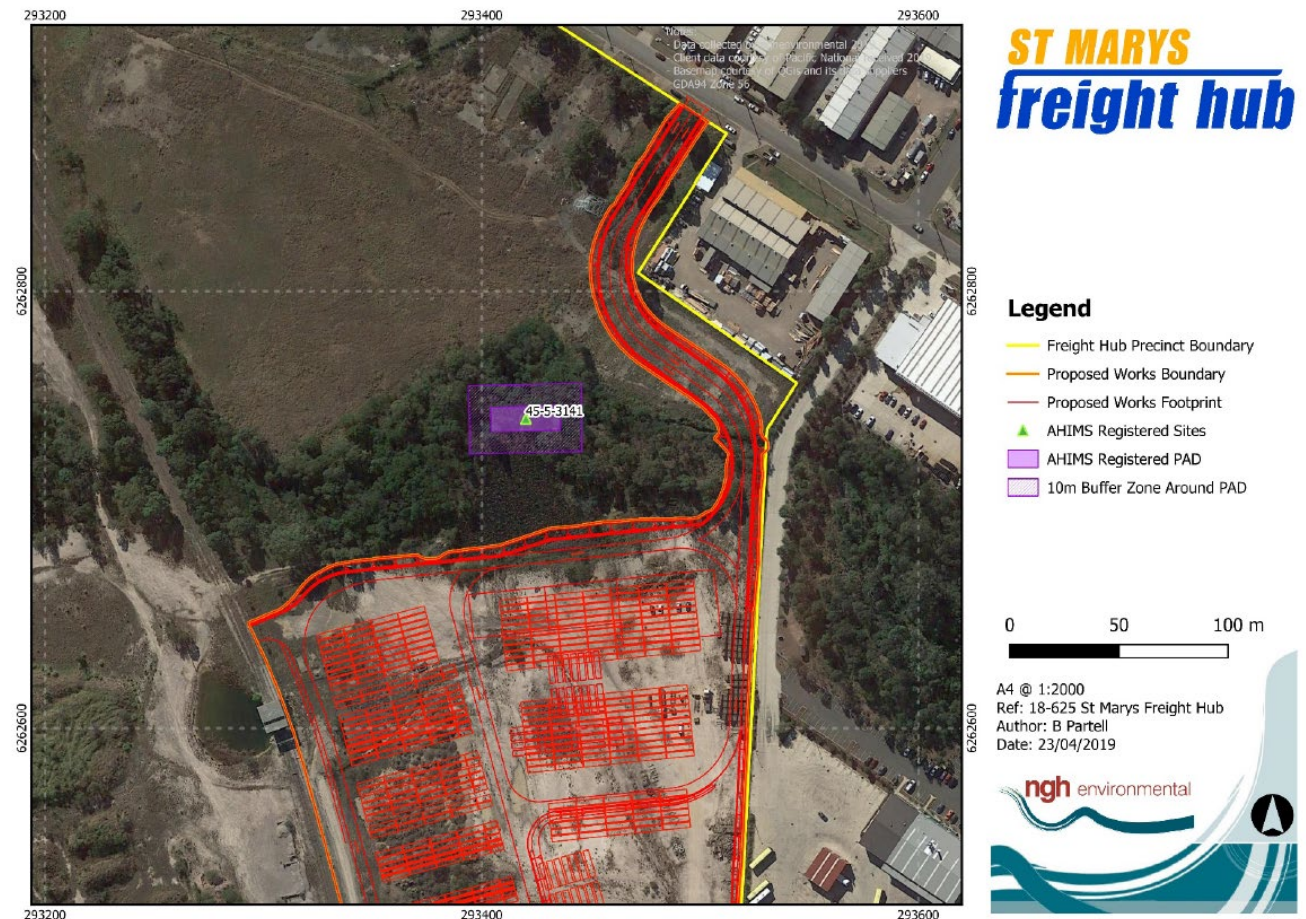
During an extensive search of the Aboriginal Heritage Information Management System (AHIMS) which is maintained by NSW Office of Environment and Heritage (OEH), eleven previously recorded Aboriginal heritage sites were identified within a 1km buffer zone of the proposed works area. No registered sites are located within the project area; however, one site is located within the wider Lot 2 DP876781, approximately 50m to the north of the project boundary. Refer **Figure 13 Surrounding AHIMS Registered Sites** and **Figure 14 AHIMS Registered Site 45-5-3141**.



**FIGURE 13 SURROUNDING AHIMS REGISTERED SITES**



**FIGURE 14 AHIMS REGISTERED SITE 45-5-3141**





This site referred to as AHIMS #45-5-3141 is located along the unnamed creek (sometimes referred to 'Little Creek') was registered in 2004 by Heritage Concepts and contains an open artefact scatter and associated Potential Architectural Deposit (PAD).

The site is located outside of the development area and is not impacted on by the proposal. An attempt to locate this site, did however form part of NGH Environmental onsite survey, which included Aboriginal representatives that originally located the AHIMS site, however the vegetation was very dense and as a consequence the site could not be identified.

### Aboriginal Consultation

The consultation with Aboriginal stakeholders was undertaken in accordance with clause 80C of the *National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010* following the consultation steps outlined in the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRP) guide provided by OEH. The guide outlines a four-stage process of consultation as follows:

- Stage 1 – Notification of project proposal and registration of interest.
- Stage 2 – Presentation of information about the proposed project.
- Stage 3 – Gathering information about cultural significance.
- Stage 4 – Review of draft cultural heritage assessment report.

In accordance with this guide NGH Environmental have completed the following key steps:

- Contacted NSW Office of Environment and Heritage to obtain list of Aboriginal Groups (8<sup>th</sup> of November 2018)
- NSW Office of Environment & Heritage issued lists from statutory bodies (19<sup>th</sup> of December 2018)
- Advertisement placed in Newspaper (20<sup>th</sup> of December 2018)
- Contact made with potential stakeholders (2<sup>nd</sup> of January 2019)
- Closing date for initial registration (21<sup>st</sup> of January 2019)
- Assessment Methodology issued for statutory 28-day review (30<sup>th</sup> of January)
- Closing date for comments on assessment methodology (28<sup>th</sup> of February)
- Site visit / fieldwork (11<sup>th</sup> of March 2019)

It is noted that the site visit and fieldwork attended by the representatives of the Local Aboriginal Land Council, other commissioned Aboriginal representatives, Pacific National and NGH Environmental did not locate any items of Aboriginal Cultural Heritage significance.

Throughout the project, Registered Aboriginal Parties have been provided the opportunity to provide pertinent cultural information about the project area and places of significance within proximity. No information about places of cultural or spiritual significance has been provided to date.

### Site Survey

In addition to the extensive review of AHIMS, a detailed site survey was undertaken by two NGH Environmental Archaeologists and three Registered Aboriginal Parties from groups invited to attend the fieldwork. This was all undertaken on foot.





Overall, the visibility on site was low, with significant introduced fill and vegetation growth. No new Aboriginal sites or places were recorded during the survey and the previously registered AHIMS site (AHIMS # 45-5-3141) located approximately 50m to the north of the project area was not able to be relocated due to dense vegetation growth along the creek line.

There are no recorded Aboriginal heritage sites within the proposal area, and no new sites identified during the site survey. As the site has been identified as disturbed due to historical uses of the site and the introduction of fill material across the majority of the site, the proposed works are assessed as posing little harm to the site itself or its research potential.

### 9.3.3 MITIGATION MEASURES

Based on the findings contained within ACHAR, NGH Environmental conclude that the proposed works to the St Marys Freight Hub, do not require further investigation and the proposed construction works can proceed with caution.

To address the unlikely event that that previously undiscovered Aboriginal finds are identified during construction, the following precautionary management and mitigation measures will be implemented:

- Inductions for construction contractors and works will highlight the heritage significance of the site prior to works commencing.
- Unexpected Finds Procedures are to be outline in inductions and the steps below are to be followed if any suspected or identified heritage items are identified during construction activities.
- All work should cease in that area and notify a Project Manager or Supervisor immediately of the find;
- A 'no-go' zone should be established around the find, using visibility fencing (where applicable);
- Inform all on-site personnel and staff of the find and the demarcated 'no-go' zone;
- Contact a qualified archaeologist/heritage consultant to inspect the find and provide recommendations.
- In the event that human remains are identified, complete steps 1-3. Replace Step 4 by immediately contacting the local police to investigate if the find relates to a criminal investigation. The police may take command of part or all of the site.
- Once clearance of the site has been given by either the qualified archaeologist/heritage consultant then works may proceed within the 'no-go' zone UNLESS specifically instructed by the professional that no further works can be completed.

It is noted that further archaeological assessment would be required if the proposal activity extends beyond the area of the current investigation. This would include consultation with the Registered Aboriginal Parties for the project and may include further field survey and/or test excavation. Continued consultation with the Registered Aboriginal Parties for the project should be undertaken if there are any major changes in project design or scope, further investigations or finds.



## 9.4 NON-ABORIGINAL HERITAGE

As part of the EIS, NGH Environmental were engaged to assess the potential heritage impact upon the heritage sites and values that may be impacted by the proposed works by preparing a Heritage Assessment and a Heritage Impact Assessment. In addition, to address the requirements of SEAR relating to Non Aboriginal Heritage, an Archaeological Assessment has also been prepared in line with the 2009 Office of Environment and Heritage Guidelines 'Assessing Significance for Historical Archaeological sites and Relics'. The purpose of this part of the report is to determine whether there are any listed or potential heritage items within the project area

A copy of NGH Environmental report is provided in **Appendix 21 – Statement of Heritage Impact**.

### 9.4.1 METHODOLOGY

The Heritage Impact Report has been prepared in accordance with the NSW Heritage Division's guideline *Statement of Heritage Impact* (2001) and *Assessing Significance for Historical Archaeological Sites and Relics* (2009). This specifically includes the following:

- Review of existing heritage assessments and condition of the heritage items.
- Searches of national and state heritage databases and City of Penrith council plans
- Review of relevant literature including historical sources, parish maps, and aerial imagery.
- Site visit.
- Assessment of the heritage significance of the site and heritage items (if not done previously), and determination of the impacts on these items and if they are acceptable.
- Assessment of OEH Guidelines outlining new development adjacent to a heritage item.

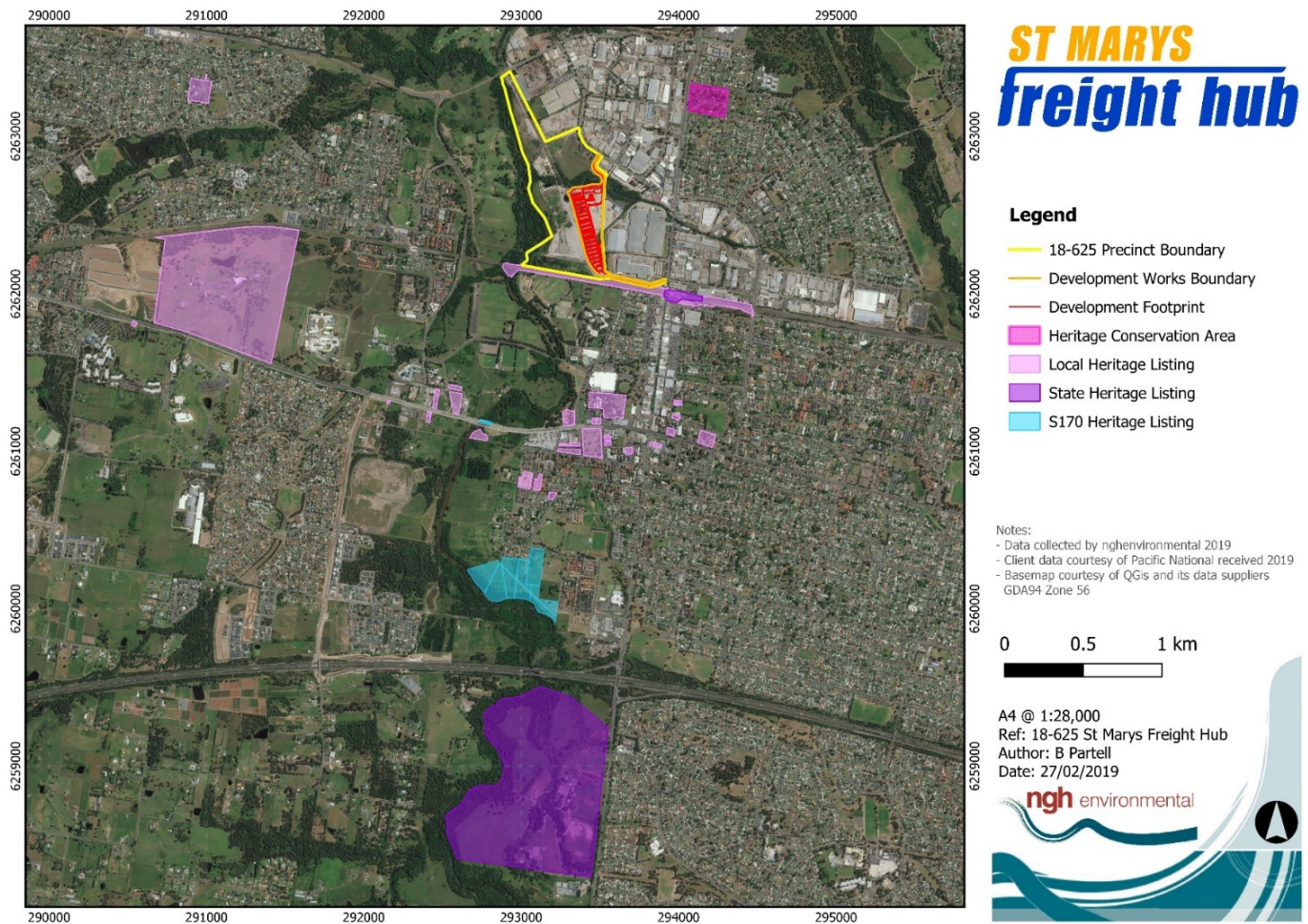
### 9.4.2 KEY FINDINGS

#### 9.4.2.1 Heritage Impact

The site has been identified as being in proximity to Ropes Creek Branch Railway Line, which is identified as having local heritage significance and State Heritage Register (SHR) site of St Marys Railway Station (Refer **Figure 15 Surrounding Heritage Sites**).



