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MANCHESTER ROAD, AUBURN, PLANNING PROPOSAL

An Assessment of the Clyde Intermodal Terminal

Incorporating

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PAYCE PROJECT PTY LTD MANCHESTER ROAD, AUBURN, PLANNING PROPOSAL

An Assessment of the Clyde Intermodal Terminal

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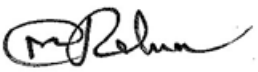
Approver	Mukit Rahman	
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REVISIONS

Revision	Date	Description	Prepared by	Approved by
B	11 June 2015	Draft for Clients Review	NM, SM, WO	MR
C	17 June 2015	Updated based on client comments, Final	NM, SM, WO	WO
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F	12 December	Final	NM	MR

CONTENTS

EXECUTIVE SUMMARY

This report has been prepared to support investigate existing intermodal terminal operations and the potential for the expansion of these operations at Clyde. This report has been prepared to support Planning Proposal for the site (300 Manchester Road, Auburn- the site).

This report provides an analysis of the existing intermodal terminal operations at Clyde, which include the Clyde Transfer Terminal, operated by Veolia Environmental Services. The Clyde Transfer Terminal (intermodal terminal operation) site is located within the industrial precinct known as Clyde Marshalling Yards. The Clyde Marshalling Yard, includes the Auburn Stabling Facility which is located to the west of the site is currently utilised for rail stabling facilities and operated by Transport for NSW.

This report has undertaken a review of strategic policy (Federal and state), consulted with relevant operators (Transport for NSW and Veolia Environmental Services) and utilised both Arcadis' and Neil Matthews project experience and detailed understanding of intermodal terminal operations and the import-export container (IMEX) market.

This report has identified the following findings related to existing intermodal terminal operations and potential for future operations within the Clyde Marshalling Yards:

- In 1996, the Clyde site was established as a pilot intermodal terminal site for developing integrated road and rail transport services. By 2004, Veolia Environmental Services had developed the site into the Clyde Transfer Terminal, and operations commenced. IMEX operations have ceased since Velia Environmental Services occupied the site. The site remains an intermodal terminal however, only for the transportation of waste, no longer servicing the IMEX market.
- The Auburn Stabling Facility (within the greater Clyde Marshalling Yards) was developed in 2010 to cater for the expected increases in train services in Sydney's inner-west and south-west.
- Strategic policy at a national level does not mention an existing or proposed intermodal operation at Clyde. However, key strategies such as A Plan for Growing Sydney, NSW Long Term Transport Master Plan, State Infrastructure Strategy, NSW Freight and Ports Strategy acknowledge that an existing intermodal terminal (the Clyde Transfer Terminal) is operating at Clyde. These policies do not mention an expansion of the Clyde operations, and focus on the development of intermodal operations at key strategic sites at Moorebank, Enfield and also Western Sydney (Eastern Creek).
- Although strategic policy has previously mentioned development of an IMEX intermodal terminal at Clyde, such references are now redundant with the emerging policy and commercial realities in Sydney. A recent review[1] by the Greater Sydney Commission and Transport for NSW identified plans for upgrading rail infrastructure in the Lidcombe to Granville corridor however did not refer to the Clyde Marshalling Yards[2].
- Consultation with both Veolia and TfNSW has reaffirmed strategic policy, with no immediate expansion or change of use for the Clyde Transfer Terminal or Auburn Rail Stabling Yards anticipated. In particular, TfNSW (Chris O'Brien- one of the principal authors of the Freight and Ports Strategy) identified that the inclusion of

[1] Neil Matthews participated in freight transport review by Transport for NSW (2017; reports and analysis unpublished)

[2] https://future.transport.nsw.gov.au

the Clyde terminal, in the strategy, is to recognise its purpose as an intermodal terminal however its role is specifically for the handling and transport of waste material rather than any other purpose such as international containers.

- The site area of Clyde (4-6 hectares) and the surrounding development constraints preclude the site, in competition with other intermodal terminals, from being economically viable as an intermodal terminal (IMEX processing). In particular, the site would be likely to have the potential to only process below a throughput of 50,000 TEU (per annum), which is dwarfed by other proposed intermodal terminals including Moorebank and Eastern Creek projected to process from 1 million to 2 million (IMEX and domestic interstate), respectively.
- Further, Pacific National as the owner of the site has publically stated that its focus is on expanding its operations at the Chullora intermodal terminal to accommodate IMEX containers, in addition to their existing interstate processing.

In summary, based on a strategic review, consultation with landowner/operators and our experience, it is considered unlikely, and contrary to strategic policy, that there would be any change to existing operations (both for the Clyde Transfer Terminal and the Clyde Marshalling Yard), including an expansion, or development of purpose built intermodal terminal operations to service the IMEX market.

1 INTRODUCTION

1.1 Report Purpose

PAYCE proposes to rezone a large 'L-shaped' industrial site located at 300 Manchester Road, Auburn (the site), from industrial to high density residential/commercial/open space uses. The site is bounded by Manchester Road to the south, Duck River to the west and a railway siding / stabling yards to the north and east. The proposed rezoning (subject to a future Development Application) would facilitate for the construction of approximately 1,800 apartments, ranging from three to twelve storeys in height. Further, the site will include around 4 hectares of industrial/commercial employment land.

This report has been prepared by Arcadis Australia Pacific Pty Ltd (Arcadis) to investigate and establish the potential for the future utilisation of the site as part of an intermodal terminal given its proximity to what is currently referred to as the "Clyde Intermodal Terminal". Arcadis engaged Neil Matthews to provide expert advice based on his industry knowledge and involvement in intermodal terminals across NSW and Australia.

This report has been prepared based on a review of background information (Draft Planning Proposal, Masterplan and environmental documentation), key strategic policy and publically available intermodal demand analysis information. Consultation has also been undertaken with key stakeholders including Veolia Environmental Services and Transport for NSW (TfNSW) in June 2015, to further understand the future direction of existing and proposed intermodal operations in the area.

1.2 Report Structure

This report has been to support the Planning Proposal prepared for the rezoning of the site. In summary, this report includes:

- An overview of both Federal and NSW strategic policy documentation relating to freight transportation, transport corridors and Sydney's future growth to establish short to long terms plans associated with intermodal terminal development in Auburn
- An update of the past, current and potential use of the Clyde Transfer Terminal (intermodal terminal operations), within the context of a wider strategy for intermodal terminal development across Sydney.

