Executive Summary

Executive summary

The Moorebank Intermodal Terminal Project (the Project) has been subject to an extensive and ongoing public assessment process since 2012, beginning with the public exhibition of the Environmental Impact Statement (EIS) between 8 October and 8 December 2014, followed by the Response to Submissions report (incorporating a change in concept layout) between 28 May and 26 June 2015 and culminating in this Supplementary Response to Submissions report (this report).

Various amendments to the Project have been made in response to community and government agency consultation. This consultation has resulted in the refinement and strengthening of management and mitigation measures to ensure that the environmental and amenity impacts are balanced against the economic and social benefits of the Project.

This report relates to the Project approvals sought by Moorebank Intermodal Company (MIC) under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) and development consent under the NSW Environmental Planning and Assessment Act 1979 (EP&A Act). This report should be read in conjunction with the Response to Submissions report (dated May 2015) and the EIS (dated October 2014).

The approvals being sought by MIC are a subset of those required as a result of MIC's recent agreement with Sydney Intermodal Terminal Alliance (SIMTA) for a whole of precinct solution to the intermodal terminal at Moorebank. Under this agreement, MIC's and SIMTA's land at Moorebank will be combined and developed as an integrated freight precinct. The integrated precinct masterplan includes:

- a 1.05 million twenty foot equivalent units (TEU) p.a. import/export (IMEX) terminal on the SIMTA land in the precinct;
- a 500,000 TEU p.a. interstate terminal on the MIC land in the precinct; and
- at least 600,000 square metres (sq. m) of warehousing across the entire precinct.

The layout of the terminals and warehousing across the combined precinct is a better outcome, in terms of both operational efficiency and the local community, than previous proposals. The impacts of the integrated precinct masterplan were assessed as part of the cumulative impact assessment in the Response to Submissions report.

Planning approvals for the combined precinct are being sought by MIC and SIMTA in stages, reflecting the planned staged development of the precinct. The approach to obtaining planning approval for the combined precinct has also been designed to accommodate the fact that concept approval has already been granted for the SIMTA land, and the process is underway to apply for concept approval for the MIC land. In particular, the current planning application for the MIC land in the precinct recognises the limit placed by the Planning Assessment Commission (PAC) on the IMEX terminal on the SIMTA land (i.e. an ultimate cap of 500,000 TEU), and SIMTA's and MIC's desire to ensure the total precinct throughput is 1.55 million TEU p.a. (i.e. 1.05 million TEU a year of IMEX freight and 500,000 TEU p.a. of interstate freight).

The approach to obtaining planning approvals for the precinct is as follows:

1. For the SIMTA land in the precinct:
    - > a concept approval has been granted for a 250,000 TEU p.a. IMEX terminal (with the potential to expand this to 500,000 TEU p.a.) and 300,000 sq. m of warehousing;

- SIMTA is now applying for project approval to build the first stage of the IMEX terminal (250,000 TEU p.a.); and
- in the future, SIMTA will apply for all the subsequent project approvals to build later stages of the IMEX terminal and warehousing on the SIMTA land, including increasing the IMEX terminal capacity to 1.05 million TEU p.a.

2. For the MIC land in the precinct:
   - MIC is currently applying for concept approval for:
     - 300,000 sq. m of warehousing; AND
     - a 500,000 TEU p.a. interstate terminal – if there is the certainty that a 1.05 million TEU p.a. IMEX terminal will be built on the SIMTA land in future; OR
     - up to a 755,000 TEU p.a. IMEX and 500,000 TEU p.a. interstate terminal – if there is a 250,000–500,000 TEU p.a. IMEX on the SIMTA land; OR
     - up to a 1.05 million TEU IMEX and a 500,000 TEU p.a. interstate terminal – if there is no approval to build a 250,000 TEU p.a. IMEX on the SIMTA land; and
   - in the future, SIMTA will apply for all the subsequent project approvals to build later stages of the interstate terminal and warehousing (and possibly an IMEX terminal) on the MIC land in the precinct.

The concept approval currently sought by MIC is therefore dependent on the IMEX terminal throughput approved for the SIMTA land in the precinct. The intention is to ensure there is a total precinct capacity of 1.55 million TEU p.a. (for IMEX and interstate freight combined).

The measures needed to address the impacts of the terminal as it expands can be determined as part of the project approval application process, rather than capping throughput at the outset. The outcomes that would be achieved through a cap (e.g. reduced impacts) can instead be achieved through the staged development consent process, without undermining the efficiency of public and private investment in the terminal and the terminal's economic and environmental benefits for the broader community.

Overview of the MIC proposal

Forecast growth in international and interstate freight movements through Sydney, and increased industrial and commercial development in west and south-west Sydney, have prompted government and industry to consider new strategies for alleviating constraints on freight. Insufficient intermodal rail freight capacity is recognised as a key barrier to the future development of Sydney and improvements in national productivity.

The Project (on MIC land) involves the development of intermodal freight terminal facilities at Moorebank, in south-west Sydney, that would help to slow the increase in road traffic along key road freight corridors by increasing the movement of freight by train. This is consistent with NSW and Australian Government objectives for increasing the mode share of rail for transporting containerised freight.

Key features of the development as presented in the Response to Submissions report and shown on Figure ES.1 include (at Full Build in 2030) the following:

- **An import/export (IMEX) freight terminal** designed with a maximum capacity of 1.05 million TEU a year (525,000 TEU p.a. inbound and 525,000 TEU p.a. outbound), servicing international IMEX freight movement between Port Botany and west/south-west Sydney via the Project site;

- **An interstate freight terminal** designed to handle up to 500,000 TEU p.a. (250,000 TEU p.a. inbound and 250,000 TEU p.a. outbound) of interstate freight, servicing trains travelling to, from and between Sydney and regional and interstate destinations;

- **Warehousing facilities** with capacity for up to 300,000 sq. m of gross floor area to provide an interface between the IMEX and interstate terminals and commercial users of the facilities such as freight forwarders, logistics facilities and retail distribution centres;

- **A rail access connection (rail link) between the terminal site and the Southern Sydney Freight Line (SSFL)** via a bridge crossing the Georges River to the south-west of the main IMT site;

- **Establishment of a conservation area** to maintain and enhance the riparian vegetation between the Georges River and the 1% annual exceedance probability (AEP) flood level. The conservation area has increased by 4 hectares (ha) in the northern part of the site since the EIS; and

- **An upgrade of Moorebank Avenue** including widening of the road to a four-lane carriageway between the M5 Motorway and Anzac Road, upgrades to intersections to accommodate the widening and additional traffic, and traffic control measures.

The Project is proposed to be developed on an area of land owned by the Australian Government and currently occupied by the Department of Defence (Defence). The site is adjacent to the SSFL, the East Hills Rail Line and the M5 Motorway.