**FIGURE 15 SURROUNDING HERITAGE SITES**



### Ropes Creek Branch Railway Line

The Ropes Creek branch railway line has been identified as being of local heritage significance for its historic associations with the 1940s munitions factory operating in St Marys during WWII. The significance of this line will not be compromised with the proposed works as the line will continue to be in use, consistent with the principles outlined in Article 7 of the Burra Charter.

### St Marys Railway Station

There will be no physical impact on the SHR listed St Marys Railway Station. A minor visual impact will occur on the station; however, this is mitigated by the distance to the containers, vegetation growth, and surrounding industrial buildings.

#### 9.4.2.2 Archaeological Assessment

The Heritage Impact assessment undertaken by NGH also assessed the archaeological potential of the site. It was concluded that the archaeological potential is associated with the presence of the branch Ropes Creek Railway line and any associated infrastructure. Due to the disturbance of the site and the significant alterations to the track, the overall undisturbed archaeological potential of the site is low.

There are also no other registered or identified items of heritage significance within proximity to the site which will be impacted, physically or visually, by the works.

The cumulative impact of the proposal is considered to be low and is not considered to lead to any



significant impact to surrounding heritage items in accordance with the *NSW Heritage Act 1977*, and *Environmental Planning and Conservation Act 1979*.

The report recommends:

1. Retention of the Ropes Creek Branch line will ensure the ongoing use and maintenance of the Ropes Creek Branch Railway Line, consistent with Article 7 of the Burra Charter – “Where the use of a place is of cultural significance it should be retained.”
2. Retention of existing mature trees on the southern side of the site (within the existing Main West Rail Line) to mitigate any visual impact of the St Marys Freight Hub from the heritage listed St Marys Railway Station. This is also consistent with recommendations from the Visual Impact Assessment;
3. Freight Hub external colour palette to be neutral tones consistent with existing surrounding industrial buildings;
4. All contractors accessing the site to undertake a heritage induction to understand the heritage significance of the site prior to works being undertaken; and
5. Likely archaeological finds on site will include items related to the Ropes Creek railway line. These have been assessed in Section 4.6 as not holding any heritage significance. Should any unexpected heritage finds be identified, works must cease temporarily and the ‘Unexpected Finds Procedure’ described in Appendix A of the report should be adhered to.

### 9.4.3 MITIGATION MEASURES

The development has been designed to ensure that the existing mature trees on the southern side of the site will be retained. The proposal will also adopt the recommendations included in the NGH report (as outlined above) namely:

- Ensuring the external colour palette of the development is in neutral tones consistent with existing surrounding industrial buildings; and
- Contractors undertaking a Heritage Induction and implementing an Adhere to ‘Unexpected Finds Procedure’.

## 9.5 NOISE AND VIBRATION

A comprehensive Noise and Vibration Assessment has been undertaken by Aecom to consider potential noise and vibration impacts of the proposed development and to address SEARs requirements. Refer **Appendix 15 – Noise and Vibration Assessment**. The assessment considers noise and vibration impacts during both the construction and operational phases and outlines recommendations to address any anticipated impacts on nearby sensitive land uses and activities.

### 9.5.1 METHODOLOGY

Aecom undertook the following works to facilitate the preparation of a Noise and Vibration Assessment:

- Establish the existing background noise levels in the vicinity of the Proposal;
- Establish operational noise criteria, construction noise management levels and vibration limits that would apply to the Proposal;



- Predict operational noise levels at nearby noise sensitive receivers due to operation of the Proposal;
- Predict construction noise and vibration levels at nearby residential and other sensitive receivers due to the Proposal;
- Predict noise levels from additional off-site traffic generated by both the operation and construction of the Proposal;
- Assess the operational noise in accordance with the established environmental noise emission criteria and provide indicative noise control measures where necessary;
- Review the potential impacts of construction noise and vibration in relation to identified sensitive sites. Determine in principle mitigation measures if required including silencing treatment of mechanical and mobile plant, management of mechanical and mobile plant, community consultation and/or other noise mitigation and management measures; and
- Assess road traffic noise arising from additional traffic generation as a result of operation and construction of the Proposal and if necessary, recommend management and mitigation measures.

Completed noise and vibration measurements determined the existing noise environment to establish required operational and construction noise management levels.

### 9.5.2 KEY FINDINGS

The Noise and Vibration Impact Assessment report provides the following conclusions and recommendations.

#### Construction noise impacts

Predicted construction noise levels exceed the construction noise management levels for all scenarios at the closest noise sensitive receivers. This was determined based on five distinct work packages, as developed in consultation with Pacific National, to inform a computer-based noise model.

While no residents will be ‘highly affected’, unavoidable noise exceedances are anticipated to be experienced by nearby residents along Kalang Avenue and Camira Street. This includes allowance for the implementation of feasible and reasonable noise mitigation measures.

To address the above, the Noise and Vibration Impact Assessment recommends that an Environmental Management Plan (EMP) be developed and implemented for the Freight Hub prior to commencement of construction activities.

#### Operational noise impacts

Noise level assessment concludes that there may be changes to the existing noise levels as a result of the operation of the proposed St Marys Freight Hub.

Operation noise from the proposal is not expected to exceed the project noise trigger levels at nearby sensitive receivers, with the exception being the residential receivers within NCA2. Operational noise exceedances of up to 4dB at night are predicted within NCA2 (**Figure 16 Identified NCA's**).



**FIGURE 16 IDENTIFIED NCA'S**

(Showing NCA's 1 - 4)



Noise Source - Site Layout

ST MARYS  
Freight Hub

Pacific National

AECOM



0 250 500 Meters

In accordance with *Noise Policy for Industry* the following noise control measures are proposed to mitigate these noise exceedances:





- Offering treatments to moderately affected receivers (totalling six (6) lots), comprising air conditioning and upgraded facade elements of bedrooms; and
- The use of soft-landing technology to minimise container handling noise.

### 9.5.3 MITIGATION MEASURES

As recommended by Aecom the proponent is to prepare an Environmental Management Plan (EMP) to be implemented for the Freight Hub prior to commencement of construction activities. The EMP will include all reasonable and feasible safeguards to manage the noise emissions from the site and any complaints which may occur due to construction noise.

In addition, to address the potential impact on nearby residents in NCA2 from operational noise associated with the development, measures will be adopted in accordance with *Noise Policy for Industry* to meet with affected residents and establish an appropriate means in which to mitigate the noise exceedances that are anticipated.

These mitigation measures during operation include:

- Use of the best available equipment and technology.
- Adoption of “soft landing technology”. Soft land technology reduces bangs and clangs of containers when moved and stacked with a laser guidance system and automated speed to reduce collision impacts.
- Greater separation of empty container stacking areas. Bangs and clangs of empty containers is significantly higher than full containers and the internal layout shown in the Concept Plan has been revised to locate the empty container stacking areas as far away from the sensitive receivers as possible.

## 9.6 SOIL AND WATER

A series of technical reports were prepared by Douglas Partners and BG&E Engineering to investigate matters relating to ground water, drainage and acid sulfate soils on the subject site, and to address specific requirements identified in the SEARs for the proposal.

These reports are attached;

- Appendix 11 and 12 – Report on Preliminary and Supplementary Report on Site Contamination Investigation, Douglas Partners
- Appendix 16 – Report on Groundwater Level Investigation, Douglas Partners
- Appendix 17– Stormwater Management Plan, BG&E Engineering

### 9.6.1 GROUNDWATER

A Groundwater Level Investigation Report has been prepared by Douglas Partners. The Report has investigated and assessed groundwater levels within the site and if the proposed development has potential to intersect with groundwater levels, which would therefore require approval from requiring approval from Water NSW.



### 9.6.1.1 METHODOLOGY

A desktop assessment was undertaken by Douglas Partners to review the sites topography, geology, soil landscape and hydrology. In addition, a series of 5 groundwater monitoring wells were drilled and monitored over a period of two months to ascertain the ground water levels on the site.

### 9.6.1.2 KEY FINDINGS

Underground works are generally expected to be between 1.5 to 2 metres with relatively small specific locations (underground water tanks or similar) having depths up to 3 metres below existing surface levels. Refer **Appendix 17 – Report on Groundwater Level Investigation**.

The Groundwater Level Investigation concludes:

- Majority of the development is not expected to intersect or impact on existing groundwater flows or levels.
- Groundwater levels on-site have been recorded during this investigation generally at a depth of greater than 3 metres below existing surface levels.
- Additional groundwater monitoring may be required at the specific locations where deeper structures (underground water tanks or similar) are proposed.

Given the extent of fill historically compacted within the site and the low potential to excavate below 3 metres from the surface, the report concludes that the development is unlikely to impact on groundwater levels. Therefore, approvals from Water NSW would not be required. However, if excavations greater than 3 metres are needed, then further testing should be undertaken.

### 9.6.1.3 MITIGATION MEASURES

As outlined above, it is considered unlikely that the proposal will impact on groundwater levels.

Additional ground water monitoring will also be undertaken at specific locations, in the event that detailed design of structures (underground water tanks or similar) are proposed to be 3 metres or more below the existing surface.

## 9.6.2 STORMWATER MANAGEMENT

A Stormwater Management Plan has been prepared by BG&E to address SEARs requirements in relation to water resources likely to be affected by the proposed development. Refer **Appendix 18– Stormwater Management Report**.

### 9.6.2.1 METHODOLOGY

The purpose of the Stormwater Management Plan is to outline the existing drainage conditions, as well as provide an overall philosophy for the collection, treatment and disposal of stormwater from the development site. The Stormwater Management Plan also includes a plan for managing sediment and erosion control.

The Stormwater Management Plan has been prepared to address the underlying WSUD Objectives that are identified in the Penrith Development Control Plan, the WSUD Technical Guidelines as well as the requirements outlined in the SEAR's;





Penrith DCP 2014 WSUD Objectives are

- To protect and enhance natural land and water systems such as creeks and rivers, particularly water quality.
- To maintain and restore the natural water balance;
- To make more efficient use of water resources by conserving water, particularly potable (drinking) water;
- To reduce flood risk in urban areas;
- To reduce erosion of waterways, slopes and banks;
- To control stormwater pollution and improve water quality in waterways and groundwater;
- To integrate stormwater management with water supply and waste water treatment; and
- To integrate stormwater treatment into the landscape so as to maximise the visual and recreational amenity of urban development.

The relevant points in Section 11 (Soil and Water) of the SEARs requirements are also addressed through the Stormwater Management Plan and are outlined below;.

*The EIS must describe background conditions for any water resource likely to be affected by the development, including: Water Quality Objectives including groundwater as appropriate that represent the community's uses and values for the receiving waters.*

The proposed land use for the subject site will be for a freight hub. The WSUD proposal therefore improves the water quality of the runoff generated from the site by removal of gross pollutants, and the introduction of rainwater tanks. The post development runoff water quality will be greater than the existing scenario, and is hence deemed appropriate to represent the community's uses and values.

*The EIS must assess the impacts of the development on water quality, including:*

*The nature and degree of impact on receiving waters for both surface and groundwater, demonstrating how the development protects the Water Quality Objectives where they are currently being achieved, and contributes towards achievement of the Water Quality Objectives over time where they are currently not being achieved. This should include an assessment of the mitigating effects of proposed stormwater and wastewater management during and after construction.*

As noted above, the post development water quality entering the receiving water course will be treated prior to discharge from the site, and addresses the water quality objectives of the DCP. The design intent is to improve impact on the receiving waters, by the introduction of the water quality treatment train. Section 4 of this report address how water quality will be managed during construction.

The Stormwater Management Plan has used MUSIC and DRAINS models to demonstrate the suitability for the proposed stormwater management facilities.

### 9.6.2.2 KEY FINDINGS

#### Existing Drainage



The existing site drainage characteristics are summarised as:

- The site is 100% pervious and falls in a northerly direction to Little Creek at approximately 1%.
- The majority of the site drains to an existing basin on the northern edge of the development area, via culverts and cut off drains. The basin then discharges to Little Creek and ultimately South Creek.
- Upstream catchments are conveyed via a vegetated channel running along the southern side of the access road from Forrester Road and then along the eastern boundary of the site to a low point on the eastern boundary of the site. The low point then appears to drain primarily to South Creek, with some overland flow towards the basin and Little Creek.
- Further details in relation to existing drainage systems are detailed in the Stormwater Management Plan and related appendices.