1.3 Site Context

The site is located at 300 Manchester Road, Auburn within Auburn City Local Government Area (LGA). The site is legally described as Lots 11 and 12 of DP 1166540. As discussed above, the site is currently the subject of a Planning Proposal to facilitate a land use change (from industrial to residential/commercial/open space).

The site is bounded by the existing Transport for NSW Auburn Stabling Yards (to the east), Western and Inner West Railway lines (to the north), Manchester Road (to the south) and Duck River (to the west). The Auburn Stabling Yards has recently been subject to development (in 2010), including the construction to facilitate additional stabling and associated development to cater for the expected increases in train services in Sydney's inner-west and south-west3 (refer to further detail also in Section 4 of this report).

[3] For further information refer to http://www.transport.nsw.gov.au/projects-auburn-stabling

An existing waste transfer terminal, owned by owned by Pacific National4 Pty Ltd and operated by Veolia Environmental Services (Veolia), is located to the is located to the north of the site, across the Western and Inner West Railway lines. The transfer terminal is known as the Clyde Transfer Terminal, was approved by the Department of Planning and Environment (DP&E) on 29 August 2002 (DA 205-08-015) and commenced operations in 2004. The terminal includes transportation of waste by road and rail, and therefore is also referred to an intermodal terminal operation.

Further west and south of the site are the established residential areas of South Granville and Auburn, respectively. Figure 1-1 shows the site location and surrounding development.

Figure 1-1 Site plan and location

[4] Pacific National provides its logistics services through its operating divisions Pacific National and Patrick.

[5] For further information refer to http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=1958

2 STRETEGIC POLICY REVIEW

This section of the report provides a review of the relevant State and Commonwealth strategic policy relating to the movement of freight across NSW, economic growth and the identification of intermodal terminals (existing and proposed). In particular, this review focuses on whether this policy indicates an intensification of existing intermodal terminal operations (currently part of the Clyde Transfer Terminal, operated by VES) or a new intermodal terminal would be undertaken at Clyde, within the Auburn Local Government Area (LGA).

2.1 National Strategic Planning and Policy Framework

2.1.1 National Posts Strategy

The National Ports Strategy was developed by Infrastructure Australia and the National Transport Commission to drive the development of efficient, sustainable ports and related freight logistics that works towards an economically, socially and environmentally sustainable future. The National Ports Strategy was endorsed by the Council of Australian Governments in July 2012.

Ports are considered critical to the productivity and economic growth of Australia and as such, there is a need for a more collaborative approach to the management of supply chains and integrated planning to increase efficiencies. The objectives of the National Ports Strategy are to facilitate trade growth and improve the efficiency of port-related freight movement across infrastructure networks. Item 1.3 of Appendix A: Best practice guidelines – master planning and execution of the National Ports Strategy provides guidance for each metropolitan area to identify the inland IMTs, industrial / warehousing lands or other nodes that generate substantial amounts of port related freight traffic. Items 1.2, 1.9 and 2.5 identify the need to identify and establish designated land transport corridors which facilitate for the freight movement between port operations and consumer.

The National Ports Strategy is a guiding document providing actions which are to be considered and undertaken by regulators and also port owners. The strategy does not provide any specific discussion on the types of freight distribution sites, such as intermodal, or where they are to be located. The strategy therefore does not make reference to, or mention, the potential for an intermodal terminal to be located within the Auburn LGA.

2.1.2 National Land Freight Strategy Discussion Paper/Update

Over the last twenty years, Australia's need for a more strategic approach to management and investment of land freight networks has become apparent. Infrastructure Australia's discussion paper National Land Freight Strategy argued that productivity is a major issue for Australia, and that freight can make an important contribution.

The discussion paper aimed to identify a national land freight network to address issues such as the best use of infrastructure, integration of freight and land use planning, capacity for growth, and responsiveness of infrastructure to demand.

Within the discussion paper, Infrastructure Australia indicated that it had already identified national land freight network projects that are ready to proceed and would be key to establishment of the national freight network. The discussion paper identifies a number of sites throughout Australia which are considered suitable for intermodal terminals, also known as 'freight cluster sites', which include the following:

- Melbourne (western interstate and Donnybrook)
- Sydney (Moorebank and Eastern Creek)
- Brisbane: south west (Bromelton etc and north - to be identified)
- Perth (Kewdale/Forrestfield)
- Gold Coast and Canberra (to be identified).

In February 2011, the discussion paper was issued for comment. More than 70 formal submissions were received from various stakeholders including the freight industry, industry, business and infrastructure groups, local government and resident groups.

An update to the strategy, known as the National Land Freight Strategy, was completed in 2012 to consider comments provided during the formal submissions period. Amongst other comments received, there was a strong support for the development of intermodal terminals outside of the metropolitan area.

As has been shown above, the discussion paper identifies a number of potential sites for the intermodal terminals within both Sydney and throughout Australia. The sites earmarked for intermodal terminals in Sydney include Moorebank and Eastern Creek. The discussion paper does not identify the need for an intermodal terminal at Clyde or within the Auburn LGA.

2.2 NSW Strategic Planning and Policy Framework

2.2.1 A Plan for Growing Sydney

A Plan for Growing Sydney (Department of Planning and Environment, 2014) was released in December 2014 and replaces the draft Metropolitan Plan for Sydney. A Plan for Growing Sydney is the NSW Government's 20 year plan to develop a competitive economy with world-class services and transport, to deliver greater housing choice to meet Sydney's changing needs and lifestyles, to create communities that have a strong sense of wellbeing, and to safeguard the natural environment.

The Plan includes a number of directions to guide the growth of Sydney. In particular, Direction 1.5 is to 'Enhance capacity at Sydney's gateways and freight networks'. The Actions included within this Direction include:

- Action 1.5.1: Develop and implement a strategy for the Sydney Airport and Port Botany Precincts to support their operation, taking into account land uses and the proposed road transport investments
- Action 1.5.2: Support the productivity of the freight network by identifying buffers around key locations in the freight network.