MIC is seeking approval for the proposal 'concept' (i.e. the broad parameters of the Project to operate at maximum capacity of 1.55 million TEU p.a.) to satisfy both:

- a staged State significant development (SSD) consent under the NSW EP&A Act (including a Stage 1 development consent for Early Works); and

- the requirements of the Commonwealth EPBC Act in relation to impacts of the proposed action on matters protected under the Act (which, in the case of this Project, comprise listed threatened species and communities) and impacts on the environment by a Commonwealth agency.

The approval processes under the EPBC Act and the EP&A Act are being undertaken in parallel and the EIS addressed both the Commonwealth's EIS guidelines as well as the Secretary for NSW Department of Planning and Environment's Environmental Assessment Requirements (SEARs) for the Project.

The development of the Project is proposed to be phased, with an initial IMEX terminal and warehousing facilities planned to commence operations around 2018 (subject to approval). Subsequent development of interstate IMT facilities, followed by 'ramp-up' of IMEX capacity and warehousing is then expected to occur in line with the growth in freight demand.

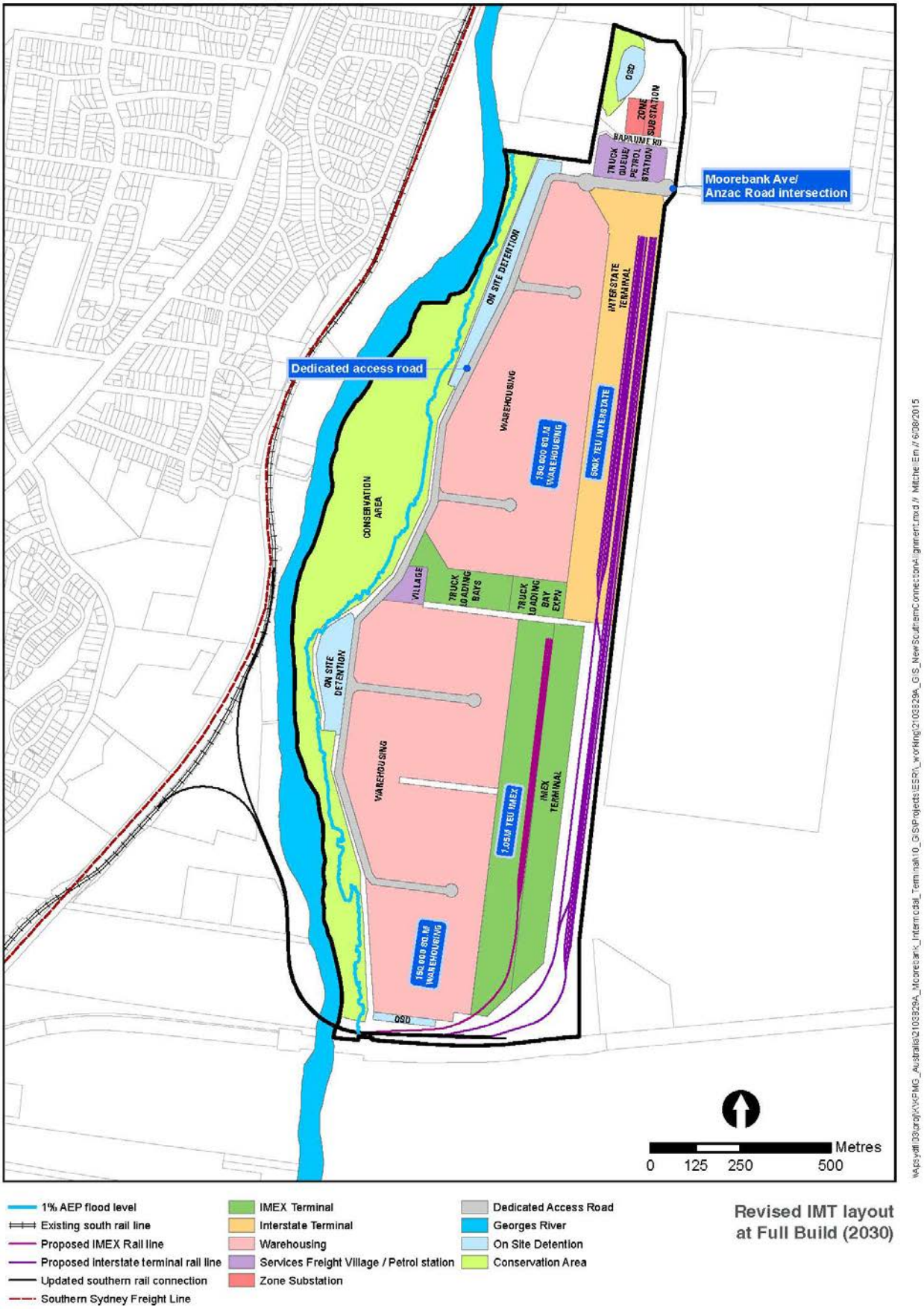

Figure ES.1 Project layout plan

Future Stage 2 SSD approval applications will be linked to the proposed development phases presented below and may be subject to further change in light of changing economic conditions. As such, the proposed phasing is a best estimate for the purposes of assessing environmental impacts at key stages of development. Each SSD stage of development will be subject to its own detailed EIS, which will provide an opportunity for the Project phases and timing to be determined in detail. The revised phasing presented in the Response to Submissions report comprises the following:

1. Early Works (2015), including Rehabilitation Works – subject to the current concept approval application;

2. Phase A – construction of 250,000 TEU p.a. interstate terminal, 100,000 sq. m of warehousing and the southern rail link (in 2015–2016);

3. Phase B – operation of the 250,000 TEU p.a. interstate terminal and 100,000 sq. m of warehousing, as well as the construction of a 250,000 TEU p.a. IMEX rail terminal, which would become operational in mid-2019;

4. Phase C – operation of the 250,000 TEU p.a. IMEX terminal as well as the 100,000 sq. m of warehousing and 250,000 TEU p.a. interstate terminal. Additional construction activities during Phase C (which would become operational once completed) comprise the construction of 150,000 sq. m of warehousing and a 500,000 TEU p.a. IMEX (mid 2022 to end 2023 approx.), construction of an additional 255,000 TEU p.a. IMEX (in 2027); and construction of an additional 250,000 TEU p.a. interstate capacity and 50,000 sq. m of warehousing (in 2029); and

5. Full Build – operation of a 1.05 million TEU a year IMEX terminal, a 500,000 TEU p.a. interstate terminal and 300,000 sq. m of warehousing (in 2030).

An integrated intermodal precinct

A whole of precinct masterplan has been developed as part of the agreement between MIC and SIMTA. Both MIC and SIMTA have committed to an integrated single intermodal precinct as the most efficient sustainable development outcome at Moorebank.