### Proposed Drainage

A primary principle of the drainage strategy is to separate site runoff from runoff entering the site from upstream.

To manage site runoff, it is proposed to provide a pit and pipe network within the proposed roads and hardstand areas to collect and convey runoff from the minor storm events away from roads and hardstand areas as well as proposed structures. This network is proposed to discharge to Little Creek to the north of the proposed hardstand area. Refer **Figure 17 WSUD Preliminary Design**.

Runoff from the proposed buildings will be collected by gutters and discharged to proposed rainwater collection tanks. These tanks will overflow to the stormwater network outlined above.

During a major storm event, the hardstand areas will direct flows in a northerly direction toward Little Creek.

A trunk drainage line is proposed to convey the upstream catchment runoff through the site. The trunk drainage system will start in the south east corner of the site, picking up flows discharging from the upstream rail corridor catchment and discharge to Little Creek on the downstream side of the proposed access road to Lee Holm Road. The existing 675 mm diameter pipe is proposed to be retained and connected to this trunk main, with post development flows through this existing pipe to closely match pre development levels.

Whilst the development area for the site does have an increased peak discharge due to an increase in impervious area, the peak flow immediately downstream of the site will not increase.

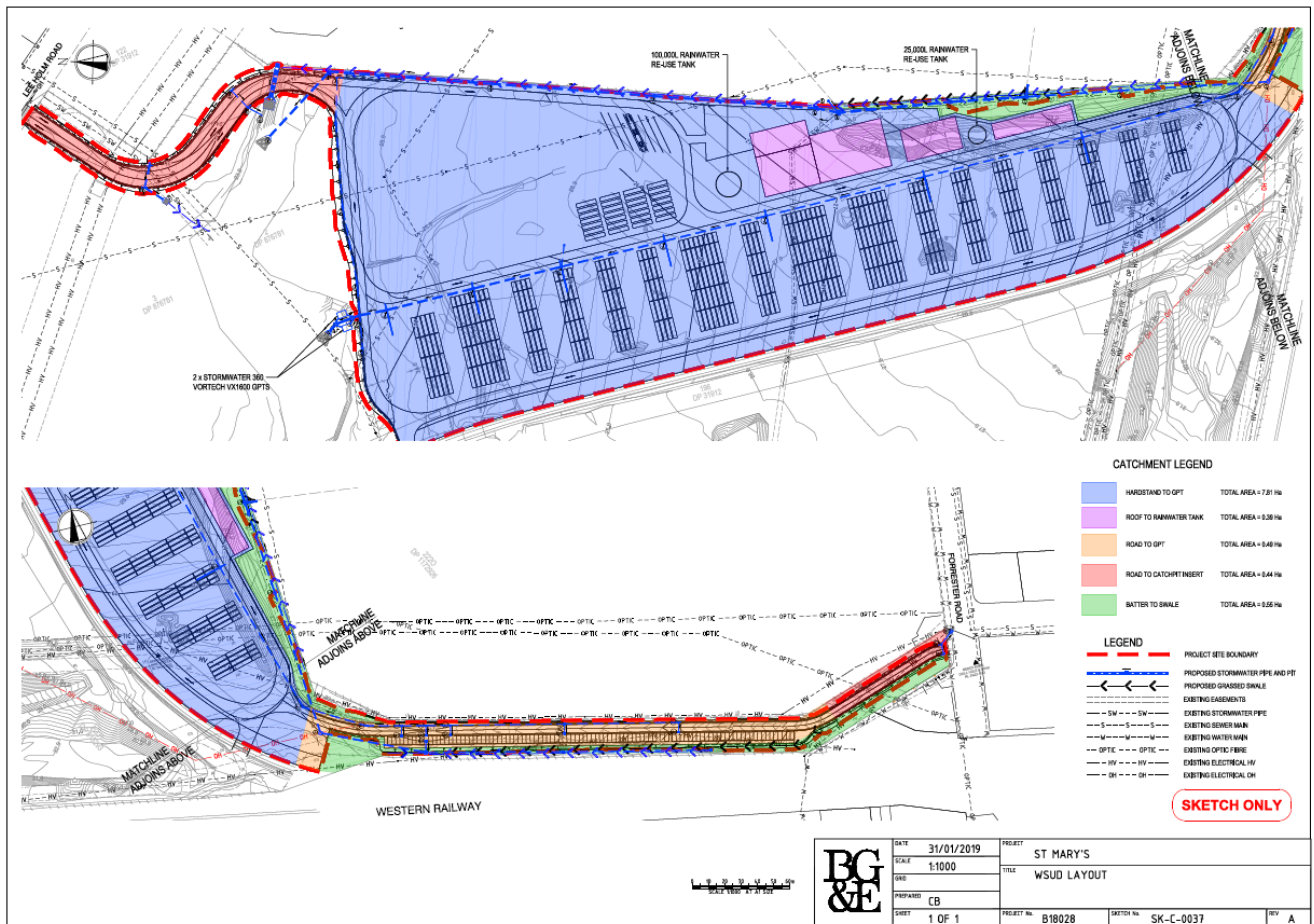
The Stormwater Management Plan details a treatment train for water quality and managing pollutants from within the site. The treatment train includes a series facilities and measure including:

- A 25kL rainwater tank associated with the office building to provide water for toilet flushing.
- The proposed Transport and Container Repair workshops drain to a 100kL tank where this water will be reused in the proposed Wash Bay.
- Gross Pollutant Traps.
- Gully Pit Inserts.



- Vegetated Swale

**FIGURE 17 WSUD PRELIMINARY DESIGN**



### Merit Based Assessment

BG&E has deemed that the TSS, gross pollutants and limited amount of expected hydrocarbons will be the governing pollutants of concern, and on this basis, the responsive design of the proposed treatment train is appropriate for the following reasons:

1. The proposed GPTs will remove fine sediment, oil and grease and floating and sinking debris, which will result in an improvement of TSS when compared to the current situation;
2. Hydrocarbons will be intercepted thereby significantly reducing the risk of hydrocarbons entering the receiving waterway;
3. The proposed rainwater tanks have the potential to reduce peak runoff flows entering the downstream receiving system. Furthermore, on-site rainwater re-use will be maximised, reducing the demand on the town supply.

Thus while the proposal does not meet all targets required by the DCP, it does address the objectives of the DCP and the underlying principles of the SEAR's requirements and is therefore seeking a site specific merit based assessment.

### Sedimentation and Erosion Control

The stated purpose of the management plan is to prevent the discharge of polluted stormwater off the site and to ensure that the environmental values of receiving waters are maintained or enhanced.



The primary stormwater feature is the existing sediment basin, which is to be retained at the downstream end of the site with temporary cut off drains catching runoff from the entire development site. It is expected that this sediment basin will eliminate almost all risk of sediment being washed off the site. There will be no waste water discharged from the site during construction.

### 9.6.2.3 MITIGATION MEASURES

While the Stormwater Management Report concludes that the development area for the site does have an increased peak discharge due to an increase in impervious area, the peak flow immediately downstream of the site will not increase.

The treatment train will be maintained throughout the operation of the Freight Hub to ensure levels of pollutants are minimised to acceptable levels for discharge into the broader system.

The existing sediment basin will be retained at the downstream end of the site and will eliminate almost all risk of sediment being washed off the site. There will be no waste water discharged from the site during construction.

To further facilitate the appropriate development of the site the proponent will prepare, prior to construction, a Stormwater Management Plan that is generally in accordance with the Stormwater Management Report prepared to accompany this EIS. Stormwater Management facilities will then be maintained to ensure ongoing treatment of stormwater flows and water quality.

### 9.6.3 ACID SULFATE SOILS

A Preliminary Site Contamination Investigation Report has been prepared by Douglas Partners considered the presence of acid sulfate soils. Refer **Appendix 11 and 12 – Reports on Site Contamination Investigation**.

The Preliminary Site Contamination Investigation Report noted that The Atlas of Australian Acid Sulfate Soils from the CSIRO identifies the site as having extremely low probability of acid sulfate soils. This is supported in the NSW Acid Sulfate Soils Risk Map which shows the site in an area of ‘no known occurrence’ of acid sulfate soil. As a consequence, no further investigation is necessary.

## 9.7 FLOODING

A Desktop Flood Study and Flood Impact Assessment has been undertaken by BG&E to inform and support the proposed development. Refer **Appendix 14 – Desktop Flood Study and Flood Impact Assessment**.

### 9.7.1 METHODOLOGY

The Flood Study and Flood Impact Assessment describes the flood assessment and modelling undertaken in determining the design of the flood levels for events and seeks to assess the impacts of the proposed development on flood behaviour.

The report seeks to:



- Describe the updates made to Penrith City Council's flood model of Little Creek to make fit-for-purpose for the site;
- Understand flood risks to the existing site and identify potential flood risks to the future development;
- Identify key development constraints in regard to flooding;
- Establish any flood mitigation measures required to minimise flood impacts to the development itself and the surrounding area; and
- Consider potential flood management and evacuation options for the site.

### 9.7.2 KEY FINDINGS

The design of the proposed development has been considered in the context of minimising the effect of the development on flood behaviours and by ensuring appropriate drainage design is incorporated into the site design.

The Desktop Flood Study and Flood Impact Assessment generally concludes that the site is not significantly impacted by flood events. Any major event short term flooding from South Creek is able to be addressed given there is sufficient area above to South Creek PMF for shelter-in-place until flooding on surrounding roads has subsided.

Furthermore, the proposed development is not considered to expose any resident to unacceptable levels of risk or property to unreasonable damage and will not increase flood hazard or risk to other properties.

### 9.7.3 MITIGATION MEASURES

The proposed development has been designed in the context of minimising the effect of the development on flood behaviours. While the site is not expected to be significantly at risk from a PMF event on Little Creek, however a PMF event on South Creek would inundate approximately half of the development area. BG&E as part of their Flood Study undertook an initial evacuation and flood emergency management planning that concluded;

- That a shelter in-place evacuation may be suitable for the site due to the inundation of the surrounding roads and the short duration flooding expected from Little Creek (2 hour critical storm duration).
- Although the PMF from South Creek would inundate the lower portion of the site, sufficient area above the South Creek PMF level remains above the flood extent.
- The area above the PMF level (for both watercourses) can be used for shelter-in-place until flooding on surrounding roads has subsided and there is safe egress from the property via Forrester Road. Furthermore, buildings are located on the higher area of the site (refer Figure 14) and can provide a location for shelter-in place during a PMF event.
- The South Creek critical storm duration is 36 hours however, flooding on the roadways in the



Little Creek sub catchment is likely to have subsided within only a few hours due to the urban flash flooding natures of these overland flows.

- As the existing Little Creek culvert at the access from Lee Holm Road is expected to be exceeded in small magnitude events (flood modelling shows culvert capacity is exceeded in a 0.5 EY event). Therefore access to Lee Holm Road will not be available once the culvert capacity is exceeded and the access road is overtopped.
- Although there is flooding predicted on the roadways connecting to the site access, flooding in these areas is shown to be low hazard in the 1% AEP event, with the exception of the Forrester Road crossing of Little Creek. The crossing is subject to medium to high hazard flow as Little Creek exceeds the capacity of the crossing and overtops the road. Therefore although access from the site will be available to Forester Road, there is potential that the road will be cut by flood waters. No alternate routes are available as the local roads are constrained by the creek and railway line.
- The critical storm duration is 2 hours for flooding from Little Creek and in the local catchments (established from Council's Little Creek Flood Study). As such, flooding of the surrounding roadways (overland flows) is expected to be short duration even when flooding from South Creek may be of a longer duration.

It is therefore proposed that a Flood Evacuation Plan that includes a shelter-in-place evacuation strategy be prepared prior to the commencement of operation. The plan will minimise risk and hazard to occupants of the site.