The Direction includes Figure 14, which provides an overview of the freight and transport network and industrial zoned land within Sydney (refer to Figure 2-1). The purpose of these actions is to support growth of the freight network around key areas (Sydney Airport and Port Botany) and, in other key areas, ensure 'buffers' between the freight network and conflicting land uses are established and protected.

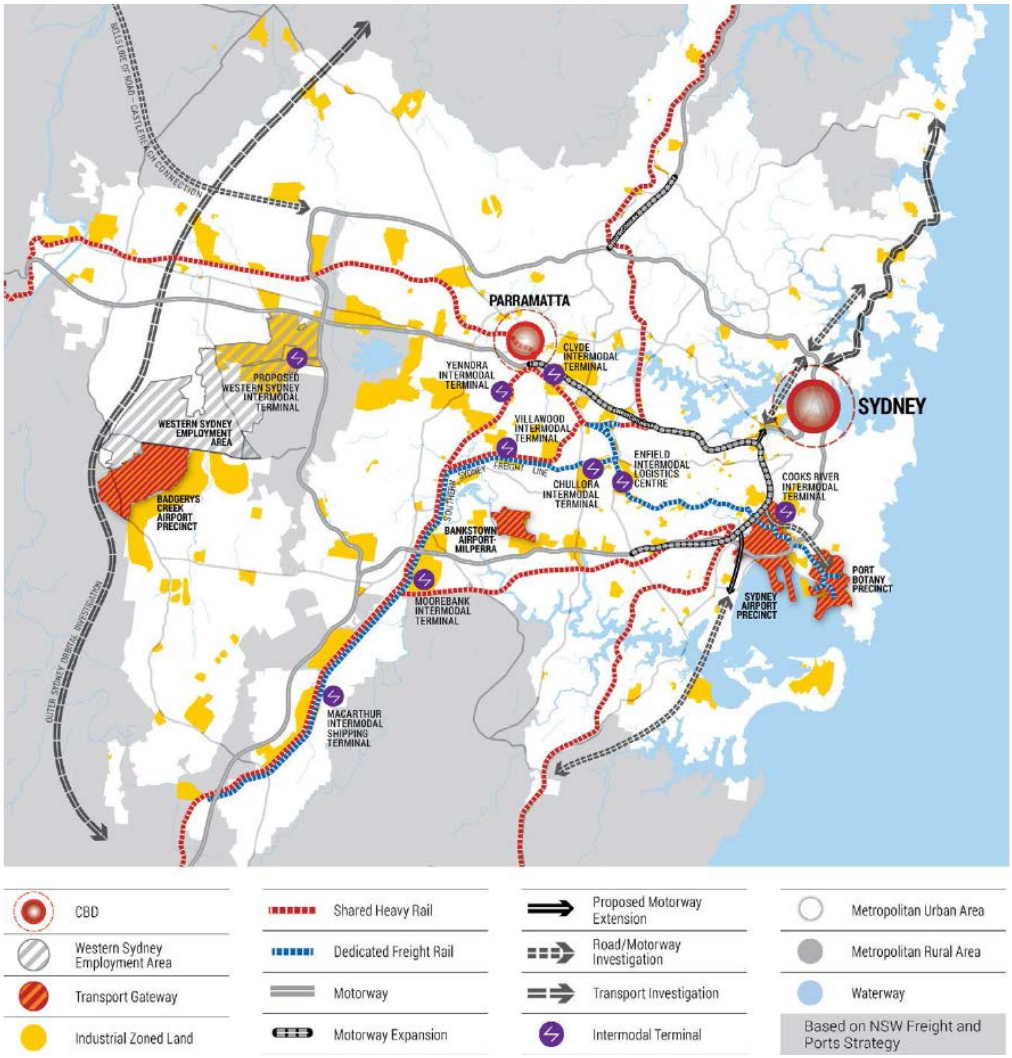


Figure 2-1 Freight Transport Network and Industrial Zoned Land (A Plan for Growing Sydney)

A Plan for Growing Sydney identifies six subregions within Sydney. Subregional plans would be developed as the link between the big picture planning directions and detailed planning controls for local areas. A Plan for Growing Sydney identifies priorities for each subregion. Auburn is located within the West Central Subregion.

A number of priorities for the West Central Subregion are identified in the plan. These priorities include, amongst others, the protection of infrastructure of metropolitan significance including freight corridors and intermodal terminals to ensure that a competitive economy is maintained and improved within the region. In particular the Plan, identifies a number of intermodal terminals (also identified above) most of which are existing, within the Subregion (refer to Figure 2-2).