The agreement between MIC and SIMTA to achieve an integrated intermodal precinct is conditional on MIC obtaining development consent for its concept plan. The precinct will be developed in stages over time; concept approval has already been granted for the SIMTA land, and MIC also requires its concept approval to allow the precinct development to proceed. The current planning applications also reflect the cap of 500,000 TEU p.a. placed by the PAC on the IMEX terminal on the SIMTA land, and SIMTA's and MIC's desire to ensure the total precinct throughput is 1.55 million TEU (i.e. 1.05 million TEU of IMEX freight and 500,000 TEU p.a. interstate freight).

The cap on the SIMTA planning approval resulted from PAC concerns about the capacity of the road network and a view that a 500,000 TEU a year terminal would be sufficient to meet NSW Government rail freight objectives for Port Botany. MIC has demonstrated in the revised traffic impact assessment (refer to Chapter 7 – *Proposed amendments to the development of the Response to Submissions report*) that with suitable modification of key intersections and other supplementary measures, the road network can be progressively improved to ensure that, allowing for background traffic growth, it can be maintained at a level of service (LoS) commensurate with forecast 2030 conditions without the Project, up to a level of 1.55 million TEU a year.

The Moorebank precinct needs to be developed to a total intermodal capacity of 1.55 million TEU p.a. (comprising 1.05 million TEU p.a. in IMEX capacity and 500,000 TEU p.a. in interstate freight capacity) to achieve the NSW Government's rail share target for Port Botany, maximise the terminal's benefit for Sydney's road network, and meet market demand for an efficient rail freight alternative to road. Development of the Moorebank precinct to this volume is the most economically efficient option. No other site has been identified that could be delivered in the same timeframe and with the same advantages of size and proximity to existing transport corridors. As such, the Moorebank precinct creates the best opportunity to meet Sydney's current need to increase metropolitan container movements on rail.

Cumulative assessment

In recognition of changes to the terminal layout to take into consideration a whole of precinct master plan, MIC completed a comprehensive whole of precinct cumulative assessment as part of assessing the proposed amendments to the development. This assessment considered four possible cumulative scenarios for the precinct development:

- Scenario A – all terminal facilities to be built on the Moorebank land, with only warehousing (300,000 sq. m) constructed on the SIMTA land;
- Scenario B – an IMEX facility (1.0 million TEU a year capacity) plus 300,000 sq.m of warehousing on the SIMTA land and an interstate terminal (500,000 TEU p.a. capacity) plus 300,000 sq. m warehousing on the Moorebank land. (Scenario B is the cumulative scenario that aligns to the current masterplan layout);
- Scenario C1 – a potential Stage 1 development in 2020 that matches the current SIMTA Stage 1 DA (250,000 TEU a year, 200,000 sq. m of warehousing) in conjunction with a likely first stage of development of the Moorebank site (250,000 TEU p.a. IMEX; 250,000 TEU p.a. interstate and 100,000 sq. m of warehousing); and
- Scenario C2 – Full Build (2030) with 500,000 TEU p.a. on the SIMTA site (reflecting the cap placed on SIMTA's concept approval) and the remaining 1.05 million TEU capacity (consisting of 550,000 TEU p.a. IMEX and 500,000 TEU p.a. interstate) on MIC's site.

All the assessed cumulative scenarios recognise there is a maximum of 1.55 million TEU p.a. (IMEX plus interstate) across the precinct and that all the IMEX capacity (1.05 million TEU p.a.) will either be built all on the SIMTA site, all on the Moorebank site, or shared across both, but not increased beyond the 1.05 million TEU p.a. total.

The results of the cumulative impact assessment demonstrate that noise, air quality, health and traffic impacts – the key issues of concern for community members – would be within acceptable levels, as described below. A series of management and mitigation measures have also been developed for the cumulative impacts and are presented in Table 7.1 of this report. The cumulative whole of precinct assessment and associated mitigation measures should provide an appropriate basis for future development applications, which will be subject to detailed technical investigations at the time.

Noise and vibration

For all scenarios assessed, the predicted cumulative noise levels during both neutral and adverse conditions comply with the daytime, evening and night-time amenity noise criteria at all assessed receptors in Glenfield and Liverpool. The predicted cumulative noise levels in Casula and Wattle Grove comply with the daytime and evening amenity noise criteria but exceed the night-time amenity noise criteria during neutral weather conditions by up to 3 dB(A) (with Scenario B representing the worst case scenario). During adverse weather conditions, the predicted cumulative noise levels would be exceeded by up to 5 dB(A) (for Scenario B), with exceedances at some receptors for all scenarios. The results are outlined in Table ES.1 below.

Cumulative traffic noise impacts are only marginally greater than the current background levels (by 1 dB(A)), which is below the level at which specific mitigation measures are required.

Table ES.1 Predicted cumulative noise levels – all scenarios

Residential receptor	**Predicted Noise Levels, L_{Aeq}, dB(A)**			
	Scenario A		**Scenario B**	
	Neutral weather	**Adverse weather**	**Neutral weather**	**Adverse weather**
Casula	27–**42**	29–**44**	27–**43**	29–**45**
Wattle Grove	35–40	39–**44**	38–**43**	40–**45**
Glenfield	29–32	29–33	31–34	31–34
Liverpool	32–34	38–40	33–33	38–38
Non-residential noise sensitive receptors (refer to Technical Paper 2, Volume 3 of the EIS for locations of these receptors)	21–**43**	25–**44**	26–**43**	26–**44**
	Scenario C1		**Scenario C2**	
Casula	25–40	26–**42**	27–**41**	28–**43**
Wattle Grove	35–39	38–**42**	35–40	37–**42**
Glenfield	29–32	30–32	31–33	31–34
Liverpool	30–30	35–35	30–32	34–34
Non-residential noise sensitive receptors	22–40	24–**42**	24–41	26–**43**

Traffic, transport and access

By 2030 a number of intersections will be operating at an unacceptable LoS as a result of background traffic growth (despite the planned upgrades by RMS), in conjunction with traffic generated by the Moorebank IMT and the SIMTA site. The treatments required, for affected intersections to offset the impact of traffic from the integrated Moorebank freight precinct under cumulative scenarios A, B and C are presented below:

750,000 TEU throughput:

- Scenario C1 – intersections I-01 (Hume Highway/ Orange Grove Road) and I-06 (Newbridge Road/ Moorebank Avenue) – signal timing changes (brought forward from 2023 for IMT-only). Intersection I-14 (Hume Highway/ M5 Motorway) – signal timing changes, extend short right turn lane on M5 East Motorway to 230 m (brought forward from 2023 for IMT-only).