B&G E concluded that a shelter-in-place scenario is appropriate as;

There is sufficient land available above both the South Creek and Little Creek predicted PMF levels;

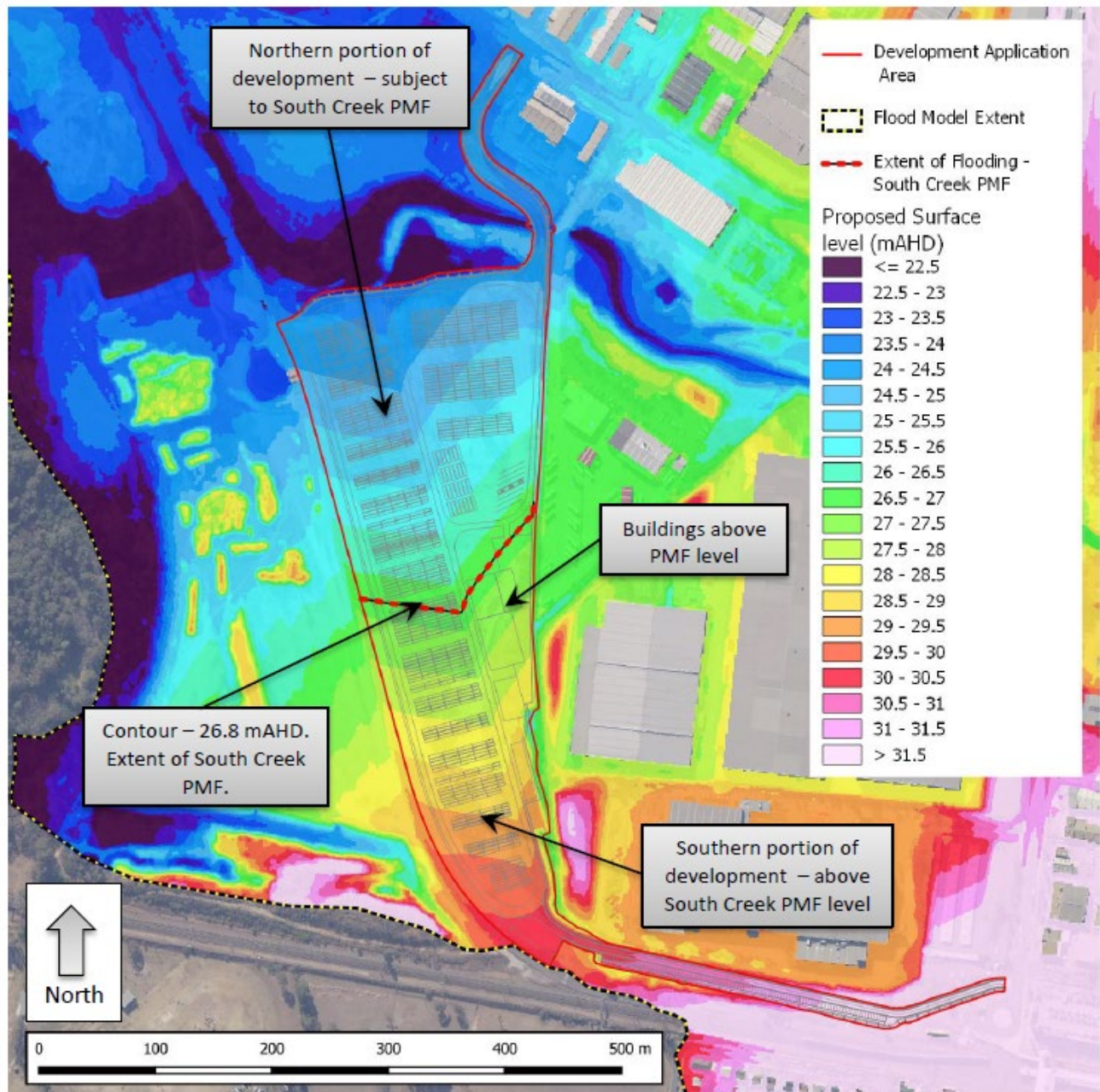
- Buildings are located on higher areas of the site and typically above the PMF level;
- Buildings can provide shelter to occupants of the site during flooding of the creeks and local roads.
- Although the PMF duration for South Creek is about 36 hours, the PMF duration for Little Creek is only 2 hours. Therefore flooding on local roads is not expected to be long duration (about 2 hours) and the period of time for which site access is considered unsafe is short (< 2 hours).
- Therefore, shelter-in-place is likely to be no more than 2 hours for access to Forrester Road based on the critical flood event duration.
- Site manager will be responsible for receiving flood warnings for South Creek as well as weather watches and weather warnings for the local area.

A formal flood evacuation and management plan will be prepared as part of future design stages. In



addition to providing for a shelter-in-place scenario the plan will include procedures for managing flood risk during construction assembly, evacuation points for all building's and evacuation routes and procedures in a flood event. The Flood Evacuation Plan will also form part of the induction of new staff to the site.

**FIGURE 18**      **PROPOSED SITE SURFACE LEVELS AND SOUTH CREEK PMF LEVEL CONTOUR**



## 9.8 CONTAMINATION

### 9.8.1 METHODOLOGY

As part of the preparation of the EIS, Douglas Partners was engaged to prepare a Preliminary Site Contamination Investigation Report. The purpose of this report was to investigate and assess the potential for contamination in the soil and groundwater through the development site. Refer **Appendix 11 – Report on Preliminary Site Contamination Investigation**.



This involved a review of the historical context of the site, site walkover and limited groundwater and soil sampling and analysis. The review and site walkover identified a series of Potential Areas of Environmental Concern (PAEC) that informed the locations for limited groundwater and soil sampling across the site.

Nine area of PAEC were identified across the site, comprising of:

- PAEC 1: Former and existing building/site structures
- PAEC 2: Deep Fill
- PAEC 3: Stockpiles
- PAEC 4: Timber Power Poles
- PAEC 5: Surficial ACM
- PAEC 6: Fuel and Chemical Leaks and Spills
- PAEC 7: General Surficial Refuse/Litter
- PAEC 8: Off-site Sources
- PAEC 9: Potential former site use by James Hardie & Coy Pty Ltd

As part of the identification of the PAEC a series of four bore holes were drilled onsite to assess fill depths and contamination and to install monitoring wells for groundwater contamination and a series of thirteen test pits were also excavated to obtain sample soils on site. This analysis has informed the initial findings and recommendations relating to the PAEC.

### 9.8.2 KEY FINDINGS

The Preliminary Site Investigation cleared the site of any ground water contamination issues. The site was also deemed suitable for the proposed industrial use subject to the further investigation and remediation (as required) of PAEC sites 1, 3, 4, 5, 6 and 9.

As a consequence of these findings, Douglas Partners was engaged to complete a second more detailed investigation of PAEC Sites 1,3,4,5,6 and 9.

The Supplementary Site Contamination Assessment (SCA) was undertaken by Douglas Partners in March 2019 which involved completing additional further field work sampling, analysis and reporting each of these PAEC sites. Refer **Appendix 12 – Report on Supplementary Site Contamination Assessment**.

The key findings of the SCA can be summarised as

#### **Asbestos Containing Material (ACM)**

A fragment of ACM was previously observed during the PSI on the ground surface within the former stockpile footprint in the far northern portion of the site. Additional soil samples and testing was undertaken as part of the SCA. The SCA confirmed that the site will require remediation for the site to be suitable for the proposed commercial / industrial redevelopment. Refer **Figure 13 Location of Stockpiles and ACM Location 1**. The extent of ACM impact to fill however is considered likely to be limited given that ACM was not detected at concentrations exceeding residential HSLs in any of the



remaining grid or delineation based samples completed within the far northern portion of the site.

### Metals and PAH's

The SCA confirmed the location of metals (arsenic and copper) and PAHs in excess of environmental investigation and screening levels at the test pit location, the base of the stockpile and at limited locations within stockpiles as detailed in the SCA report. These were not considered to affect the suitability of the site for commercial/ industrial purposes however given:

- The majority of the proposed intermodal freight terminal is to be covered with a concrete slab hardstand which will limit ecological access to soils across the site; and
- Concentrations of metals and PAHs were not detected at levels exceeding EILs in the majority of stockpile and test pit samples indicating the extent of arsenic, copper and PAH impact is limited in extent and not indicative of widespread gross impact to stockpiled and site's soils.

### Pesticides

Pesticides had been identified in SPC 4, however the concentrations of pesticides do not exceed commercial / industrial health investigation levels or Environmental Investigation Levels and therefore do not prevent the site's suitability for the proposed land use.

### Former Ownership by James Hardie

As part of the Supplementary Site Contamination Investigation, Douglas Partners contacted the EPA in regard to its investigations of James Hardie asbestos legacy sites. It is understood that the EPA obtained information from Hardie Industries regarding up to 47 sites which were used to dispose of bulk asbestos waste and the EPA determined that 27 of the sites required inspections and assessment for asbestos contamination. Available information in the EPA website does not indicate that any of the sites of concern are located within the Penrith City Council LGA.

Douglas Partners understand Stockpile SP3 was generated during the ownership by James Hardie and prior to filling. SP3 has an approximate volume of 15,000m<sup>3</sup> – 25,000m<sup>3</sup> which is understood to have been generated through the stripping of the site surface following the site ownership by James Hardie. This investigation included assessment of SP3 to assess potential site surface impacts during the ownership of the site by James Hardy.

Further investigation of SP3 under the supplementary investigation was undertaken to assess potential site surface impacts during the ownership of the site by James Hardie. The more intensive assessment included the excavation of 30 test pits within SP3 and analysis of contaminants of potential concern including asbestos. Suspected asbestos containing materials, or indicators of potential asbestos contamination (i.e. building demolition waste), were not observed in the test pits, and asbestos was not reported during laboratory analysis.

## FIGURE 19 LOCATION OF STOCKPILES AND ACM LOCATION 1





### 9.8.3 MITIGATION MEASURES

Based on the findings of the SCA, Douglas Partners considers that the site can be made suitable for the proposed development subject to the following:



- Successful remediation and validation of asbestos impacted soil at PAEC 1 (former stockpile footprint) located in the far northern portion of the site. To inform these remediation works, Douglas Partners have prepared a Remediation Action Plan (RAP) which details a strategy to render PAEC 1 suitable for the proposed use; and
- Preparation of an Unexpected Finds Protocol by a suitability qualified expert prior to commencing construction. The Unexpected Finds Protocol is to form part of the inductions of contractors and construction workers and be included in the Construction Environmental Management Plan. Any contaminated material identified during construction (if any) will be managed and remediated to EPA and NSW Office of Environment & Heritage Guidelines.

The Remediation Action Plan (RAP) (Refer **Appendix 13 - Remediation Action Plan**), establishes the remediation and validation strategies required to remediate fill impacted with asbestos containing material (ACM) in the far northern portion of the site.

The RAP, provides the following general options to remediate the identified area:

- Excavation of fill and offsite disposal to a landfill;
- Onsite remediation which includes excavation of fill and hand picking fragments of ACM from fill to reduce concentrations below the land use criteria; and
- Capping and containment.

The RAP additionally establishes:

- Appropriate requirements for the validation and verification of the successful implementation of the remediation strategy and the remediation acceptance criteria to be adopted for the remediation of the site – validation sampling and analysis will be completed with reference to validation methodology and Health Screening Levels established in the National Environmental Protection Measure (2013, amended);
- Appropriate environmental safeguards required to complete remediation works in an environmentally acceptable manner in accordance with the Protection of the Environment Operations Act 1997 (NSW); and
- Appropriate OH&S procedures required to complete the remediation in accordance with the Work Health and Safety Act 2011 (NSW) and Work Health and Safety Regulation 2011 (NSW).

The preferred remediation option may comprise one or a combination of the above options. It is anticipated that successful implementation of the RAP will render the identified impacted area as suitable for the proposed industrial use.

## 9.9 BIODIVERSITY ASSESSMENT

As a State Significant project, the *Biodiversity Conservation Act 2016* requires that the proposal is accompanied by a Biodiversity Assessment Report. To fulfil this requirement and the matters outlined



in the SEAR relating to biodiversity, Eco Logical Australia were engaged to prepare a Biodiversity Development Assessment Report. Refer **Appendix 3 – Biodiversity Development Assessment Report**.

### 9.9.1 METHODOLOGY

The Biodiversity Development Assessment Report (BDAR) was prepared to meet the requirements of the Biodiversity Assessment Method (BAM) established under Section 6.7 of the *NSW Biodiversity Conservation Act 2016*.

BDAR outlines the measures taken to avoid, minimise and mitigate impacts on the vegetation and species habitat present within the development footprint and measures to minimise impacts during construction and operation of the development. A detailed review of the legislative context and a review of the landscape features of the site were undertaken. In addition, the site was surveyed on foot to:

- Identify Plant Community Types (PCT) Four vegetation plots were collected in accordance with the Biodiversity Assessment Method (BAM) to assess the composition, condition and integrity of PCT,
- Collect plot data and note potential threatened species habitat, and
- Undertake a microbat survey.

### 9.9.2 KEY FINDINGS

A total of three PCTs were identified on the development site. Refer **Figure 20 Plant Community Types**. All three are listed Threatened Ecological Species (TESs) under the *Biodiversity Conservation Act 2016*. The development site does not contain any listed TECs under the *Commonwealth Environmental Protection and Biodiversity Conservation Act 1999*.

The three Plant Community Types (PCTs) that were identified on the site, were in varying conditions. Two of these PCTs correspond to an endangered ecological community (EEC) under the *NSW Biodiversity Conservation Act 2016*, however the ECC was identified as being generally in a degraded condition.



**FIGURE 20 PLANT COMMUNITY TYPES**

One threatened flora species, *Grevillea juniperina* subsp. *juniperina* (Juniper-leaved Grevillea), was recorded within the development site.

Three threatened microchiropteran bats (microbats) were recorded during the Anabat survey within the development site including *Myotis macropus* (Southern Myotis), *Falsistrellus tasmaniensis* (Eastern



False Pipistrelle) and *Mormopterus norfolkensis* (Eastern Freetail-bat). The presence of a further threatened microbat, could not be confirmed.

Species credit offsets apply to compensate for the impacts on *Grevillea juniperina* subsp. *juniperina* and Southern Myotis habitat. Impacts on Eastern False Pipistrelle, Eastern Freetail-bat and Eastern Bentwing-bat are proposed to be offset as ecosystem credits. Eastern Bentwing-bat is also a species credit species where breeding habitat will be impacted, however, breeding habitat for this species is not present within or in proximity to the development site.