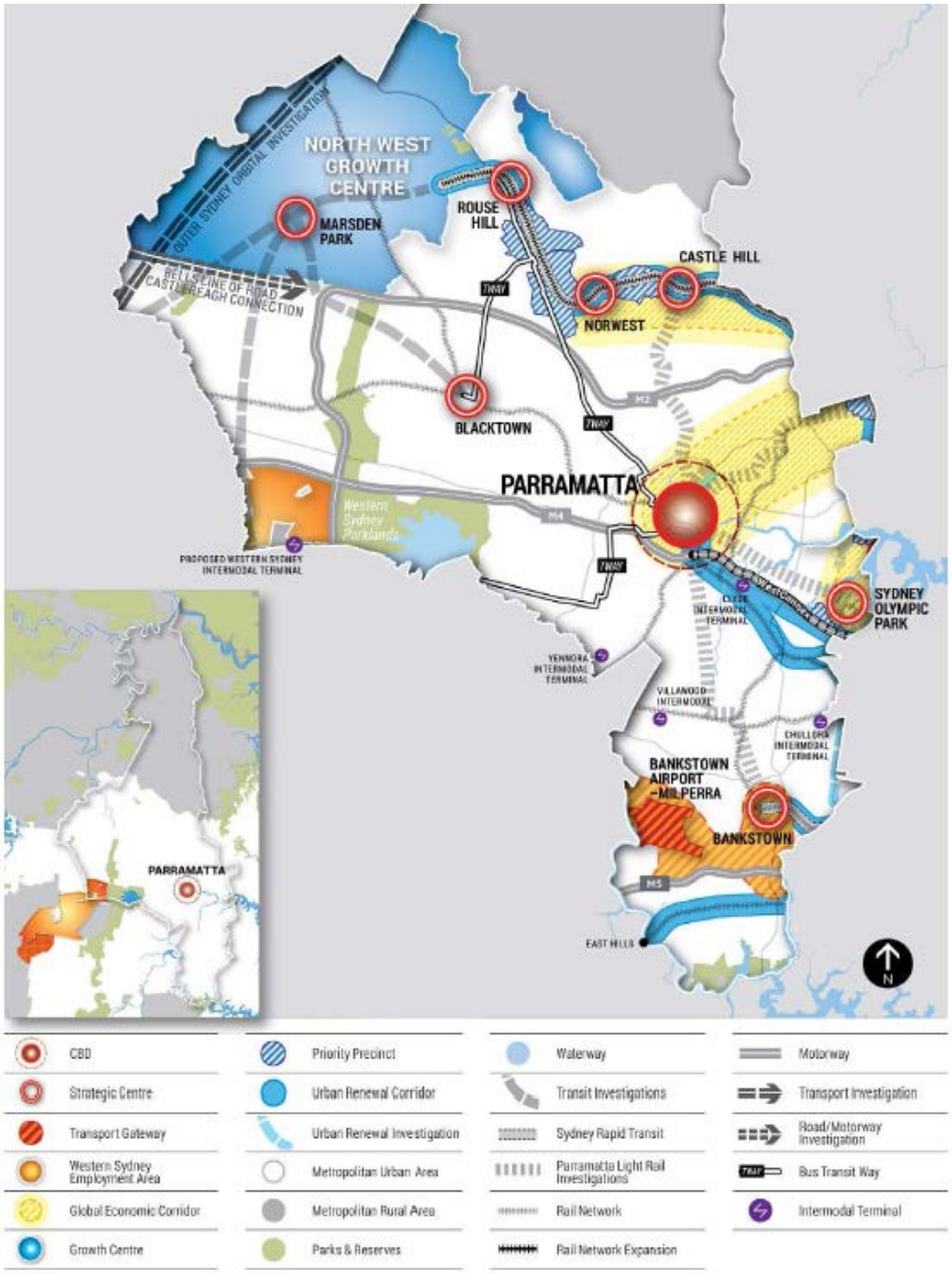


Figure 2-2 West Central Subregion (A Plan for Growing Sydney)

These intermodal terminal sites are identified below, and include the following:

- Western Sydney Intermodal Terminal
- Yennora Intermodal Terminal
- Villawood Intermodal Terminal
- Chullora Intermodal Terminal
- Clyde Intermodal Terminal.

It is understood, that the Western Sydney Intermodal Terminal is proposed and yet to have planning approval or be constructed. Yennora Intermodal Terminal is currently operated by Qube. Villawood Intermodal Terminal ceased operations in September 2012. Chullora Intermodal Terminal is currently operated by Pacific National.

Of particular relevance is the identification of the 'Clyde Intermodal Terminal'. This is likely to be referring to the existing Clyde Transfer Terminal operated by Veolia however, the plan does not provide further detail on the status of this intermodal or whether it relates to existing operations.

2.2.2 NSW Long Term Transport Masterplan

The NSW Long Term Transport Master Plan (Masterplan) (Transport for NSW, 2012) presents the NSW Government's direction for transport planning and investment for the next 20 years. It identifies the key challenges that the NSW transport system must address to support the State's economic and social performance, and identifies a planned and coordinated set of actions to address those challenges.

Chapter 7 of the Masterplan addresses the need to support efficient and productive freight. This section identifies the lack of metropolitan intermodal terminal infrastructure as a restriction to rail freight movement. Metropolitan intermodal terminals are identified as critical to increasing the share of container freight moved by rail and to manage growing import container trade particularly in Sydney. The Master Plan identifies that 85 percent of import containers are delivered to destinations within 45 km of Port Botany. Intermodal terminals in the metropolitan area therefore enable the delivery of container freight on rail close to major road links and end users.

In particular, the Masterplan identifies the existing freight network throughout NSW. This network includes roads, ports, rail and also intermodal terminals. The Masterplan identifies existing intermodals at Yennora, Minto, Villawood[6], Cooks River, Leightonfield and Clyde. It also identifies proposed intermodals at Enfield, Moorebank and also within Western Sydney. The Masterplan identifies the importance of these supply chains as paramount to the ongoing economic development of NSW.

Intermodal terminal infrastructure has the potential to reduce congestion around the port and provides an opportunity to avoid bottlenecks occurring due to a single point of focus for port related road freight movements. It also provides some resilience in the system in the event of incidents causing blockages at the port.

In order to address this capacity issue, the Masterplan identifies an action to develop a metropolitan network of intermodal terminals which would increase the share of freight that is transported by rail. The focus, within this action, is for the development of the Enfield, Moorebank and Western Sydney (also known as Eastern Creek) terminals.

The Masterplan mentions the existing Clyde intermodal (operated by Veolia as part of the Clyde Transfer Station), however it does not identify any plans for a new intermodal operation or the intensification of these existing operations.

2.2.3 State Infrastructure Strategy and Update

The State Infrastructure Strategy (NSW Department of Premier and Cabinet, 2012) outlines the State Government's short, medium and long term initiatives concerning infrastructure delivery and reform over the next 20 years. An update to the strategy was released in December 2014.

The strategy includes a discussion, and makes recommendations relating to existing and proposed intermodal terminals within the Sydney metropolitan area. The strategy identifies intermodal existing terminals located at Yennora, Villawood, Chullora, Cooks River, Minto and Clyde. Proposed intermodal terminals are also identified at

[6] Although identified in the Masterplan as operational, Villawood Intermodal Terminal ceased operations in September 2012.

Moorebank, Enfield and Western Sydney (Eastern Creek). The strategy provides recommendations to support the development of intermodal terminals at Moorebank, Enfield and Western Sydney (Eastern Creek).

The strategy does not identify any specific change to the existing intermodal terminal operations (i.e. undertaken by Veolia) at Clyde.

2.2.4 NSW Freight and Ports Strategy

The aim of the NSW Freight and Ports Strategy (Transport for NSW, 2013) is to provide a transport network in NSW that allows the efficient flow of goods to the market.

The Freight Strategy predicts that the freight task in NSW will nearly double to 794 million tonnes by 2031. This projected increase highlights the need to ensure that the network keeps pace with growth, and that this growth is sustainable for the long term prosperity of the State. The Freight Strategy also identifies that there is an opportunity to shift more freight onto rail.