1.55 million TEU throughput:

- Scenario C2 – intersection I-02 (Hume Highway/Elizabeth Drive) – signal timing changes, additional 70 m right turn lane on Elizabeth Drive in the westbound direction.
- Scenario A, B and C2 – intersections:
  - I-04 (Hume Highway/ Hoxton Park Road), signal timing changes for an additional 75 m right turn lane on the Hume Highway in the southbound direction.
  - I-06 (Newbridge Road/ Moorebank Avenue), signal timing changes, extend left turn lane on Newbridge Road to 150 m in the westbound direction.
  - I-13 (Moorebank Avenue/M5 Motorway), signal timing changes, short left turn lane of 100 m to Moorebank Avenue slip lane (dual signalised slip lane westbound).
- Scenario A and C2 – intersection I-0A (Moorebank Avenue/Anzac Road), signal timing changes; provide a dedicated left turn lane on Moorebank Avenue north.
- Scenario B – intersections:
  - I-0A (Moorebank Avenue/Anzac Road), as for A and C2 above plus additional right turn lane on Moorebank Avenue South.
  - I-0B (Moorebank Avenue/new DNSDC access/SIMTA northern access), provide dual right-turn lanes on SIMTA central access.
  - I-0C (Moorebank Avenue/SIMTA central access), provide dual right-turn lanes on SIMTA southern access.

Mitigation treatments would only be applied if an intersection is operating at LoS E or worse as a result of the precinct (i.e. cumulative) traffic above the background growth and cumulative impacts by others. Treatments would not be recommended where a resulting LoS of D or better is achieved, even where performance has deteriorated as a result of the Project.

The upgrades required as a result of background traffic growth combined with traffic generated by the MIC Project and the SIMTA project are presented as potential road network solutions, but are not nominated for delivery as part of the Project, as they are based on a number of assumptions that will not be tested until operation in the period 2018–2030. The funding and mechanisms for delivery of network upgrades will be subject to further assessment in consultation with the NSW Government during future DA stages. Intersections I-0B and I-0C would only be constructed if the SIMTA site were developed (i.e. they would not exist under a scenario where only the MIC land in the precinct is developed).

Local air quality

The following key points are taken from the cumulative modelling results generated for the operations at the Moorebank IMT site and SIMTA site:

- Cumulative incremental impacts of all pollutants are below NSW EPA and National Environment Protection Measure (NEPM) advisory reporting goals at all surrounding receptor locations, for all assessed site scenarios;

- An exceedance of the NSW EPA 24-hour average PM_{10} criterion and NEPM advisory reporting goal for 24-hour average $PM_{2.5}$ is predicted at R33 (which is located within the SIMTA site). Receptor R33 assumed commercial workers would occupy this portion of the SIMTA site; however, R33 is the location of the IMEX terminal and would therefore be relocated to another portion of the SIMTA site where workers would be located;

- Cumulative annual average (for Scenario B) $PM_{2.5}$ concentrations exceed the NEPM advisory reporting goal at receptor R33. The exceedance at R33 is attributable to the location of R33 directly within the SIMTA site; and

- No other exceedances for cumulative scenarios were predicted at any of the surrounding receptor locations.

Human health

In relation to the assessment of cumulative impacts from the operation of both the Moorebank and SIMTA sites, the predicted health impacts are generally considered to be low (not significant). The human health risk assessment has identified risks at commercial/industrial properties on Moorebank Avenue currently within the SIMTA site boundary. Mitigation measures are required to minimise workplace exposure to particulates at those sites. However, all the identified receptors would be relocated with the development of the SIMTA site (i.e. this site would no longer be considered a receptor as it would be part of the intermodal development), so these receptors have been discounted from further consideration in the cumulative assessment.

Overview of submissions received for the Response to Submissions report

The Response to Submissions report (incorporating the proposed amendments to the development) was placed on public exhibition between 28 May and 26 June 2015. During this period government agencies, local councils, key business/infrastructure stakeholders and the community were invited to make written submissions on the Project to NSW DP&E.

A total of 109 submissions were received during the Response to Submissions exhibition period. Of these submissions, 8 were provided by government agencies and local councils, with the remaining 101 provided by community members. Details of the issues raised and MIC's responses are provided in Chapter 4 – *Response to Community Submissions* of this report.

Eight submissions were received from government agencies and local councils. These included submissions from Liverpool City Council (LCC), Campbelltown City Council (CCC), Transport for NSW (TfNSW), Office of Environment and Heritage (OEH), Environment Protection Authority, NSW Department of Primary Industries, NSW Office of Water and Fisheries and NSW Health. Details of the issues raised and MIC's responses are provided in Chapter 5 – *Response to government agency submissions* of this report.

Assessment of submissions

The community and stakeholder submissions from both exhibition periods raised a number of key issues, with most submissions raising multiple issues. The top five issues raised by the community were:

- Project site alternatives and justification;

- Traffic, transport and access;

- Noise and vibration impacts;

- Local and regional air quality; and
- Human health risks and impacts.

Justification for a 1.55 million TEU p.a. throughput capacity at the site (given the PAC decision to cap the SIMTA project initially at 250,000 TEU p.a.), relationship to the SIMTA approval and cumulative impact considerations were also raised by submitters and are key issues to be considered.

The agreement between MIC and SIMTA for a single integrated terminal and the extensive assessment of the cumulative impacts of various stages of construction and operation are presented further in this report.

Issues raised by councils

A number of councils made submissions during the EIS; Liverpool City Council (LCC) and Campbelltown City Council also made submissions on the Response to Submissions report.

The main issues raised by councils included:

- traffic impacts;
- site alternatives such as Badgerys Creek;
- alternative site uses, such as residential; and
- precinct master planning.

Concerns about a number of these issues were also shared by community members and have been discussed further below.

In relation to traffic impacts, councils expressed concern about the adequacy of the traffic modelling in relation to existing and predicted congestion of local intersections and the M5 Motorway, and the timing of upgrades for intersections. MIC acknowledges the particular concern, raised by LCC, about traffic impacts and the limitations of the current modelling activities. MIC is currently undertaking more extensive modelling (which will be reported as part of the Stage 2 SSD application) to assess the impact of Project traffic on the wider Liverpool area. This will involve wide ranging mesoscopic modelling, with microsimulation of key elements such as the M5 Motorway over the Georges River. New AM and PM models will be based on 24 hour traffic data collection. Following this additional modelling, MIC will be able to provide council with more certainty regarding the management and mitigation measures proposed for intersection upgrades and the M5 Motorway, including timing of these activities.