### 9.9.3 MITIGATION MEASURES

The Biodiversity Assessment that was undertaken by Eco Logical Australia informed a number of amendments to the initial development concept to avoid, minimise and mitigate impacts on the vegetation and species habitat. Refer **Figure 21 Development Footprint** that illustrates how the initial development footprint that formed part of the PEA submission has been reduced in the current proposal.

**FIGURE 21 DEVELOPMENT FOOTPRINT**



DEVELOPMENT FOOTPRINT (PEA LODGED)



PROPOSED DEVELOPMENT FOOTPRINT

In addition, a series of measures will be implemented during the construction and ongoing operation to further minimise the developments impact. These are summarised below:

#### Development Design

- The development has been redesigned from the initial concept plan so that the development footprint is located in areas with little or no biodiversity value and retention of areas that have a



higher vegetation integrity score. This resulted in a reduction in the impacted native vegetation area from approximately 2.94 to 1.5ha (Refer **Figure 20 Development Footprint**).

- Siting of the development footprint has sought to minimise the impact on high threat species and vegetation habitats. Redesign of the development footprint has also minimised the amount of clearing required.
- Ancillary construction and operational activities have been located within the development footprint to minimise any additional impacts on existing vegetation and species habitat.
- The redesign of the project to avoid impacts on existing infrastructure and waterbodies that may support microbat habitats.

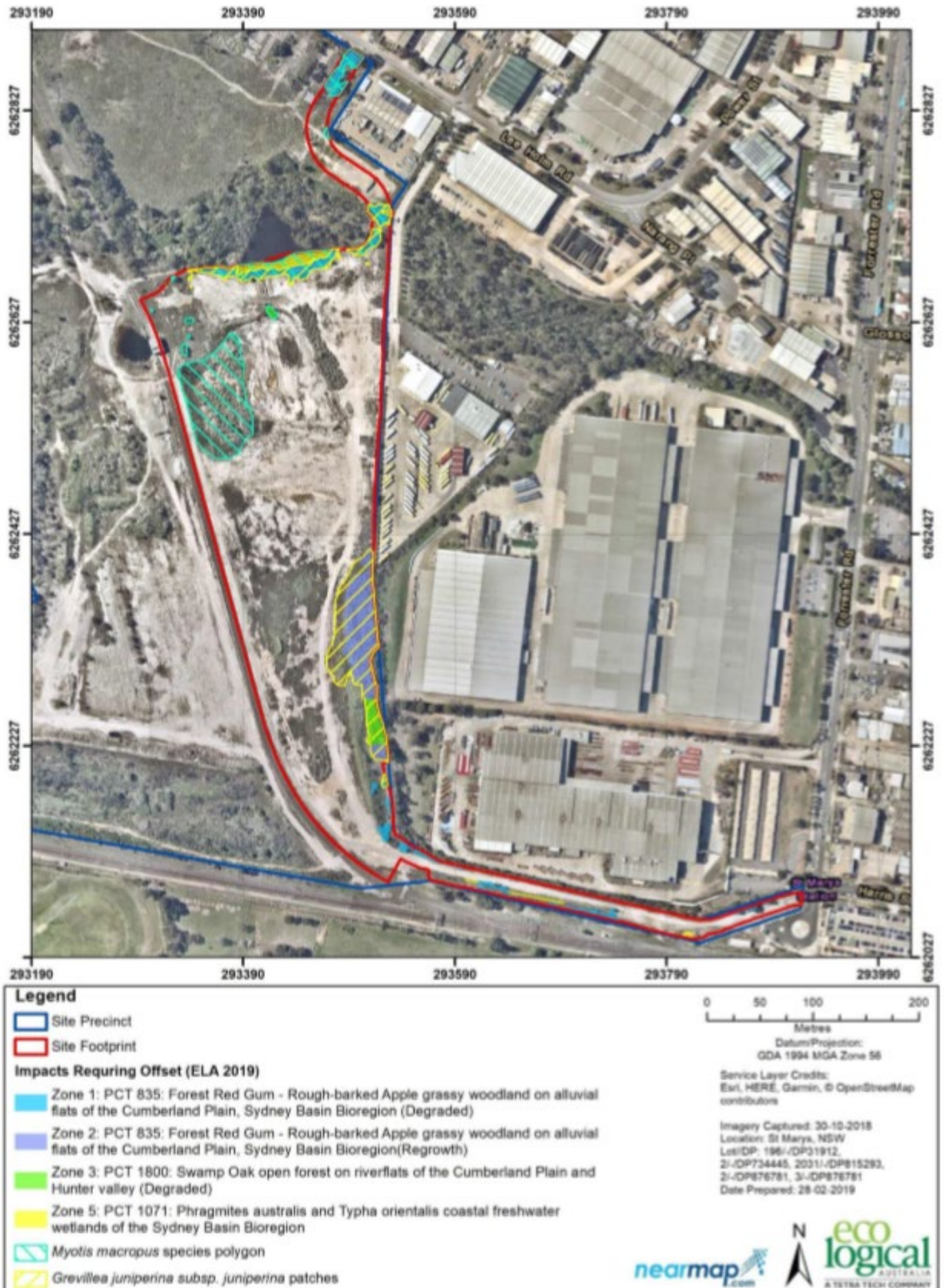
### Construction and Operation

Further measures are also proposed to minimise impacts during construction and operation of the development, these include:

- Detailed design of the Freight Hub will aim to further reduce environmental impacts on native flora and fauna where possible,
- Clearing of native vegetation is to be contained within the construction footprint,
- The Construction Environmental Management Plan and Operational Environmental Management Plan is to include a section on managing native vegetation and displacement of resident fauna and microbats and include the following details:
  - impact avoidance and mitigation
  - staff/contractor inductions
  - clearing procedures and protection zones
  - weed control
  - pest management
  - monitoring,
- Landscaping treatments are to use endemic tree, shrubs and grass species in the sensitive vegetation zones and planting/revegetation will adopt procedures that will not adversely impact on the existing native vegetation, and
- Manage, protect and conserve the areas of ecological significance which are to be preserved.

The residual unavoidable impacts of the project were calculated in accordance with BAM by utilising the Biodiversity Assessment Method Credit Calculator (BAMC) and a total of 16 ecosystem credits are proposed to offset the residual impacts of the proposed project. Refer **Figure 22 Impacts Requiring Offsets**.



**FIGURE 22 IMPACTS REQUIRING OFFSETS**



## 9.10 BUSHFIRE

A Bushfire Protection Assessment (BPA) has been prepared by Eco Logical to support the proposed development and to satisfy SEARs requirements. Refer **Appendix 16 Bushfire Protection Assessment**.

### 9.10.1 METHODOLOGY

A Bushfire Protection Assessment has been prepared to assess the proposals in relation to Bush Fire Protection with regard to matters such as access, water and services, emergency planning, and landscaping/vegetation management. In addition, to address SEARs, the report includes a Special Fire Protection Assessment of the proposal.

The BPA has been prepared in accordance with 'Planning for Bush Fire Protection 2006' (PBP). The proposal also includes a fuel storage building that is identified as a Special Fire Protection Purpose (SFPP) development under the PBP and its construction is affected by the Australian Standard (AS) 3959-2009 "Construction of Buildings in Bushfire Prone Areas" (Standards Australia 2009). The remainder of the proposed buildings do not have specific bushfire performance requirements under the BCA. These buildings as part of the overall development have been assessed against the aim and objectives of PBP in relation to other matters such as access, water and services, emergency planning, and landscaping/vegetation management.

The BPA has included a review of background documentation, design team consultation and GIS analysis.

The objectives of PBP for this type of development are:

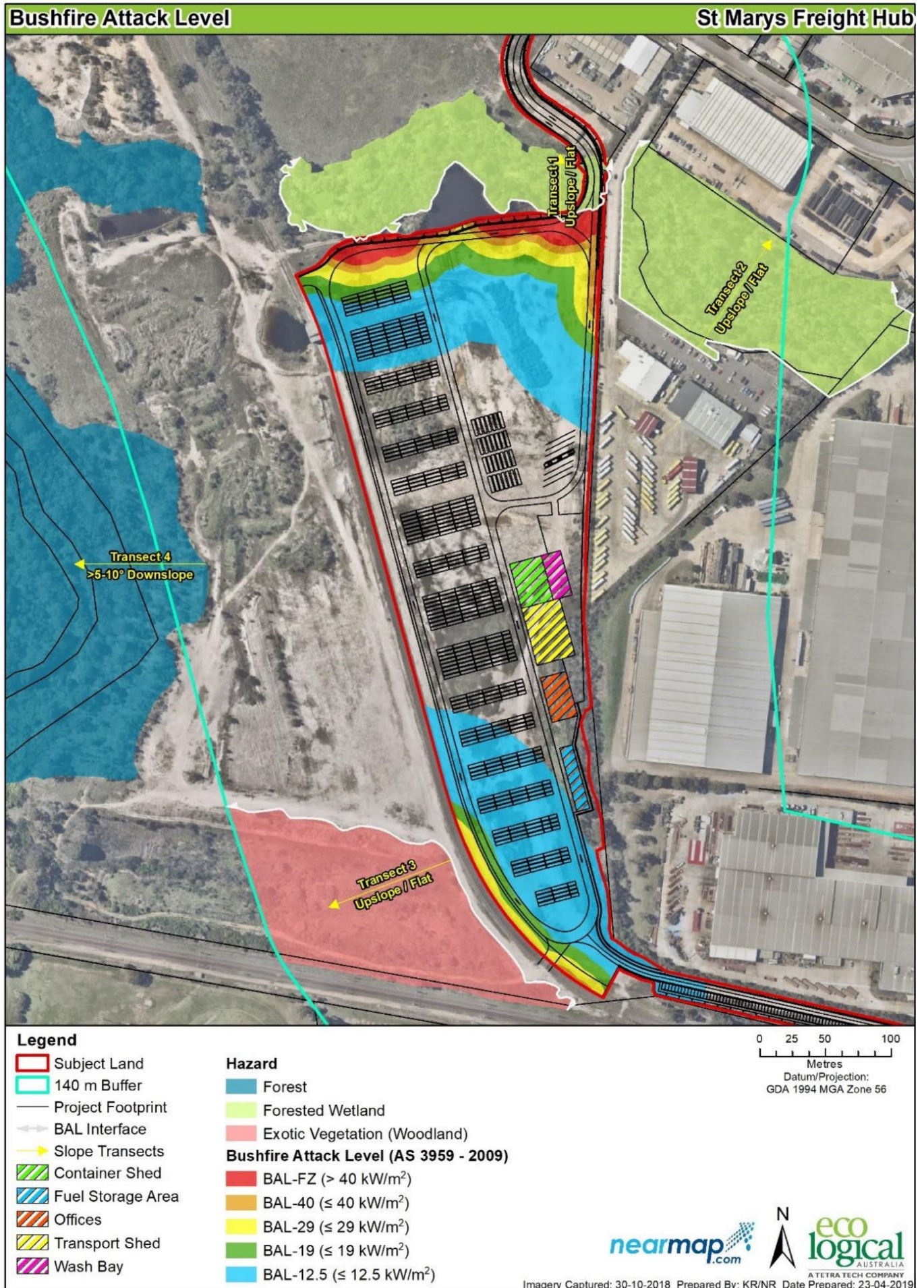
- Afford occupants of any building adequate protection from exposure to bushfire;
- Provide for defendable space to be located around buildings;
- Provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent direct flame contact and material ignition;
- Ensure that safe operation access and egress for emergency service personnel and residents is available;
- Provide for ongoing management and maintenance of bushfire protection measures, including fuel loads in the asset protection zone (APZ); and,
- Ensure that utility services are adequate to meet the needs of firefighters (and others assisting in bushfire fighting).

### 9.10.2 KEY FINDINGS

In a previous concept the buildings were subject to bushfire attack levels (BALs) as there were located closer to Little Creek. The internal layout was amended to move the buildings further away from the bushfire risk where asset protection zones between 102 metres to 252 metres are now available. With these large separation distances to the bushfire risk areas, no buildings are subject to higher construction standards to meet BALs specifications (Refer Figure 23).



**FIGURE 23 BUSHFIRE ATTACK LEVELS**







The Bushfire Protection Assessment concludes that the proposed development wholly complies with the acceptable solutions within *Planning for Bush Fire Protection 2006* on the following basis:

- Asset Protection Zones: APZ are detailed in the report and an APZ for SFPP of >10kW/m<sup>2</sup> is provided for the Fuel Storage Area.
- APZ Maintenance plan: Identified APZ to be maintained in perpetuity to the detailed specifications in Section 3.2 of the report.
- Access: Internal access complies with PBP acceptable solution specifications for a SFPP development.
- Water supply: Reticulated water supply recommended to meet PBP acceptable solution specifications for a SFPP development.
- Electricity service; Electricity supply recommended to meet PBP acceptable solution specifications
- Gas service: Gas services are to be installed and maintained in accordance with AS/NZS 1596:2014.
- Evacuation / Emergency Response procedures: A Bushfire Emergency Response and Evacuation Plan is to be prepared prior to occupation.

On the above basis and consistent with the Bushfire Protection Assessment report, Eco Logical concludes that the proposed development can satisfy all bushfire requirements.