Action 2A of the Freight Strategy is to identify and protect strategic freight corridors. This action notes that “to cater for forecast growth in the container market, further intermodal capacity will be needed in Sydney” (page 101). The strategy provides a figure (Figure 28, reproduced below in Figure 2-3) which identifies the location of dedicated freight rail routes, intermodals (proposed and existing) and also freight activity precincts.

The strategy acknowledges existing (Minto, Cooks River, Chullora, Yennora, Villawood and Clyde) and proposed (Moorebank, Enfield and Western Sydney) intermodal terminals.

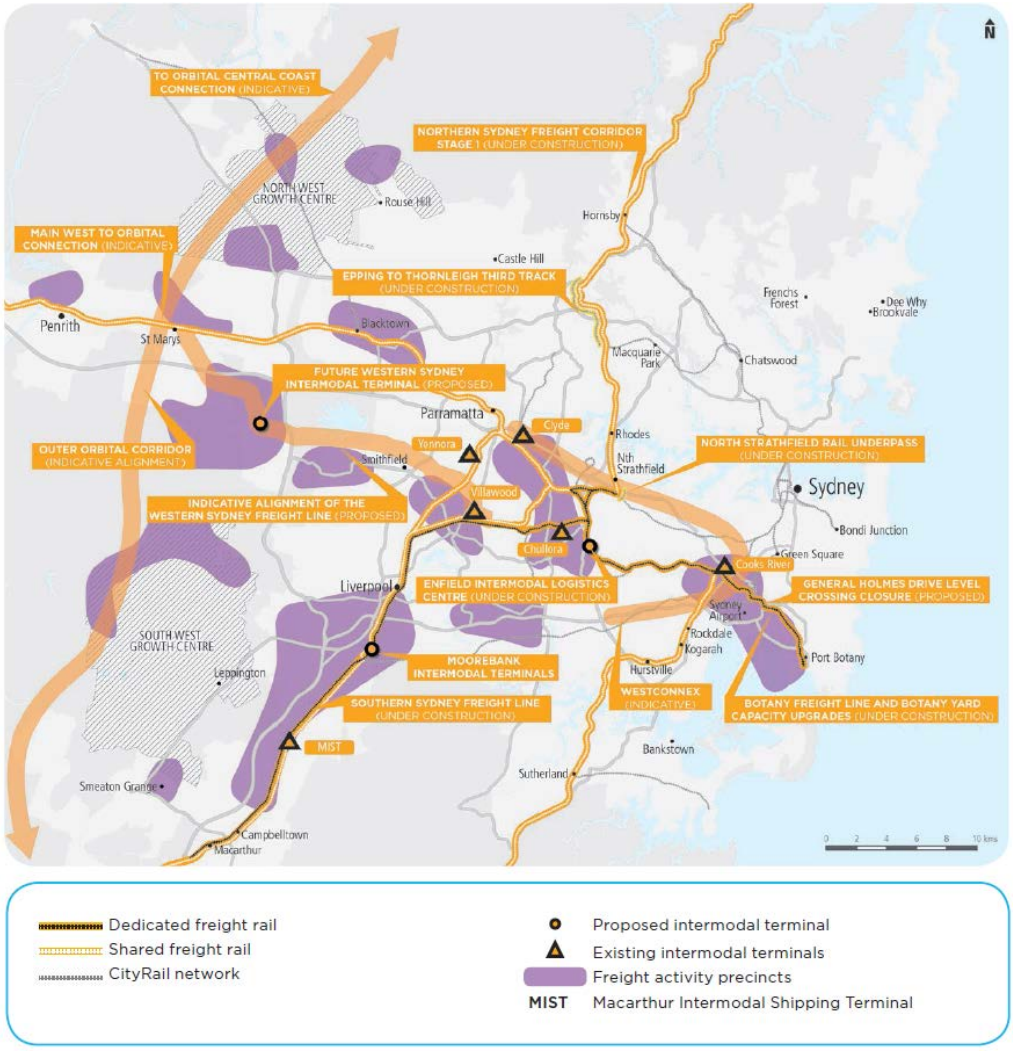


Figure 2-3 Freight activity precincts and key infrastructure projects (NSW Freight and Ports Strategy)

Action 2E of the Freight Strategy is to foster intermodal terminal network development. Metropolitan intermodal terminals are critical to increase rail mode share and manage the rapidly growing import container trade. The existing capacity of intermodal terminals in Sydney is inadequate to meet the growing demand for import and export container movements.

Task 2E-1 as part of Action 2E is to foster intermodal terminals in metropolitan areas. The targeted outcome of this task is:

The development of new intermodal terminals in Enfield, Moorebank and Western Sydney will occur on sites that are supported by dedicated rail freight lines and adequate road connections. Rail lines to Port Botany will avoid interaction with passenger services on the shared network and facilitate 24 hour port, rail and terminal operations.

The strategy does not indicate any change to the existing Clyde intermodal operations.

2.2.5 Railing Port Botany's Containers

Railing Port Botany's Containers: Proposals to Ease Pressure on Sydney's Roads was prepared by the Freight Infrastructure Advisory Board (FIAB) in July 2005 and presented to the Minister for Planning and Infrastructure for consideration.

The report included 23 recommendations to address the movement of import and export containers within the Sydney basin and the opportunities to increase the movement of freight by rail. The recommendations of the FIAB report were reviewed by the Infrastructure Implementation Group on behalf of the NSW Government, to determine priorities for implementation. The report provides recommendations which include progressing with the development of Moorebank, Enfield and Western Sydney intermodal terminals. The report does not mention existing or any proposed intermodal terminal operations at Clyde.

2.2.6 Port Freight Logistics Plan

The Port Freight Logistics Plan (Logistics Plan) was prepared by Sydney Ports Corporation (now the Port Authority of NSW) in 2008 to guide the development of freight logistics infrastructure across Sydney. The Logistics Plan outlines initiatives to increase freight movements by rail and minimise freight truck movements in and around Port Botany.