Project site alternative considerations and alternative land uses

The Project site was selected because it provides good access to existing major freight road and rail corridors (SSFL, M5 Motorway, M7 Motorway and Hume Highway) and its central location relative to major existing and future freight markets in the west and south west of Sydney. The size of the site was also a significant factor in its selection, with the requirement to accommodate interstate trains (which can be up to 1,800 metres long) and the need for the site to be large enough to handle the number of containers expected (a total throughput capacity of 1.55 million TEU p.a., including up to 1.05 million TEU p.a. of IMEX). The site also has space for onsite warehousing, which increases the efficiency of the freight service offered and therefore increases the attractiveness of the terminal and its potential to get more freight onto the rail network.

A number of submissions suggested the demand could be accommodated within Sydney's existing IMT facilities; however, IMTs serve a defined geographic catchment and there is clear demand for Moorebank from a catchment area that is different from those served by existing IMTs. Also, Sydney's estimated total future IMEX intermodal capacity at existing terminals is not sufficient to meet government rail freight targets, nor the expected demand for an efficient rail freight alternative to road (see further discussion below).

No other known site in Sydney has the same characteristics to efficiently accommodate the type of activities being proposed in the timeframe required. The availability of the site for development represents a once-in-a-generation opportunity for a transformational freight infrastructure project. Alternative additional IMTs would be significantly less economically efficient than the Moorebank IMT, and not practically achievable in the timeframes required. In particular:

- There is no land set aside for an IMT at Eastern Creek, and a new freight rail line to the area would be needed with substantial investment implications.

- Land would also be required for an IMT at Badgerys Creek, as the new airport site is unlikely to have spare space for this purpose. A new freight rail line would also need to be constructed in addition to the potential future passenger line, for which a corridor is being reserved. It is not practical for freight trains to share the passenger network, since passenger trains receive priority on the passenger network, which would undermine the efficiency and reliability of a rail freight service via Badgerys Creek.

- Even if land were available at Eastern Creek or Badgerys Creek, the planning and environmental approval process to assess the sites' suitability from an environment, social and economic perspective would take years. Given the growing demand for intermodal facilities in western and south western Sydney, the Moorebank IMT site is considered the most appropriate to service this demand.

Given the clear suitability of the Project site for an IMT and the lack of economically efficient alternatives, it would be inappropriate to use the site for an alternative purpose (e.g. residential or commercial). Residential or commercial land uses would also have greater impacts on the local environment and community. For example, during peak hours, residential development would generate around seven or eight times more traffic than an IMT (in equivalent passenger car unit terms). In addition, the extent of contamination on the Project site means that remediating the site to residential standards could be prohibitively expensive.

The comprehensive site assessment undertaken in the EIS and Response to Submissions report conclusively demonstrated the suitability of the proposed site for the proposed intermodal activities – the essential requirement for decision making.

Justification of 1.55 million TEU

The Moorebank precinct needs to be developed to a total intermodal capacity of 1.55 million TEU, comprising 1.05 million TEU p.a. in IMEX capacity and 500,000 TEU p.a. in interstate freight capacity, for the following reasons:

- Sydney has insufficient IMT capacity to achieve the NSW Government's 28% rail share target for Port Botany[1]. To achieve this target, Sydney will need 400,000 to 600,000 TEUs of additional IMT capacity by 2020 (assuming that existing IMTs are fully employed). By 2040, Sydney will need

[1] The IMT capacities assumed throughput this Report take into account the existing capacity provided at the Yennora and MIST terminals, as well as the new capacity at Enfield, the share of the recent expansion at Chullora that will be used for IMEX freight, and the recent announcement that DP World and Toll are in talks to recommence IMEX services from the Villawood intermodal terminal.

600,000 to 1.5 million TEU of extra IMT capacity to continue to meet the target. The Moorebank IMT will satisfy some of this shortfall in existing IMT capacity, but not all.

- Additional IMT capacity will be needed, on top of that provided by Moorebank, to prevent gridlock around Port Botany. Even if Moorebank and existing IMTs are fully utilised, the number of TEUs travelling to and from Port Botany by truck will rise from two million today to as many as five million in 2030 and seven million by 2040. A 500,000 TEU p.a. cap on the Moorebank IMT would increase the volume carried by truck to 7.5 million by 2040; a 375% increase compared to today. Transporting this volume of freight to and from the port by road is unlikely to be possible. A higher rail mode share is therefore needed. NSW Ports is pursuing a 40% rail share. In 2005, the NSW Government's Freight Infrastructure Advisory Board also recommended a 40% rail share.

- No other site has been identified that is practicably feasible in the timeframe required and able to deliver the same operational efficiency. Therefore, the Moorebank precinct creates the best and most efficient opportunity to increase Sydney metropolitan container movements by rail in the timeframes required.

- A cap of 500,000 TEU p.a. on IMEX throughput would:

  > require another solution to enable our imports and exports to continue to grow as expected, e.g. investment in the roads to and from Port Botany to handle as many as 7.5 million TEU a year by 2040, or investment in additional (but economically inefficient) IMT capacity elsewhere, before the efficient use of the Moorebank site is maximised;

  > be inconsistent with NSW and Australian Government objectives to increase freight transfers by rail to reduce reliance on the road network;

  > reduce the benefits of the IMT for the economy and community (e.g. there would be fewer jobs created, a smaller reduction in truck travel across the Sydney network, a smaller capital investment in south west Sydney, and a smaller impact on national productivity);

  > reduce the efficiency of the planned investment in IMT capacity at Moorebank and the efficiency of operations, and potentially discourage investment in additional intermodal capacity;

  > limit the ability of importers and exporters to choose the most efficient freight transport mode for their needs; and

  > only be warranted if the environmental impacts beyond the cap could not be managed; this report, the Response to Submissions report and the EIS have all demonstrated this is not the case.

- The Moorebank precinct also needs to provide 500,000 TEU p.a. of interstate capacity (i.e. in addition to the 1.05 million TEU of IMEX capacity). The Australian Government has been investing heavily in the freight rail network to increase its reliability and transit times. A network of large, modern intermodal facilities, including at Moorebank, is required to complement this investment and encourage more interstate freight to travel by rail. An improved interstate rail freight network would compete on cost and reliability with road, thereby encouraging more interstate freight to travel by rail. By reducing the cost of moving freight, the terminal would have significant benefits for exporters such as agricultural producers.

- An assessment of the cumulative impacts of the Moorebank precinct on the road network concludes that there are a number of intersections that, as a result of background traffic growth, would operate at an unacceptable level of service. As such, a series of intersection mitigation measures have been presented that would accommodate a precinct wide total of 1.55 million TEU p.a. as well as 600,000 sq. m of warehousing for all assessed cumulative scenarios. MIC is in ongoing discussions with Transport for NSW and Roads and Maritime Services to agree on the nature and extent of the intersection upgrade measures.