### 9.10.3 MITIGATION MEASURES

As part of the construction and ongoing operation of the development the following management and mitigation measures will be implemented to ensure appropriate bush fire protection is achieved:

- Ongoing maintenance of Asset Protection Zones
- Provision of a water supply that complies with AS 2419.1 – 2005 Fire Hydrant Installations - System Design, Installation and Commissioning
- Gas and electricity services are to be installed to Planning for Bushfire Protection standards
- A Fire Emergency Response and Evacuation Plan (that addresses Bushfire) is to be prepared prior to operation and form part of the induction for staff.

## 9.11 HAZARDS AND RISKS

A Preliminary Risk Screening assessment has been prepared by Environmental Resources Management Australia Pty Ltd (ERM) to support the proposed development and address the requirements outlined in SEAR's. Refer **Appendix 10 – Hazardous and Offensive Development Risk Screen**.

The purpose of the assessment was to determine whether the proposed development should be considered a hazardous or potentially hazardous industry. Should the development be determined to be hazardous or potentially hazardous than a Preliminary Hazard Analysis (PHA) would need to be prepared in accordance with Clause 12 of SEPP 33. The Preliminary Risk Screening assessment determined that on the basis that identified hazardous materials use at the site have not exceeded the risk screening thresholds, a PHA is not required.



## 9.12 LANDSCAPE DESIGN AND VISUAL ASSESSMENT

A comprehensive Visual Impact Assessment (VIA) has been prepared by NGH Environmental in support of the proposed development (Refer **Appendix 20 – Visual Impact Assessment**). This is accompanied by a detailed Landscape Masterplan prepared by Site Image Landscape Architects (Refer **Appendix 5 – Landscape Masterplan**) that is discussed in more detail in **Section 4.3 Landscape Design** of this report.

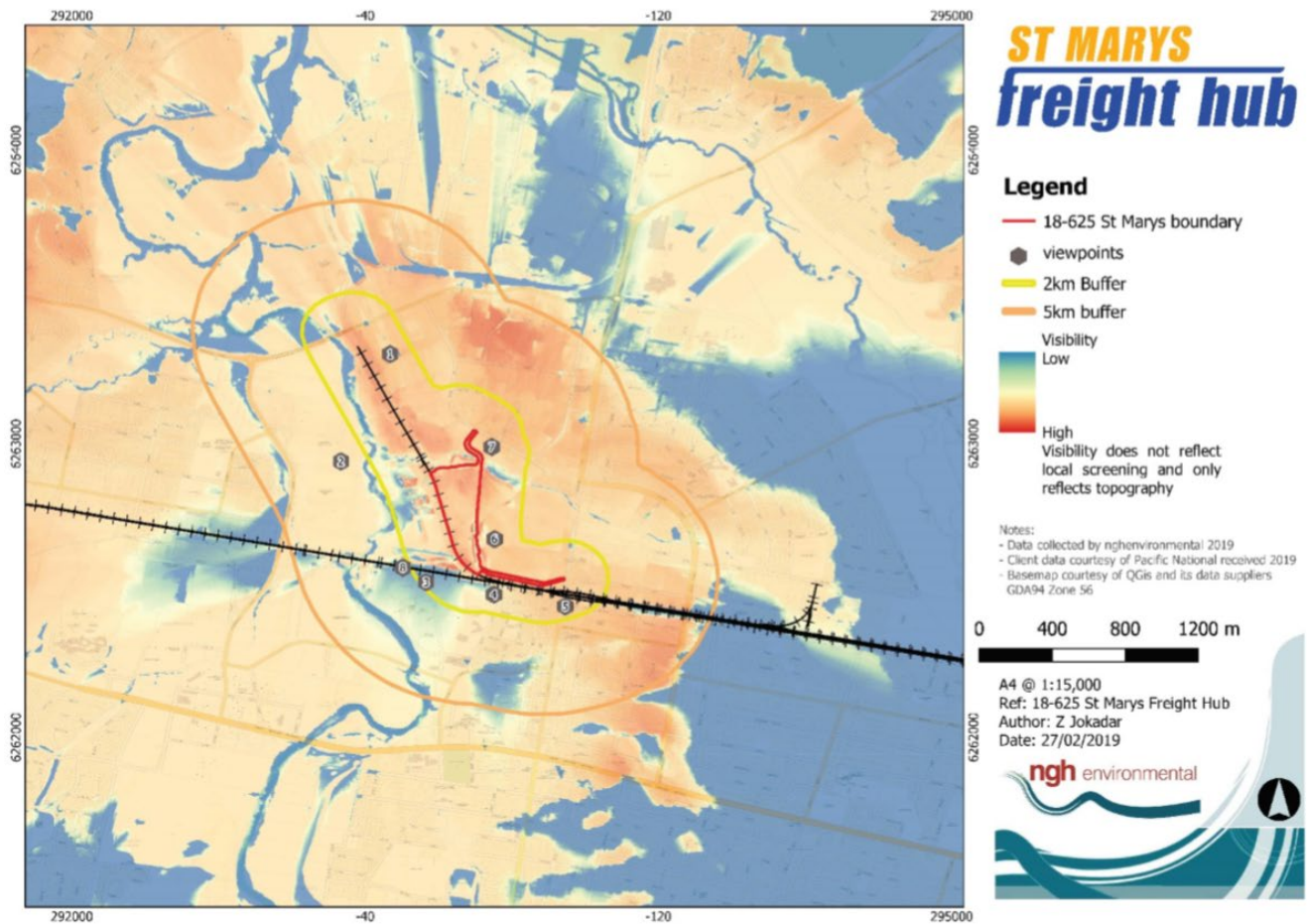
### 9.12.1 METHODOLOGY

The purpose of the VIA is to consider the visual impacts of the proposed development on nearby local roads and neighbouring sensitive receivers such as residential and commercial properties and public utilities (including schools and parks), at both the construction and operational stage.

In order to achieve this, the report assesses the:

- Landscape character and scenic vistas in the locality;
- Stakeholder values regarding visual amenity; and
- Potential impacts on representative viewpoints, including residences and road corridors.

The viewpoint modelling was undertaken to determine area in which the proposal's infrastructure may theoretically be visible, within 5km of the proposal. This modelling does not take into account existing screening from vegetation or buildings, and thus is considered worse case scenario. A total of eight viewpoints were identified and assessed (Refer **Figure 24 Representative View Points**). The viewpoints that have been included represent areas where the development would appear most prominent, either based on the degree of exposure or the number of people likely to be affected. An analysis of these viewpoints has informed an impact assessment of the proposed construction and ongoing operation of the site.

**FIGURE 24 REPRESENTATIVE VIEW POINTS**


### 9.12.2 KEY FINDINGS

The development is in an existing industrial area, with existing industrial uses generally to the north and east, recreational activities to the west and south west, residential to the south and commercial to the south east. The scenic quality and sensitivity of each of these view points and the subsequent visual impact assessment and any mitigation is summarised below:

**TABLE 3 REPRESENTATIVE VIEWPOINTS, ASSESSED PROXIMITY, SCENIC QUALITY, SENSITIVITY, VISUAL IMPACT AND MITIGATION**

ID	LCU	VIEW LOCATIONS	DISTANCE TO SITE	SCENIC QUALITY	SENSITIVITY	VISUAL IMPACT	MITIGATION
1	Industrial	Road	Foreground	Low	Low	Indistinct	No
2	Recreational	Road	Middle ground	High	High	Indistinct	No
3	Recreational	Site	Middle ground	High	High	Low	Yes*
4	High School	Site	Foreground	Moderate	High	Moderate/Low	Yes*
5	Commercial	Road	Middle ground	Low	Low	Indistinct	No
6	Industrial	Road	Foreground	Low	Low	Indistinct	No
7	Industrial	Road	Foreground	Low	Low	Indistinct	No
8	Railway	Site	Foreground	Low	Low	Low	Yes*

\*Refer Section 9.12.3 for Mitigation Measures Proposed

The assessment of the numerous viewpoints confirms that there are no highly or moderately impacted



viewpoints as a result of the proposed development. A moderate-low impact was determined for one representative viewpoint, and a low-indistinct impact was determined for two representative viewpoints. Specific mitigation measures will be implemented as part of the proposal to address the potential visual impact of the proposed development on its surroundings.

### 9.12.3 MITIGATION

- Maintaining existing vegetation screening to break up views of the proposal from the southern boundary.
- Preparation of vegetation screening plan to balance operational requirements of the Freight Hub and consideration the change in landscape character once the ‘Outer Sydney Orbital’ is constructed, relative to the merits of vegetation screening. The detailed landscape plans are provided as **Appendix 5**.
- General built form and operational measures, including:
  - design elements to reduce visual contrast;
  - mitigation of construction impacts such as dust and traffic that may reduce visual amenity;
  - mitigation of operational impacts such as maintaining existing vegetation on the boundaries of the development site to break up views of containers and buildings and soften the appearance of the facility.

Overall, the visual impact of the proposal is considered acceptable and manageable.



## 10. CONTRIBUTIONS

Penrith Council's current Local Contributions Plans that are in force are outlined below. There are no contributions required under any of these Contributions Plans as the site does not form part of the land subject to the respective Contribution Plan and/or the proposed type of development (industrial) is not subject to contributions.

**TABLE 4 CURRENT PENRITH COUNCIL LOCAL CONTRIBUTIONS PLANS**

PENRITH CONTRIBUTION PLAN NAME	APPLIES	COMMENT
CLAREMONT MEADOWS S94 Development Contributions Plan	No	Site outside identified contribution plan area
Cultural Facilities Development Contribution Plan (S94)	No	Does not apply to industrial development
Glenmore Park Stage 2 Development Contributions Plan 2007	No	Site outside identified contribution plan area
LAKES ENVIRONS (WATERSIDE GREEN) Section 94 Development Contributions Plan	No	Site outside identified contribution plan area
LAMBRIDGE INDUSTRIAL ESTATE NORTH PENRITH Section 94 Development Contributions Plan	No	Site outside identified contribution plan area
Penrith City Centre Plan Civic Improvement Plan	No	Site outside identified contribution plan area
Penrith City District Open Space Facilities Development Plan (S94)	No	Site is an excluded area in the contribution plan
Penrith City Local Open Space Development Contribution Plan (S94)	No	Site is an excluded area in the contribution plan
St Marys Town Centre s94 Development Contributions Plan 1993	No	Site outside identified contribution plan area
Werrington Enterprise Living and Learning (WELL) Precinct Development Contributions Plan 2008	No	Site outside identified contribution plan area

In addition, the Traffic and Transport Assessment prepared by Bitzios Consulting (Refer **Appendix 4**) confirms that there are no road or intersection upgrades required as a result of the St Marys Freight Hub.

Given there are currently no Contributions Plans under the *Environmental Planning & Assessment Act 1979* applying to the site and no requirements for road upgrades, it is considered that neither developer contributions or a Voluntary Planning Agreement for local contributions are not required.



## 11. MANAGEMENT AND MITIGATION MEASURES

This compilation of management and mitigation measures is provided in accordance with Clause 7(1)(e) in Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*.

Proponent: Pacific National Pty Ltd

Project: St Marys Freight Hub (SSD 7308)

Site: Includes the following land:

- A portion of Lot 2 Forrester Road, St Marys on Deposited Plan 876781;
- A portion of Lot 3 Lee Holm Road, St Marys on Deposited Plan 876781; and
- A portion of Lot 196 Christie Street, St Marys on Deposited Plan 31912.

The EIS for the St Mary Freight Hub has investigated, identified and assessed numerous environmental impacts, and recommends management and mitigation measures to prevent, remediate and/or mitigate these impacts.

This section includes a summary of the draft management and mitigation measures to be implemented during the detailed design, construction and operation phases of the development. The management and mitigation measures are a draft version and subject to review in response to agency and public submissions to the EIS. The final version of the compilation of management and mitigation measures is to be included in the post exhibition reporting for the proposal.

The draft **Compilation of Management and Mitigations Measures** is provided in **Table 5**.