The Logistics Plan identifies the need to expand the existing network of intermodal terminals within Sydney. The Logistics Plan identifies existing intermodal terminals at located at Yennora, Villawood, Chullora, Cooks River, Minto, Camellia. Proposed intermodal terminals are also identified at Moorebank, Western Sydney (Eastern Creek) and Enfield. The Logistics Plan promotes the development of intermodal terminals in particular Enfield and Moorebank.

The Logistics Plan does not mention Clyde as an existing or proposed intermodal terminal site.

2.2.7 Future Transport 2056

The Greater Sydney Commission and Transport for NSW undertook long range planning for Sydney transport requirements to 2056, with a primary focus on passenger transport. The draft Future Transport 2056 strategy will be open for comment until December 3 (refer www.future.transport.nsw.gov.au).

The planning process considered a number of existing and new freight transport corridors in western, northern and southern Sydney however did not promote any expansion freight demand along the rail corridor adjacent to the 300 Manchester Road site. No reference to the Clyde intermodal yard is made.

The suite of projects included in Future Transport includes a program to "*upgrade rail infrastructure in the Lidcombe to Granville rail corridor. The program will improve network reliability and capacity and provide more efficient and reliable access to and from the maintenance and stabling facilities. Key features of the program include installation of new and renewal of existing turnouts; removal of redundant track; upgrade of track from timber sleepers to concrete sleepers and upgrade of track drainage; replacement of overhead wiring and related structures; upgrade of signalling, communications and control systems; and new high voltage works to support the new signalling system*"[7].

[7] www.future.transport.nsw.gov.au

3 INTERMODAL TERMINAL DEVELOPMENT IN SYDNEY

The development of intermodal terminals servicing Sydney's IMEX container market Sydney dates back to early 1990's with the operation of the Seatons' Camellia and Freightbases' Villawood sites.

With the corporatization of the freight division of State Rail Authority to form FreightCorp, the push for an expanded network of intermodal terminals began. This era also coincided with the opening up of NSW rail networks to allow competition between freight rail providers.

3.1 The Early Days

Sydney Ports Corporation cooperated with FreightCorp in the development of policy and investments focussed on expanding the intermodal terminal network. In essence, Government and its corporate entities sought to facilitate a modal shift from road to rail for the transport of IMEX containers to/from Port Botany. Notionally, a mode share target of 40% was set for rail at the time when Port Botany throughput grew from around 800,000 to 1.2 million containers.

As part of the strategy, FreightCorp acquired the Clyde and other rail properties in 1996, and used Clyde specifically as a pilot site for developing integrated road and rail transport services. It was known that the area of the Clyde site was too small to sustain a commercial operation in the long term, in a market where scale of operations yielded lower operating costs and prices.

At this time, FreightCorp also expanded its rail services for the Yennora terminal which realised increased volumes. FreightCorp also invested in the development of the Minto terminal with trucking firm Bowport Allroads.

Concurrently, various agencies and Ministerial committees also analysed the development of larger intermodal terminals at Moorebank and Enfield.

3.2 Waste by Rail Services

By 2000, FreightCorp had been working with waste logistics first and various regional Waste Boards to develop Waste by Rail transport strategies as a means of overcoming Sydney's diminishing waste landfill capacity. Initially the movement of waste from Sydney's northern areas by rail to the defunct Woodlawn mine (north of Canberra) had emerged. FreightCorp offered the Clyde terminal as a well located site for the handling, processing and transfer of waste from road to rail.

By 2004, Veolia had developed the site into the Clyde Transfer Terminal, and operations commenced. IMEX operations have ceased since Veolia occupied the site.

In essence, the site remains an intermodal terminal however, only for the transportation of waste, no longer servicing the IMEX market.

The strategy to establish other exclusively waste transfer intermodal terminals is being pursued and delivered with the Banksmeadow Waste Transfer Terminal, approved on 16/4/2015 (SSD 13_5855), at Banksmeadow and operated by Veolia to compliment the Clyde operations.

3.3 Sydney Terminal Network

Table 3-1 below provides a summary of Sydney's intermodal network, and includes the markets served by each facility.

Table 3-1 Summary of Sydney's Intermodal Container Terminals and Served Markets

Terminal	Status	Operator	Served market	Current potential throughput ('000 TEU)
Chullora (a)	Current	Pacific National	Domestic/ interstate rail	300
Chullora (b)	Proposed	Pacific National	IMEX	400-600
Enfield	Development suspended subject to review	Aurizon[8]	IMEX	300
Cooks River	Current	MCS	Empty containers and IMEX	100
Yennora	Current	QUBE	IMEX	120-200
Villawood	Property proposed for sale as insufficient scale for viable terminal	Toll Forwarding	IMEX	100-180
Minto	Current	QUBE	IMEX	100+
Moorebank	Under detailed planning and EIS submissions	Commonwealth and QUBE	IMEX and domestic interstate	800-1,200
Eastern Creek	Identified in long term policy and planning	TBA	IMEX and domestic interstate	1,000-2,000
St Marys	To be developed	Pacific National	IMEX	200
Clyde	Current	Veolia	Waste	-
Banksmeadow	Current	Veolia	Waste	-

By comparison, with other existing and emerging intermodal terminals serving the IMEX market, the Clyde terminal site is inadequate to provide the required scale of operation required to be feasible as an IMEX intermodal terminal operation. Presently, there is no long term proposal to reintroduce IMEX container traffic through Clyde. Further, an intermodal terminal operation, above that currently operated by Veolia, would require development approval, under the relevant planning approval pathway of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

[8] Note that Aurizon is disposing its intermodal business nationally, with Pacific National likely to be acquirer

4 CLYDE RAILWAY YARDS

4.1 Site Background

The Clyde Transfer Terminal site (the Clyde site) is located within the industrial precinct known as Clyde Marshalling Yards. The Clyde Marshalling Yards is a historic term describing a rail operations area dating back to the late 1800's. This area currently incorporates, in addition to the Clyde Transfer Terminal (intermodal terminal operation), both RailCorp and industrial land privately owned by Freight Rail Corporation.

Figure 4-1 Extent of Clyde Marshalling Yards

As discussed above, the Freight Rail Corporation acquired the Clyde property 1996, and used Clyde specifically as a pilot site for developing integrated road and rail transport services serving the IMEX container market9. It was known that the area of the Clyde site was too small to sustain a commercial operation in the long term, in a market where scale of operations yielded lower operating costs and prices.