- The interstate freight rail network has adequate capacity for the 500,000 TEU p.a. of interstate freight planned for the Moorebank precinct. An assessment of the freight rail line between Port Botany and Moorebank found that an upgrade (construction of a new passing loop) is needed to enable it to handle the 1.05 million TEU of IMEX freight planned for Moorebank, on top of demand from other users. ARTC is already planning this upgrade, which is considered practically and economically feasible and will be required by around 2020.

Response to Project specific impacts

Many community and council submissions raised concerns relating to human health impacts (specifically noise, sleep disturbance, wheel squeal, air quality impacts and diesel fumes/emissions) and traffic and transport impacts (specifically, direct impacts on the local roads and major arterial roads, as well as associated social, environmental and economic impacts). Our detailed response to community submissions is presented in Chapter 5 – *Response to community submissions* of this report.

The EIS and Response to Submissions report demonstrated that the IMT would have some impacts on the local community and environment. These impacts would be addressed through a raft of mitigation measures (e.g. local intersection upgrades, noise walls and locomotive standards to reduce noise and diesel emissions). The residual impact on the local community and environment – accounting for mitigation measures – would be small and manageable within established regulatory requirements and criteria. For example, the EIS and Response to Submissions report demonstrate that:

- the concentration of air borne pollutants in the area would be well within air quality guidelines;

- the IMT would have no measurable impact on human health;

- the performance of local intersections would be maintained at the level that would be experienced in the future without the IMT; and

- noise from the IMT and its rail connection would be within government guidelines.

MIC has also been working with the NSW Government to assist its decision making on some major road upgrades that will be needed in the area, regardless of whether the IMT proceeds. These road upgrades are needed to handle growth in background traffic, but would also benefit the IMT. These possible road upgrades were identified in the 2014 NSW State Infrastructure Strategy and are currently being considered by the NSW Government for implementation.

Assessment of impacts

The impacts associated with the Project were presented in the EIS and the subsequent Response to Submissions report. A summary of the key impacts, specifically in relation to traffic, visual, noise, air quality and health, are presented below.

Visual

The greatest visual impact of the Project will be on the public parks (Leacock and Carroll Parks in Casula) and associated residential properties that are situated on the elevated topography sloping west from the Georges River. These will have clear views over the site and the taller project elements such as lighting towers and rail mounted gantry cranes.

Traffic

The traffic impacts associated with the Project include the following:

- A requirement to upgrade Moorebank Avenue north of Anzac Road, and the upgrading of the Anzac Road intersection to a major signalised intersection. This location would be the site entry point for all vehicles, with separation of light and heavy vehicles occurring within the site;

- For the key intersections, while the traffic impacts in 2030 are slightly worse than the predictions made in the EIS, the analysis continues to show that by 2030, all intersections will have experienced a reduced level of service as a result of background traffic growth. A number of intersections will have deteriorated to an unacceptable level of service (D or worse) without mitigation, due to background traffic alone;

- Mitigation measures in the form of intersection treatments are proposed to ensure the intersections' performance is returned to 'base level' at any point in time, i.e. the performance of an intersection remains no worse than under background (without Moorebank) conditions. MIC is in ongoing discussions with Transport for NSW and Roads and Maritime Services to agree on the nature and extent of the intersection upgrade measures;

- Table ES.2 identifies the treatments that would be required, and by what date, for affected intersections. Mitigation treatments would only be applied if an intersection were operating at LoS E or worse as a result of the Project traffic (above the background growth and cumulative impacts from other activities). Treatments would not be recommended where the resulting LoS of D or above is achieved, even where performance has deteriorated as a result of the Project;

- Indicative timing of these upgrades is provided in Table ES.2, based on current projections for background traffic growth and anticipated increases in container throughput (or 'ramp up') over time. However, in recognition of the uncertainties in actual throughput increases (due to factors such as future economic growth rates), any funding contribution of the IMT towards these upgrades would be based on the following circumstances:

    > That certain throughput levels at the terminal (outlined in column 1 of Table ES.2) had been achieved;

    > That it can be further demonstrated (as part of any subsequent planning approval stage) that the intersection performance would have deteriorated to LoS E or worse (where previously operating at a LoS D or above) were it not for the implementation of the upgrades outlined in Table ES.2;

- The impact of traffic from the Project site, when fully developed and operating at full capacity, represents less than 3.3% of the total traffic already on the M5 Motorway during peak periods. The Project would therefore not have a substantial impact on the motorway operation; and

- The mid-block capacity analysis (examining the flow of traffic along the roads between intersections) shows that ratios for all mid-block road sections would continue to perform at similar levels to the base condition with the addition of Moorebank IMT traffic.

Table ES.2 Summary of key intersection upgrade requirements as a result of the Project

Throughputs triggering IMT contributions to upgrades	Upgrade description	Intersections	Indicative upgrade year
Construction of Phase A (no operational throughput)	Signal timing changes, change bus lane on Heathcote Road to general traffic lane (combined left and right turn lane) and second lane to right turn lane	I-07 – Heathcote Road/ Moorebank Avenue	2016
	Ban right turn on Church Road	I-09 – Moorebank Avenue/ Church Road	
	Signal timing changes	I-12 – Newbridge Road/ Governor Macquarie Drive	
Operation of 250,000 TEU	Signal timing changes	I-08 – Moorebank Avenue/ Industrial Access	2019
Operation of 750,000 TEU	Signal timing changes	I-01 – Hume Highway/ Orange Grove Road I-06 – Newbridge Road/ Moorebank Avenue I-11 – Newbridge Road/Nuwarra Road	2023
	Signal timing changes, extend short right turn lane on M5 East to 230 m in length	I-14 – Hume Highway/M5 Motorway	
Operation of 1 million TEU	Signal timing changes, changed layout on Governor Macquarie Drive to include a combined through and right turn lane, and dedicated right turn lane of 200 m lengths	I-12 – Newbridge Road/ Governor Macquarie Drive	2025
	Provide a left, through and right lane and dedicated right turn lane on Canterbury Road	I-15 – Cambridge Avenue/ Canterbury Road	
Operation of 1.3 million TEU	Signal timing changes	I-13 – Moorebank Avenue/ M5 Motorway	2028
Operation of 1.55 million TEU	Signal timing changes, 60 m approach and 60 m departure lanes on Hume Highway in the northbound direction	I-01 – Hume Highway/ Orange Grove Road	2030
	Signal timing changes, additional 60 m right turn lane on the Hume Highway in the northbound direction	I-03 – Hume Highway/ Memorial Avenue	
	Signal timing changes	I-04 – Hume Highway/ Hoxton Park Road	

Noise

During peak construction (2016), when piling, excavation and compaction works would be undertaken adjacent to the nearest residential receptors, the predicted worst case noise levels exceed the daytime criteria by up to 12 dB(A) $L_{Aeq(15minute)}$. For concreting works, predicted noise levels exceed the daytime criteria by 3 dB(A) $L_{Aeq(15minute)}$ at the nearest receptors in Wattle Grove. Potential noise levels from heavy vehicles operating within the onsite haul roads are within the daytime criteria and would not require specific noise mitigation.