**TABLE 5 DRAFT COMPILATION OF MANAGEMENT & MITIGATIONS MEASURES**

MANAGEMENT AND MITIGATION MEASURES	APPLICATION
<b>1. General Project Commitments</b>	
All practical and reasonable measures to prevent and/or mitigate significant adverse impacts on the environmental will be implemented.	Construction and Operation
All practical and reasonable measures to protect human health and safety for staff, visitors, contractors, construction workers and the general public will be implemented.	Construction and Operation
Staging of construction and operation is to be in accordance with Staging Strategy to be submitted to the Department of Planning and Environment which details how development will be staged, including general details of work activities associated with each stage and the general timing of when each stage will commence, and when respective stages will commence operation.	Pre-construction
<b>2. General Management</b>	
Inductions of contractors and construction workers will include management and mitigation measures in this Table where relevant.	Construction
Inductions of staff and visitors will include management and mitigation measures in this Table where relevant.	Operation
Management during the construction cycle will monitor potential environmental impacts (i.e. noise, dust, Aboriginal and non-Aboriginal heritage, erosion and sediment control, etc.) to ensure impacts on the environment are minimised.	Construction
A Construction Environmental Management Plan will be prepared prior to commencement of construction activities and implemented throughout the construction cycle.	Construction
Core construction hours will be between 6am to 6pm Monday to Friday and 6am to 1pm on Saturdays with low impact works during extended hours for up to a 10-hour period during Monday to Friday.	Construction
An Operational Environmental Management Plan will be prepared and implemented for the St Marys Freight Hub that will include details on approvals, management requirement of the development and operating hours of 24 hours per day, 7 days per week.	Pre-operation and Operation
The operation of plant and equipment (i.e. forklifts, reach-stackers) will be maintained and operated in accordance with Australian Standards.	Operation





MANAGEMENT AND MITIGATION MEASURES	APPLICATION
<b>3. Air Quality</b>	
<p>The following precautionary management and mitigation measures are to be implemented:</p> <ul style="list-style-type: none"> <li>Minimise exposed surfaces, such as stockpiles and cleared areas, including partial covering of stockpiles where practicable</li> <li>Implement dust suppression measures, such as watering of exposed soil surfaces, dust mesh, water trucks and sprinklers to minimise dust generation</li> <li>Avoid dust generating activities and water stockpiles and exposed areas during adverse weather conditions such as high winds and dry periods</li> <li>Establish hard surfaced haul routes which are regularly damped down and cleaned;</li> <li>Perform regular visual inspections to identify areas that may require watering</li> <li>Establish defined site entry and exit points to minimise tracking of soil on surrounding road</li> <li>Ensure vehicles entering and leaving the site are covered to prevent escape of materials during transport</li> </ul>	Construction
Best practice management and mitigation measures are to be implemented to prevent and/or minimise airborne particulate.	Construction and Operation
<b>4. Traffic and Transport</b>	
<p>A Construction Traffic Management Plan is to be prepared by a suitably qualified and experienced person prior to commencing construction works and will include management requirements on the following:</p> <ul style="list-style-type: none"> <li>number of trucks;</li> <li>vehicle routes, access and parking arrangements,</li> <li>hours of operation;</li> <li>indicative traffic control measures;</li> <li>Drivers' Code of Conduct; and</li> <li>detail procedures for notifying any nearby residents of any potential disruptions to routes (if required).</li> </ul>	Pre-construction
The Construction Traffic Management Plan is to be implemented throughout the construction cycle.	Construction
<b>5. Aboriginal Cultural Heritage</b>	
<p>The following precautionary management and mitigation measures are to be implemented:</p> <ul style="list-style-type: none"> <li>Inductions for construction contractors and works will highlight the heritage significance of the site prior to works commencing.</li> <li>Unexpected Finds Procedures are to be outline in inductions and the steps below are to be followed if any suspected or identified heritage items are identified during construction activities. <ol style="list-style-type: none"> <li>All work should cease in that area and notify a Project Manager or Supervisor immediately of the find;</li> <li>A 'no-go' zone should be established around the find, using visibility fencing (where applicable);</li> <li>Inform all on-site personnel and staff of the find and the demarcated 'no-go' zone;</li> <li>Contact a qualified archaeologist/heritage consultant to inspect the find and provide recommendations.</li> <li>In the event that human remains are identified, complete steps 1-3. Replace Step 4 by immediately contacting the local police to investigate if the find relates to a criminal investigation. The police may take command of part or all of the site.</li> <li>Once clearance of the site has been given by either the qualified archaeologist/heritage consultant then works may proceed within the 'no-go' zone UNLESS specifically instructed by the professional that no further works can be completed.</li> </ol> </li> </ul>	Construction
<b>7. Non-Aboriginal Heritage</b>	
Support retention of existing mature trees to the south of the site (within existing rail reserve) that shield the view of the proposed Freight Hub from the SHR listed St Marys Railway Station.	Pre-construction, Construction and Operation
New building and structures are to use neutral colour tones similar to existing surrounding industrial buildings.	Pre-construction, Construction and Operation
<p>The following precautionary management and mitigation measures are to be implemented:</p> <ul style="list-style-type: none"> <li>Inductions for construction contractors and works will highlight the heritage significance of the site prior to works commencing.</li> </ul>	Pre-construction and Construction



MANAGEMENT AND MITIGATION MEASURES	APPLICATION
<ul style="list-style-type: none"> <li>Unexpected Finds Procedures are to be outline in inductions and the steps below are to be followed if any suspected or identified heritage items are identified during construction activities.               <ol style="list-style-type: none"> <li>All work should cease in that area and notify a Project Manager or Supervisor immediately of the find;</li> <li>A 'no-go' zone should be established around the find, using visibility fencing (where applicable);</li> <li>Inform all on-site personnel and staff of the find and the demarcated 'no-go' zone;</li> <li>Contact a qualified archaeologist/heritage consultant to inspect the find and provide recommendations.</li> <li>In the event that human remains are identified, complete steps 1-3. Replace Step 4 by immediately contacting the local police to investigate if the find relates to a criminal investigation. The police may take command of part or all of the site.</li> <li>Once clearance of the site has been given by either the qualified archaeologist/heritage consultant then works may proceed within the 'no-go' zone UNLESS specifically instructed by the professional that no further works can be completed.</li> </ol> </li> </ul>	
<b>7. Noise and Vibration</b>	
Offer acoustic attention measures to the identified moderately affected residential receivers (six (6) properties in Kalang Street, St Marys as identified in the 'St Marys Freight Hub Noise and Vibration Assessment' dated March 2019 by Aecom) to mitigate operational noise emissions for night time noise levels.  Treatments to the identified residential receivers are to include measures such as air conditioning and/or upgraded facade elements to receivers.	Pre-operation
Empty container stacking areas will be separated from residential receivers as far as practical to allow proper function of the facility.	Operation
Soft landing technology for container handling, movement and stacking is to be adopted to minimise handling noise.	Operation
The best available equipment will be used to minimise noise levels during operation.	Operation
The Construction Environmental Management Plan is to be prepared and will include reasonable and feasible safeguards to manage and mitigate any noise emissions and include a framework to manage any complaints from construction noise.  Adoption and implementation of noise mitigation measures in the Construction Environmental Management Plan.	Pre-construction and Construction
<b>8. Soil and Water</b>	
A Stormwater Management Plan is to be prepared by a suitably qualified engineer prior to the commencement of construction that is generally in accordance with the report titled "St Marys Intermodal—Stormwater Management Report" dated 21 January 2019 by BG&E and is to include: <ul style="list-style-type: none"> <li>relevant standards, requirements and specifications</li> <li>design plans including any water sensitive urban design measures</li> <li>describe the measures to be implemented to maintain the infrastructure</li> </ul>	Pre-construction
Stormwater management facilities are to be maintained to ensure ongoing treatment of stormwater flows and water quality.	Operation
If excavation is required at a depth below 3 metres, additional groundwater monitoring and assessment is to be undertaken at the specific location(s) where excavation is greater than 3 metres below the existing surface.	Pre-construction
<b>9. Flooding</b>	
A Flood Evacuation Plan is to be prepared prior to the commencement of operation and is to include: <ul style="list-style-type: none"> <li>procedures for managing flood risk during construction</li> <li>assembly and evacuation points for all buildings</li> <li>evacuation routes and procedures in a flood event.</li> </ul>	Pre-operation
The Flood Evacuation Plan is to form part of inductions of new staff.	Operation
<b>10. Contamination</b>	
Implement the preferred remediation option/s for AEC 1.as presented in the RAP report	
An Unexpected Finds Protocol is to be prepared by a suitability qualified expert prior to commencing construction. The Unexpected Finds Protocol is to form part of the inductions of contractors and construction workers and be included in the Construction Environmental Management Plan.	Pre-construction
Any contaminated material identified during construction (if any) will be managed and remediated to EPA and NSW Office of Environment & Heritage Guidelines.	Construction



MANAGEMENT AND MITIGATION MEASURES	APPLICATION
<b>11. Waste Management</b>	
<p>A Construction Waste Management Plan is to be prepared by the contractor prior to commencing construction works and will include waste management requirements on the following:</p> <ul style="list-style-type: none"> <li>▪ roles and accountabilities</li> <li>▪ review and amendment</li> <li>▪ waste management objectives</li> <li>▪ waste mitigation measures</li> <li>▪ waste containment and storage</li> <li>▪ disposal methods</li> </ul>	Pre-construction
<p>An Operational Waste Management Plan is to be prepared prior to commencing operation and will include waste management requirements on the following:</p> <ul style="list-style-type: none"> <li>▪ Generation of domestic waste from personnel.</li> <li>▪ Inappropriate disposal of hazardous waste.</li> <li>▪ Generation or spread of contaminated waste e.g. groundwater or chemicals.</li> <li>▪ Mixing of unusable waste with reusable or recyclable material, leading to disposal of materials that could have been reused or recycled.</li> <li>▪ Water and soil pollution/contamination due to inadequate waste handling or treatment.</li> <li>▪ Weed infestation from the uncontrolled dispersion of seeds during operation.</li> <li>▪ Reduced visual amenity, vermin and odour of the area.</li> <li>▪ Generation of vegetation waste from maintenance of the facility.</li> </ul>	Pre-operation and Operation
<p>Operational waste generated on site as classified in NSW Office of Environmental and Heritage's Waste Classification Guidelines will be disposed of properly and the following targets are to be implemented:</p> <ul style="list-style-type: none"> <li>▪ Avoid the unnecessary production of waste during operation through planning with a focus on waste.</li> <li>▪ Minimise / reduce the quantities of resources to be used by avoiding duplication and waste.</li> <li>▪ Establish waste re-use / recycling targets.</li> <li>▪ Dispose of waste materials in accordance with legislative requirements.</li> </ul>	Operation
<p>Implement a continuous improvement process as part of the Operational Environmental Management Plan to:</p> <ul style="list-style-type: none"> <li>▪ Identify areas of opportunity for improvement of environmental management and performance.</li> <li>▪ Determine the cause or causes of non-conformances and deficiencies.</li> <li>▪ Develop and implement a plan of corrective and preventative action to address any non-conformances and deficiencies.</li> <li>▪ Verify the effectiveness of the corrective and preventative actions.</li> <li>▪ Document any changes in procedures resulting from process improvement.</li> <li>▪ Make comparisons with objectives and targets.</li> <li>▪ Staff inductions and training program including: <ul style="list-style-type: none"> <li>– <i>Relevant legislation.</i></li> <li>– <i>Incident response, management and reporting.</i></li> <li>– <i>Requirements of the waste hierarchy.</i></li> <li>– <i>Waste/recycle storage requirements.</i></li> <li>– <i>Waste reporting requirements.</i></li> <li>– <i>Targeted training in the form of toolbox talks or specific training will also be provided to personnel with a key role in waste and energy management.</i></li> </ul> </li> </ul>	Pre-operation and Operation
<b>12. Biodiversity</b>	
Detailed design of the Freight Hub will aim to further reduce environmental impacts on native flora and fauna where possible.	Pre-construction
Areas of ecological significance identified for conservation will be marked and fenced to ensure protection and conservation during construction.	Pre-construction
Clearing of native vegetation is to be contained within the construction footprint.	Construction
<p>The Construction Environmental Management Plan and Operational Environmental Management Plan is to include a section on managing native vegetation and include the following details:</p> <ul style="list-style-type: none"> <li>▪ impact avoidance and mitigation</li> </ul>	Pre-construction and Pre-operation



MANAGEMENT AND MITIGATION MEASURES	APPLICATION
<ul style="list-style-type: none"> <li>▪ staff/contractor inductions</li> <li>▪ clearing procedures and protection zones</li> <li>▪ weed control</li> <li>▪ pest management</li> <li>▪ monitoring</li> </ul>	
Landscaping treatments are to use endemic tree, shrubs and grass species in the sensitive vegetation zones and planting/revegetation will adopt procedures that will not adversely impact on the existing native vegetation.	Pre-construction and Construction
Manage, protect and conserve the areas of ecological significance which are to be preserved.	Operation
<b>13. Bushfire</b>	
<p>The following management and mitigation measures are to be implemented:</p> <ul style="list-style-type: none"> <li>▪ Ongoing maintenance of Asset Protection Zones</li> <li>▪ Construction of proposed and future buildings are to meet relevant Bushfire Attack Level (BAL) construction standards.</li> <li>▪ Provision of a water supply that complies with AS 2419.1 – 2005 Fire Hydrant Installations - System Design, Installation and Commissioning</li> <li>▪ Gas and electricity services are to be installed to Planning for Bushfire Protection standards</li> <li>▪ A Fire Emergency Response and Evacuation Plan is to be prepared prior to operation and form part of the induction for staff.</li> </ul>	Pre-construction, Construction, Pre-operation and Operation
<b>14. Hazard and Risks</b>	
<p>The Construction Environmental Management Plan is to include a section on minimising hazards and risks, including:</p> <ul style="list-style-type: none"> <li>▪ Procedures for safe removal of asbestos</li> <li>▪ Provision for safe access and egress for emergency service personnel and workers</li> <li>▪ An Incident Response Plan including a Spill Management Procedure</li> </ul>	Construction
Transport of goods is to be in accordance with the Australian Code for Transport of Dangerous Goods by Road and Rail (Dangerous Goods Code).	Operation
<b>15. Landscape and Visual Assessment</b>	
<p>During construction the following measures are to be implemented:</p> <ul style="list-style-type: none"> <li>▪ Dust is to be controlled in response to visual signs</li> <li>▪ Areas of soil disturbed by the project would be rehabilitated progressively or immediately post-construction</li> <li>▪ Night lighting (if used) is to be minimised and directed away from residential areas to the south of the site</li> </ul>	Construction
Where practical materials, colours and finishes of buildings and structures are to be non-reflective and in keeping with the materials and colouring of existing infrastructure or of a colour that will blend with the surrounds.	Operation
<p>A tree screen is to be planted in the location recommended in the “Visual Impact Assessment – St Marys Freight Hub” dated February 2019 by NGH Consulting. Plantings are to be:</p> <ul style="list-style-type: none"> <li>▪ One row deep and where practical planted on the inside of the boundary fence</li> <li>▪ The plant species to be used in the screen are recommended to be native, and fast growing, with spreading habit and having a mature height of 10-11m</li> <li>▪ Species selection could be undertaken in consultation with a botanist or landscape architect</li> <li>▪ Initial establishment of screening is to be within 2 months of completion of construction</li> </ul>	Operation
Landscaping treatments are to use endemic tree, shrubs and grass species where practical.	Construction



## 12. JUSTIFICATION AND CONCLUSION

SITE planning + design, Urbanco and the broader project team have been engaged by Pacific National Pty Ltd to prepare the following Environmental Impact Statement (EIS). The purpose of the EIS is to support State Significant Development Ref: SSD 7308 for the development of Lot 2 Forrester Road, Lots 3 Lee Holm Road and Lot 196 Christie Street, St Marys (the 'broader site') for the St Marys Freight Hub.