By 2004, Veolia Environmental Services had developed the site and operations as a Waste transfer facility commenced. IMEX operations have ceased, with other terminals more adequately serving the IMEX market. There is a comprehensive network of intermodal terminals being developed across Sydney, include large terminals at Moorebank and Enfield and at Eastern Creek in the longer term. There are also smaller terminals (approx. 15ha) at Villawood, Yennora and Minto.

Meanwhile, the RailCorp owned area of the Clyde Marshalling Yards are used as a rail based maintenance facility, with a variety of functions associated with the servicing of existing rail related rolling stock and this includes:

- Construction and engineering of rolling stock components
- Workshops and for maintenance of rolling stock

[9] IMEX means import and export international containers, and is separate to the movement of domestic containers by rail through Sydney Chullora rail terminal operated by Pacific National

- Workshops for visual presentation of rolling stock. This includes painting and repair works to carriages
- Storage of rolling stock components and related machinery
- Testing tracks and rail lines for train and carriage interchanges
- Ancillary land uses including administrative office space and car parking

The Auburn Stabling Facility was developed in 2010 (refer to Section 1.2 of this report). The Auburn Stabling Facility is located south of the Main Western Line rail corridor. It was planned to be capable of holding up to 16 eight-car suburban trains, and performs the following functions:

- Overnight and between-peak stabling of train sets
- Internal train cleaning performed by train presentation staff (includes internal graffiti removal) and spot cleaning on train exteriors by train presentation staff (includes driver's windscreens)
- Shunting of train sets in preparation for departure or to accommodate arriving train sets
- Train preparation performed by train crew
- Division/amalgamation of trains performed by train crew
- Minor rolling stock repairs performed by train technicians.

4.2 Site Description

The Clyde site occupies around 4 hectares of land and is accessible from Parramatta Road. The site is owned by Pacific National and leased to Veolia, with a renewal of the lease recently completed. Veolia's plans for the site assume a continuous occupancy of 30-50 years consistent with the capacity and life of operations at the Woodland landfill site. As shown in the previous Figure 1-1, and more closely in Figure 4-2, the site is wedged between the Main Western Line linking Sydney and Parramatta stations, a freight train storage lines (southern boundary) and substantial industrial properties along the north-east boundary for Boral, Manildra and Sydney Trains. Each of these sites are strategically located rail dependant businesses. On the south side of the Main Western Line is another rail dependent business operated by UGL, servicing Sydney Trains[10].

[10] This facility has recently been expanded to service passenger trains.

Figure 4-2 Aerial layout of Clyde site and its adjacent activities

There is freight train marshalling and storage lines along the southern edge of the Clyde site which are used to assemble trains for Pacific National and other operators. As a result of this existing development, both on-site and within the surrounds, the site has virtually no capacity to expand its area.

4.3 Clyde Intermodal Terminal

The Clyde Intermodal site is operated by Veolia for receiving waste by road, processing and despatching waste bundles in rail wagons for transporting to the disused Woodlawn mine site, north of Canberra. The site is permitted to handle up to 6 trains a week, with trains up to 42 wagons in length. This operation is similar to other Waste by Rail operations seen in Seattle and Paris and is deemed to be very efficient.

Given the diminishing land fill capacity around Sydney, and despite the advances in waste processing and re-cycling, the Clyde Transfer Terminal (and other like it) are expected to be operational in the long term. Figure 4-3 below shows the existing Clyde Transfer Terminal.

Figure 4-3 View of Veolia facility at Clyde terminal (from Parramatta Road)

4.4 The Clyde Up Yard

The Clyde Up-Yard located on the northern side of the main rail corridor is a multi-user yard and operates 24 hours per day, 7 days per week.

The Clyde-Up Yard is not anticipated to impact on traffic on the adjacent road network. Its operations are confined within the yard and involves mainly storage and shunting of rail carriages/wagons. It has 4 main functions, as shown in the following table.

Table 4-1 Functions of the Clyde Up-Yard

User	Functions of Clyde Up-Yard	Outlook
Veolia Waste	Shunting and short term storage of rail wagons involved in the waste transport activity (see previous section 4.3)	Long term leases held with Pacific National for waste transfer station located adjacent to Clyde Up-Yard.
Manildra Sugar	Shunting of bulk rail wagons from NSW north coast, via Clyde Up-Yard into the Manildra Sugar terminal adjacent	Sugar volumes have declined around 50% in the last 8-10 years, with shunting now occurring less than once a week.
Boral Cement	Shunting of bulk rail wagons from NSW southern highlands, via Clyde Up-Yard into the Boral cement terminal	Cement volumes by rail through the facility have decline from around 150,000 tonnes a decade ago, to around 50% volumes have declined around 50% and now represents around one train per week.
Rail Services Australia (RSA)	Storage of rail infrastructure maintenance (works) wagons	Most rail track works and maintenance occurs on weekend and after hours. RSA stores the wagons at Clyde Up-Yard when not in use. RSA is the dominant user.

4.5 Strategic Context

As has been discussed in Section 2 of this report, key strategies such as A Plan for Growing Sydney, NSW Long Term Transport Master Plan, State Infrastructure Strategy, NSW Freight and Ports Strategy acknowledge that an existing intermodal terminal is operating at the Clyde site. Importantly, the reference relates to the existing Clyde site (Clyde Transfer Terminal operated by Veolia) rather than any other site (refer to Section 1.2 for location).

In 2016, contact was also made with Mr. Chris O'Brien (in June 2015) who held the position of General Manager Freight Strategy, Policy and Industry Relations (Freight and Regional Development) at Transport for NSW. Mr O'Brien was one of the principal authors of the Freight and Ports Strategy. Mr O'Brien indicated that the inclusion of the Clyde terminal is to recognise its purpose as an intermodal terminal however its role is specifically for the handling and transport of waste material rather than any other purpose such as international containers. Further, TfNSW was not in a position to comment as to whether Veolia have any plans to expand the site.

A discussion was also undertaken with Veolia (in June 2015), whom confirmed their intention to retain the existing operations on the Clyde site (as per the long term lease), with no immediate plans for expansion.