Operational noise impacts include the following:

- The container handling area at the IMEX terminal would be automated and so would not require audible alarms or beepers. Measured noise levels provided by the manufacturer of the rail mounted gantries (RMGs) are 10 dB(A) lower when operated without the audible warning alarms. This has resulted in some improvements in noise impact relative to the EIS predictions.

- The removal of a rail loop to manage the entry and departure of trains within the site has reduced the likelihood of wheel squeal noise from trains.

- During operation (Full Build), predicted noise levels comply with the daytime and evening noise criteria at all assessed receptors. Noise levels in the night-time are predicted to comply with the noise criteria at the majority of receptors. Exceedances of up to 4 dB are predicted at the northern extent of Casula, and 2 dB at the western extent of Anzac Road.

- During adverse weather conditions, predicted noise levels comply with the daytime and evening noise criteria at all assessed receptors in Casula, Glenfield and Wattle Grove with the exception of the western extent of Anzac Road, where noise levels are up to 2 to 3 dB above the daytime and evening noise criteria.

- Adopting the proposed noise mitigation measures would reduce predicted noise levels by at least 5 dB and would achieve compliance at all assessed receptors.

Air quality

The predictive dispersion modelling demonstrates that concentrations of pollutants (TSP, PM_{10}, NOx, CO, SO_2, benzene, toluene, xylene, 1,3-butadiene, acetaldehyde and polycyclic aromatic hydrocarbons) emitted would be below acceptable ambient air quality criteria and would not adversely affect the receiving environment. An exceedance of the annual average PM2.5 advisory reporting goal at R33 (which is located on the SIMTA land in the precinct) was predicted because of cumulative concentrations during Full Build activities. While this receptor was relocated in 2014, it has been retained in the assessment for completeness. The elevated ambient background at this receptor (due to its location on the SIMTA site) is the key contributor to these exceedances.

Human health

Predicted impacts on human health have been demonstrated to be minor. The recommendations presented in the EIS in relation to mitigating impacts or enhancing health benefits remain unchanged. Some additional noise mitigation measures have been outlined and these should be considered in conjunction with other mitigation measures outlined in the relevant assessments.

Revised environmental management measures have been proposed and would be implemented to reduce the identified environmental impacts associated with the construction and operation of the Project with amendments.

Managing residual impacts

The Project as proposed incorporates a range of mitigation and management measures to ensure it operates within acceptable limits. Many of the impacts have already been reduced through the application of technology or design optimisation. For example:

- The Project layout maintains a substantial conservation area along the banks of the Georges River, which has substantial benefits in terms of biodiversity conservation and preservation of the amenity of the Georges River and creates a buffer between the site and residents of Casula.
- The Project layout places warehousing on the western area of the site to provide a buffer between Casula residents and rail operations on site.
- A range of noise mitigation measures, including a noise barrier at the western boundary of the site, has been allowed for to protect residents of Casula. In addition, the use of automated cranes has eliminated the need for warning alarms, resulting in a significant reduction in noise levels.
- On-site operations include the use of liquefied petroleum gas (LPG) generated plant and equipment, in place of diesel, to minimise impacts on local air quality.
- The rail crossing from the SSFL into the site has been located at the south of the site to minimise noise and visual impacts on residential receivers and to minimise flood risk to surrounding land.
- Traffic access arrangements are designed to prevent truck traffic from entering or leaving the site from the south and east, minimising traffic impacts on local communities.
- Water quality in the Georges River would be maintained or improved through the application of effective water quality management throughout construction and operation of the Project.

Even with these measures in place, a number of residual impacts remain that would require further mitigation and management. Strategies to manage residual impacts include the following:

- Minimising native vegetation clearing through careful detailed design. For unavoidable impacts, MIC is currently working closely with the NSW OEH and the Commonwealth Department of Environment (DoE) to establish a package of offsets that would ensure that biodiversity values for the affected vegetation communities and species are maintained.
- Other measures to reduce noise emissions (such as rail noise damping and quieter gantry cranes) will be explored with a view to further reducing at-source noise impacts. Once all reasonable and feasible at-source measures have been applied, boundary treatments (such as additional noise walls) would be applied to the satisfaction of the regulators.
- MIC and the future Project operator would continue to work with the NSW Government to evaluate the impacts of the Project on the surrounding road network and would contribute proportionally to upgrading the affected intersections to ensure that the road network functions at an acceptable level into the future.
- Landscaping and urban design treatments would be applied to minimise the visual impact and light spill from the Project.

A detailed schedule of mitigation and management measures to manage residual impacts is outlined in Chapter 7 – *Revised environmental management measures* of this report.

Public benefit test

Residual Project impacts would be localised and managed, and the benefits of the Project would be significant and widespread for the entire community. These benefits include a major contribution to jobs and productivity growth, supply chain efficiency, reduced congestion growth and enabling our exports and imports to continue to grow. The local community would receive a share of these benefits as well as a local benefits program (e.g. training scholarships, exercise equipment in local parks and a healthy living program).

The Project's contribution to the public interest is also demonstrated by its role in government policy (i.e. government policy is designed to achieve a public purpose) and the opportunity cost of using the Project site for another purpose, particularly given the urgent need for new freight handling capacity and the unique characteristics of the site, which are not needed for other land uses but make it ideal for an IMT. While some local community members oppose the Project, the broader community interest is reflected by strong support from government and industry stakeholders.

Granting development consent for the Project in its entirety as proposed is therefore consistent with the public interest, which satisfies a key aspect of planning decision-making. A reduced throughput IMT would not deliver the strategic certainty, sustainable outcomes nor government objectives to reduce congestion growth and increase rail freight transport, and would therefore not serve the public interest as well. It would also create costs that would otherwise be deferred or avoided (e.g. the roads to and from Port Botany would need to be upgraded sooner if a cap is placed on the terminal's throughput).

Implications of doing nothing

If an intermodal facility were not built at Moorebank, the demand for containerised goods in south-west Sydney would need to be serviced by alternative solutions, which would result in:

- greater congestion on the road network;
- increased travel times for private and commercial vehicles;
- increased costs for consumers due to inefficient transporting of containerised goods;
- the missed opportunity of development of a unique site like Moorebank; and
- the absence of a short term solution to achieving the NSW Government's mode share policies.