The proposed development seeks to:



**“Develop a ‘best practice’ freight hub at St Marys in Western Sydney to facilitate freight mode-shift, reduce road congestion and support supply-chain efficiency and productivity.”**

The proposed development includes the staged construction and operation of an intermodal (road and rail) terminal and container park with an ultimate operating capacity of 300,000 twenty-foot equivalent units (TEU) (shipping containers) annual throughput.

The proposed development will facilitate the introduction of a new container rail shuttle service between Port Botany and greater western Sydney, increasing the volume of import and export freight moved via rail and relieving the regional and state road network of heavy vehicle and container traffic, including primary freight roads servicing Port Botany.

Once operational the Freight Hub will play an essential role in growing the volume of freight movements by rail, which in turn assists in alleviating road congestion and heavy vehicle movements on the regional and state road networks, particularly primary freight roads servicing Port Botany. It is projected that 10 million truck kilometres per year will be removed from Sydney's regional roads.

The proposed development is consistent with the State Government's commitment and policy objectives relating to the Port Botany expansion and achieving an ultimate throughput of 7,500,000 TEU's (shipping containers) annually.

The proposed St Marys Freight Hub and associated port container rail shuttle service will result in a significant reduction in the road-based container transport in favour of rail, with local traffic impacts able to be managed on the existing adjoining road network. Noise, visual amenity, air quality and biodiversity impacts can be appropriately managed across the site through responsive design and mitigation measures.





In addition to the supply chain benefits that will be delivered by the project across greater Sydney, the St Marys Freight Hub will deliver local economic benefits including local job creation, gross regional product and increased local expenditure.

### **The St Marys Freight Hub is expected to:**

- **Support an operating capacity of 300,000 TEU annual throughput;**
- **Support local employment through the creation of 152 (168 with train drivers) new full time equivalent (FTE) jobs during operation and 40 FTE jobs during construction; and**
- **Remove 10 million truck kilometres per year from the regional and state road networks, including primary freight routes servicing Port Botany.**

## **12.1 KEY ENVIRONMENTAL CONSIDERATIONS AND DESIGN RESPONSE**

SITE planning + design, Urbanco and the broader consultant team, have prepared this EIS on behalf of Pacific National in consideration of the environmental, economic and social impacts of the proposed development of Lot 2 Forrester Road, Lot 3 Lee Holm Road and Lot 196 Christie Street, St Marys (the 'subject site') for the St Marys Freight Hub.

The EIS and relevant accompanying reports have addressed the matters outlined in the SEARs dated 23 October 2018 and satisfy the obligations of Schedule 2 of the *EP&A Regulations* with respect to investigating and nominating appropriate mitigation measures to satisfy environmental approval requirements.

The proposed development is considered suitable for consideration and approval on the following basis.

- A detailed assessment of the proposal has demonstrated that the proposed development will not result in any significant environmental impacts that cannot be managed by appropriate management and mitigation measures. The proposal has been modified to acknowledge and respond to environmental site investigations and recommendations, particularly with respect to the following:



- The Traffic and Transport Assessment has informed preparation of the EIS and demonstrates that the proposed development can address SEARs Traffic and Transport requirements on the following basis:
- Operational traffic requirements have been addressed through completion of SIDRA analysis of eight (8) intersections identified in the SEARs. The completed SIDRA analysis confirms that there is no noticeable impact on intersection functionality as a result of the proposed development. A road safety assessment was also completed and confirmed that the minor increase in truck movements as a result of the proposed development would result in a negligible increase in crash likelihood;
- There is sufficient on-site vehicle parking to accommodate the needs of all fulltime staff members.
- The small number of permanent staff on-site does not warrant any specific provisions related to walking, cycling and public transport, notwithstanding sufficient on-site facilities are available.
- Both access points are on roads that are designed for and already carry industrial traffic. Both access locations have sufficient sight distances for safe entry and exit. Swept path assessments have also been run for B-doubles, with access and driveway area able to accommodate these vehicles.
- Within the site, manoeuvring areas for trucks are sufficient and the proposed light vehicle bays are consistent with light vehicle car parking requirements.
- Construction traffic can be accommodated, with truck movements less than those expected during the operational phase of the development and having a negligible impact on the surrounding road network.

## Noise

SEARs requirements relate to construction, operational and transport noise and vibration. A comprehensive Noise and Vibration Assessment was completed to inform the EIS and demonstrates that SEARs requirements can be satisfied in the following manner:

- While no sensitive nearby land uses will be 'highly affected', predicted construction noise levels exceed construction noise management levels at the closest noise sensitive receivers. To address this, it is proposed that an Environmental Management Plan (EMP) be developed and implemented for the Freight Hub prior to commencement of construction activities.
- Operational noise level assessment indicated that there may be changes to the existing noise levels as a result of the proposed St Marys Freight Hub and noise control measures may be required to mitigate any impacts on sensitive noise receivers along Kalang Avenue.
- Mitigation measures to be implemented during operation include:
  - The use of the best available equipment;
  - Application of soft-landing technology; and
  - Greater separation of empty container stacking areas to residential receivers.



## Biodiversity

- A Biodiversity Development Assessment Report was prepared to identify the sites environmental factors and to inform amendments to the initial development concept to avoid, minimise and mitigate impacts on the vegetation and species habitat. Measures are also proposed to minimise impacts during construction and operation of the development.
- The development footprint for the Freight Hub has been reviewed and refined in greater detail to minimise the impacts on native vegetation and flora. This has resulted in an additional 0.24 hectare of native vegetation and fauna habitat being preserved.
- The residual unavoidable impacts of the project were calculated in accordance with the Biodiversity Assessment Method Credit Calculator (BAMC) and determined that a total of 16 ecosystem credits are proposed to offset the residual impacts of the proposed project.
- The landscape design has adopted endemic species from the Mitchell Landscapes Hawkesbury-Nepean Channel to complement the existing native vegetation being retained onsite.

## Contamination

- A Preliminary Site Contamination Report prepared to inform this EIS determined that there are no identifiable ground water contamination issues. A range of Potential Areas of Environmental Concern were noted as requiring further investigation and remediation (if required).
- A subsequent Supplementary Site Contamination Assessment Report has now been completed. The report concluded that the site can be made suitable for development subject to undertaking successful remediation and validation of asbestos impacted soils over a small portion of the site and the implementation of an Unexpected Finds Protocol. A remediation action plan (RAP) has also been prepared as a consequence of these findings and is included in this EIS package. An Unexpected Finds Protocol is also underway and will form part of the pre-construction phase of the development.

## Visual Impacts

- A Visual Impact Assessment was undertaken to inform the EIS in considering the visual impacts of the proposed development on nearby local roads and neighbouring sensitive receivers such as residential and commercial properties and public utilities (including schools and parks. The Visual Impact Assessment concludes that there is no highly or moderately impacted viewpoints as a result of the proposed development, including both the construction and operational stage.

## Flooding



- The Desktop Flood Study and Flood Impact Assessment undertaken in support of the EIS concludes that the development site is not significantly impacted by normal flood events. Any major event short term flooding from South Creek is proposed to be dealt with via shelter-in-place arrangements until the short-term flooding on surrounding roads has subsided.

All other general and specific matters outlined in the SEARs have been addressed in this EIS and accompanying consultant reporting provided as Appendices 1 - 22. The proposed development will facilitate the introduction of a new container rail shuttle service between Port Botany and greater western Sydney, increasing the volume of import and export freight moved via rail and relieve the regional and state road network of heavy vehicle and container traffic, including key freight roads servicing Port Botany.



## PLAN 1 CONCEPT DESIGN

BG&E

(SITE doc ref: 190416 BG&E Engineering Drawing Set B18028-DRG-C-1000\_RevE\_15.04.19)





# APPENDIX 1

## 1. CAPITAL INVESTMENT VALUE

Chrysalis Quantity Surveying & Cost Consultants  
(SITE doc ref: 180724 Chrysalis Report V1.0 – St Marys CIV.pdf)



## APPENDIX 2

### **2. SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENT**

NSW Department of Planning and Environment  
(SITE doc ref: 181023 NSW DPE St Mary Intermodal letter & SEARs)



# APPENDIX 3

## 3. BIODIVERSITY DEVELOPMENT ASSESSMENT REPORT

Eco Logical

(SITE doc ref: 190424 ELA BDAR St Marys Freight Hub.v3)



# APPENDIX 4

## 4. TRAFFIC AND TRANSPORT ASSESSMENT

Bitzios Consulting

(SITE doc ref: 190228 Bitzios P3796.002R St Marys Freight Hub Traffic and Transport Assessment)



# APPENDIX 5

## 5. LANDSCAPE PLANS

Site Image

(SITE doc ref: 190416 Site Image Landscape Design SS18-4031\_000\_C)





# APPENDIX 6

## 6. TRAIN PLAN

BG&E

(SITE doc ref: 180700 PN St Marys Train Plan July V21)



# APPENDIX 7

## 7. CONSTRUCTION PROGRAM

McMahon Services

(SITE doc ref: 190415 McMahon Services Construction Program)



## APPENDIX 8

### **8. WASTE MANAGEMENT PLAN (CONSTRUCTION)**

Pacific National

(SITE doc ref: 190308 Pacific National Construction Waste Management Plan)



# APPENDIX 9

## 9. WASTE MANAGEMENT PLAN (OPERATION)

NGH Environmental  
(SITE doc ref: 190312 NGH Operation Waste Management Plan)



# APPENDIX 10

## 10. HAZARDOUS AND OFFENSIVE DEVELOPMENT RISK SCREEN

Environmental Resources Management (ERM) Australia  
(SITE doc ref: 190221 ERM SEPP33 Risk Screen)





# APPENDIX 11

## 11. PRELIMINARY SITE CONTAMINATION INVESTIGATION

Douglas Partners

(SITE doc ref: 190301 Douglas Partners Preliminary Site Contamination Investigation)



# APPENDIX 13

## 12. SUPPLEMENTARY CONTAMINATION ASSESSMENT

Douglas Partners

(SITE doc ref: 190418 Douglas Partners 94525.02.R.002.Rev1)



# APPENDIX 13

## 13. REMEDIATION ACTION PLAN

Douglas Partners



# APPENDIX 14

## **14. DESKTOP FLOOD STUDY AND FLOOD IMPACT ASSESSMENT**

Douglas Partners

(SITE doc ref: 190418 BG&E B18028\_RPT\_002\_FIA\_RevC\_combined)



# APPENDIX 15

## 15. NOISE AND VIBRATION ASSESSMENT

AECOM

(SITE doc ref: 190306 AECOM Noise and Vibration Assessment)





# APPENDIX 16

## 16. BUSHFIRE ASSESSMENT

Eco Logical

(SITE doc ref: 190424 ELA 18SYD\_10323 St Marys Intermodal Facility BPA v5)



# APPENDIX 17

## 17. GROUNDWATER LEVEL INVESTIGATION

Douglas Partners

(SITE doc ref: 190308 Douglas Partners Groundwater Level Investigation)



# APPENDIX 18

## 18. STORMWATER MANAGEMENT REPORT

BG&E

(SITE doc ref: 190424 BG&E B18028\_RPT\_003\_Rev C)



# APPENDIX 19

## 19. AIR QUALITY IMPACT ASSESSMENT

AECOM

(SITE doc ref: 190308 AECOM Air Quality Impact Assessment)



# APPENDIX 20

## 20. VISUAL IMPACT ASSESSMENT

NGH Environmental

(SITE doc ref: 190417 NGH VIA 18-625 StMarys Intermodal VIA - Final V1.2  
April 16 2019)





# APPENDIX 21

## 21. STATEMENT OF HERITAGE IMPACT

NGH Environmental

(SITE doc ref: 190423 NGH 18-625 St Marys Freight Hub SOHI\_Final)



# APPENDIX 22

## 22. CONSULTATION STRATEGY

Primary Communications

(SITE doc ref: 190314 Primary Communications Consultation Strategy)



# APPENDIX 23

## **23. ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT (ACHAR)**

NGH

(190423 NGH 18-625 St Marys Freight Hub ACHA\_Final Draft)

Final report to be submitted under separate cover.

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MAX 20000  
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