4.6 Potential for Further Development

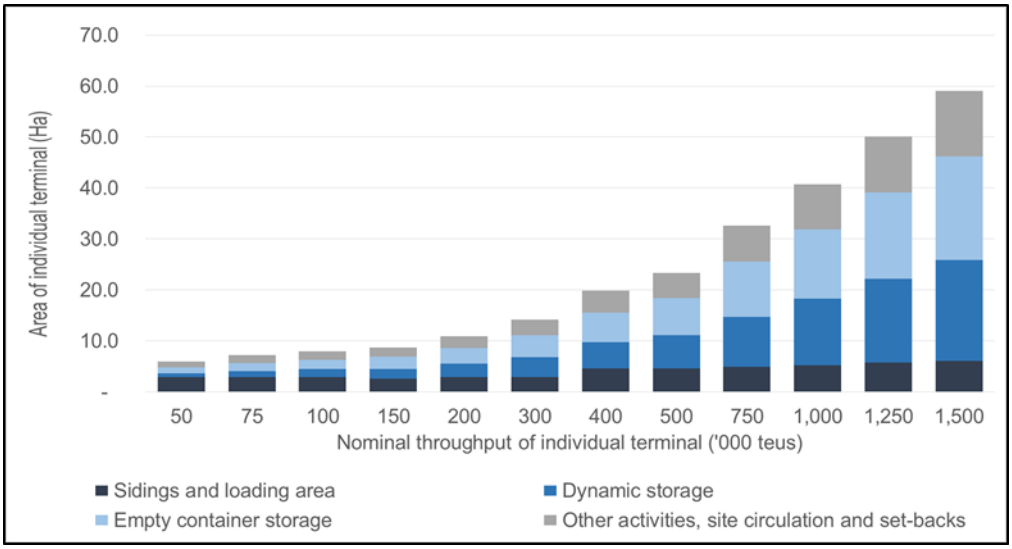
At 4-6 hectares, Clyde terminal is inadequate to provide an efficient intermodal terminal operation at a commercially sustainable market price. Based on the site area, the site would be likely to have the potential to only process below a throughput of 50,000 TEU (per annum), which is not considered economically viable against other larger competing intermodal terminals throughout Sydney. The Main Western rail line also provides a physical constraint to this facility, generally prohibiting an expansion of the Clyde site operations.

Further, given the scale of current and emerging intermodal terminal capacity serving the IMEX market it is extremely unlikely that Clyde's role would revert to an IMEX terminal. Moreover, Pacific National as the owner of the site has publically stated that it is focus is on expanding its operations at the Chullora intermodal terminal to accommodate IMEX containers, in addition to their existing interstate processing.

The economics of intermodal terminals and rail operations recognises the need for volume to offset the high fixed costs inherent in such operations. Moreover, there are other existing and competing terminals in the inner western area at Chullora and Villawood that provide significantly more efficient capacity than ever possible at Clyde.

Analysis by Neil Matthews (and others) has identified that the lower bound for an intermodal terminal is around 15-20 hectares to achieve a throughput of 200,000 TEUs. At the upper end of the scale, terminal handling 300,000 to 1 million TEU's will have low marginal operating costs and a greater catchment reach to attract demand and throughput.

Figure 4-4 provides output of generalised modelling for terminal throughput and capacity from a recent study by Neil Matthews.



Source: NM Consulting Pty Ltd; Intermodal Terminal Modelling Attributes (2004-2012); industry stakeholders

Figure 4-4 IMEX Rail Shuttle IMTs - Relationship between Demand (in '000 TEUs) and Footprint (as hectares)

5 CONCLUSION

This report has been prepared to support the Planning Proposal for the site (300 Manchester Road, Auburn). This report has provided an analysis of the existing intermodal terminal operations at Clyde, which include the Clyde Transfer Terminal, operated by Veolia. The Clyde Transfer Terminal (intermodal terminal operation) site is located within the industrial precinct known as Clyde Marshalling Yards.

A review of strategic policy has been undertaken to determine any long term plans for intermodal operations within the Auburn area, particularly for the Clyde Transfer Terminal and within the greater Clyde Marshalling Yards. Collectively the strategies discussed above guide transport and freight movement and associated development within NSW. The purpose of these strategies is to provide a framework which can be implemented by both state and local government.

Strategic policy at a national level does not mention an existing or proposed intermodal operation at Clyde. However, key strategies such as A Plan for Growing Sydney, NSW Long Term Transport Master Plan, State Infrastructure Strategy, NSW Freight and Ports Strategy acknowledge that an existing intermodal (the Clyde Transfer Terminal operated by Veolia) is operating at Clyde. These policy documents however do not identify any expansion or change to these existing operations at Clyde. The focus of this strategic policy is related to other sites which are considered of more strategic importance, including intermodal terminals at Moorebank, Enfield and also Western Sydney (Eastern Creek).

In summary, although Clyde includes an existing intermodal operation (Veolia), strategic policy does not highlight the potential for growth or change to this operation. This is further supported by consultation with TfNSW whom identified that the inclusion of the Clyde terminal, in the strategy, is to recognise its purpose as an intermodal terminal however its role is specifically for the handling and transport of waste material rather than any other purpose such as international containers. While there have been past references to the development of an IMEX intermodal terminal at Clyde, such references are now redundant with the emerging policy and commercial realities in Sydney.

At 4-6 hectares, Clyde terminal is inadequate to provide an efficient intermodal terminal operation at commercially sustainable market price. Given the scale of current and emerging intermodal terminal capacity serving the IMEX market it is extremely unlikely that Clyde's role would revert to an IMEX terminal. Moreover, Pacific National as the owner of the site has publically stated that it is focus is on expanding its operations at the Chullora intermodal terminal to accommodate IMEX containers, in addition to their existing interstate processing.

Further, the Clyde Marshalling Yard has been subject to recent upgrades and works and is considered strategically important in stabling and associated development to cater for the expected increases in train services in Sydney's inner-west and south-west. In this instance it is unlikely that any change to this current operation would be undertaken in the long term.

In summary, based on a strategic review, consultation with landowner/operators and our experience, it is considered unlikely, and contrary to strategic policy, that there would be any change to existing operations (both for the Clyde Transfer Terminal and the Clyde Marshalling Yard), including an expansion, or development of purpose built intermodal terminal operations to service the IMEX market.