Planning assessment and approval pathway

MIC is seeking both Australian and NSW Government approvals for the Project concept (i.e. the broad parameters of the Project). That is, MIC is seeking approval to satisfy:

- the Australian Government requirements for the Project in relation to impacts of the proposed action on matters protected under the EPBC Act (Commonwealth) (which, in the case of this action, comprise listed threatened species and communities, and impacts on the environment by a Commonwealth agency); and
- a staged SSD consent under the EP&A Act (NSW) for the full development (including a Stage 1 consent for Early Works).

Approval of cumulative capacity

MIC recognises there is already an approval for the SIMTA project on the adjacent site. Accordingly, MIC has suggested a regime of appropriate conditions of consent (presented in the Response to Submissions report), with the key objectives of:

- not exceeding the capacity of the local, regional or state network; and
- demonstrating compliance with the approved environmental and amenity conditions and the effectiveness of the mitigation measures.

The suggested approval regime provides that:

- commencement of construction to provide for an initial throughput of 500,000 TEU on the MIC site can only proceed subject to a further DA and once the consent authority is satisfied that the capacity of the local road network will not exceed background conditions;
- commencement of construction to provide for a further throughput of 550,000 TEU (bringing the total to 1.05 million TEU on the MIC site) can only proceed subject to a further DA and once the consent authority is satisfied that the capacity of the road network will not exceed background conditions; and
- a total throughput beyond a total 1.05 million TEU (bringing the total to 1.55 million TEU on the MIC site) cannot occur unless the consent authority is satisfied that there is not, and will not be, a DA granted on the adjacent land (i.e. the SIMTA site).

Conditions governing the approval of future development application stages

To provide a framework for future DA stages, this Stage 1 DA proposes a number of tests and procedures that would have to be satisfied for each successive development stage. These stages are outlined below.

Prior to the granting of development consent for any future stage, the proponent will be required to demonstrate, to the satisfaction of the consent authority, that:

1. the Project is operating within the limits predicted by the EIS, through annual monitoring of key parameters and public environmental reporting of results;
2. adequate consultation with LCC and the local community has been undertaken in accordance with an approved stakeholder engagement plan;
3. the impacts of additional traffic associated with the future development approval stage will be within the capacity of the road network, taking account of background traffic growth and planned road network improvements;
4. arrangements are in place (irrespective of funding source) for the on-time delivery of the necessary road network improvements referred to in point 3 above; and
5. all additional amenity and environmental impacts can be managed to acceptable levels, taking into account the existing impacts of the already completed development plus the additional impacts that will occur as a result of the future development stages.

Future development stages will require the preparation of an EIS for that stage to address the above as well as:

- any other matters prescribed in further SEARs for that stage; and
- any matters identified in any conditions of approval granted by the Minister or PAC for this Stage 1 DA.

Next steps

This Supplementary Response to Submissions report has been provided to NSW DP&E for consideration. The approval process under the EPBC Act (Commonwealth) and the EP&A Act (NSW) are to proceed in parallel, as follows:

NSW approval process under the EP&A Act

- NSW DP&E will prepare an Assessment Report to assist the NSW Minister for Planning in making a determination on the staged SSD application for the Project. The Assessment Report will be made publicly available.
- The NSW Minister for Planning (or the Planning Assessment Commission by delegation) will decide whether to approve the staged SSD application and any conditions of the approval.
- The staged development consent (if received) would provide consent at a concept level for the development, for which detailed proposals for separate parts of the site would be the subject of subsequent DAs. The exception would be for the Early Works package, for which MIC is seeking development consent without the need for further applications.

Commonwealth approval process under the EPBC Act

- MIC will provide a formal request to the DoE to vary the EPBC referral (EPBC number 2011/6086) to reflect the proposed amendments to the development.
- MIC will provide final EIS documentation (incorporating the draft EIS, the Response to Submissions report and this Supplementary Response to Submissions report) to DoE to reflect changes to the Project since exhibition of the draft EIS.
- DoE will consider the final EIS documentation and the variation to the EPBC referral and will prepare an Assessment Report to assist the Commonwealth Minister (or delegate) in making a determination on the Project.
- The Assessment Report will be made publicly available for a minimum of 30 calendar days.
- The Commonwealth Minister for the Environment (or delegate) will decide whether to approve the Project and any conditions on such approval.

Consultation with key stakeholders and the community will continue during the next stages of the Project, from detailed design to construction and operation. If NSW staged development consent is received, a Community Engagement Plan (CEP) will be prepared and implemented by the contractor selected for the construction and operation of the Project. This will outline the consultation and notification processes during the pre-construction, construction and operation phases of the Project. Further details of future consultation activities are provided in section 2.4 of this report.

Conclusions

The Project is an important infrastructure project for Sydney and NSW. It will increase intermodal capacity in Sydney and have significant flow-on benefits across the local, state and national economy. By providing more intermodal capacity, the unit cost of transporting containers by rail for IMEX and interstate markets is expected to fall, leading to an increase in the share of freight movements by rail.

The Moorebank precinct needs to be developed to a total intermodal capacity of 1.55 million TEU, comprising 1.05 million TEU of IMEX capacity and 500,000 TEU in interstate freight capacity, for the following reasons:

- It will not be possible to transport the volume of containers expected at Port Botany by road, even if existing IMTs are fully utilised. If the Moorebank IMT's IMEX throughput is limited to 500,000 TEU p.a., up to 7.5 million TEU p.a. would need to travel to and from the port by truck by 2040; a 375% increase compared to today.

- Developing more interstate IMT capacity is vital to reducing the cost of freight transport for Australian exporters, and the environmental cost of freight transport over long distances.

- A lower throughput terminal would not make the best and most efficient use of the unique site available at Moorebank. This site's particular advantages of size and location, next to existing transport, enable it to deliver a significant reduction in freight transport costs and road congestion growth and a major boost to local and national employment and productivity.

- The environmental impacts of a 1.55 million TEU p.a. terminal can be managed, as demonstrated by this report, the Response to Submissions report and the EIS.

The Project is in the public's best interest as its residual impacts will be localised and managed while its benefits will be significant and widespread for the entire community. These benefits include a major contribution to jobs and productivity growth, supply chain efficiency and reduced congestion growth. The local community will receive a share of these benefits, as well as a local benefits program.

Granting development consent for the Project in its entirety as proposed is therefore consistent with the public interest, which satisfies a key aspect of planning decision-making. A reduced throughput terminal would not deliver the strategic certainty, sustainable outcomes or Government objectives and would not be in the public interest.

The EIS presents a balanced perspective on the environmental and amenity impacts against economic and social considerations, and confirms that the impacts associated with the Project are manageable. The economic and social benefits of the Project can be delivered with a number of appropriate environmental and amenity mitigation measures to reduce these impacts further during construction and operation of the Project.