Intermodal Logistics Centre at Enfield Environmental Assessment

CHAPTER 22

PROJECT JUSTIFICATION

- October 2005

Contents

22. Project Justification and Conclusions 22-1

22.1 Strategic Issues 22-1
22.2 Environmental (Biophysical) Considerations 22-3
22.2.1 Noise and Vibration 22-3
22.2.2 Air Quality 22-4
22.2.3 Hydrology, Hydraulics and Water Quality 22-5
22.2.4 Flora and Fauna 22-5
22.2.5 Conclusions to Environmental Considerations 22-5
22.3 Social Considerations 22-6
22.3.1 Land Use 22-6
22.3.2 Heritage 22-7
22.3.3 Visual and Landscape 22-7
22.3.4 Social 22-8
22.3.5 Conclusions to Social Considerations 22-8
22.4 Economic Considerations 22-9
22.5 Ecologically Sustainable Development 22-10
22.5.1 Precautionary Approach 22-10
22.5.2 Inter-generational Equity 22-11
22.5.3 Biodiversity and Ecological Integrity 22-11
22.5.4 Valuation of Environmental Resources 22-12
22.5.5 Conclusions on Ecologically Sustainable Development 22-12
22.6 Summary of Justification 22-13
22.6.1 Strategic 22-13
22.6.2 Biophysical 22-13
22.6.3 Social 22-13
22.6.4 Economic 22-13
22.6.5 Conclusion 22-14

22. Project Justification and Conclusions

The Environmental Planning & Assessment Regulation, 2000 requires the following to be addressed:

"the reasons, justifying the carrying out of the development or activity in the manner proposed, having regard to biophysical, economic and social considerations and the principles of ecologically sustainable development."

This chapter summarises the strategic justification for the project, outlining why the project is needed, how the key recommendations of the Milton Morris (2003) review have been adopted and incorporated into the proposal and how it is consistent with and supports the NSW Government's strategic freight policy objective of transporting 40% of containers to and from Port Botany by rail by 2011.

It draws on the extensive social and environmental impact assessment information from previous chapters, outlines the results of the economic assessment undertaken and provides justification of why the project should proceed in the form described in Chapter 4 - Project Description.

22.1 Strategic Issues

To assist in handling the projected increase in container freight through Sydney's ports, land transport arrangements need to be enhanced, primarily to improve the efficient transfer of goods to their markets. Without any improvement in the capacity of the container transport chain, it is likely importers and exporters will experience delays in cargo movement which will, in turn, result in higher costs and unreliable supply.

This growth in container freight has a number of environmental implications, and these have been acknowledged by the NSW Government in the development of planning strategies for port freight growth. These environmental implications include the environmental and social consequences of increased growth in road freight traffic through the Sydney metropolitan area, which include traffic congestion, air pollution and noise impacts on susceptible communities. To manage this rate of growth and its consequences, the government has sought to increase the use of rail to carry containers from Port Botany to the distribution centres in the Sydney metropolitan area. A target has been set of 40% of freight containers into and out of Port Botany to be carried by rail by 2011.

The NSW Government has indicated that, by achieving an increase in the amount of this freight carried by rail to and from Port Botany from its current level of about 21% of the current 1.27 million TEUs, to its goal of 40% of the projected 1.75 million TEUs in 2011, these potentially adverse economic outcomes will be avoided and the environmental and social impacts associated with the delivery of container freight by road will also be reduced.

In October 2003, the NSW Government announced the Ports Growth Plan. The plan provides a framework within which the Government, industry and the community will work to ensure growth and development of port capacity in NSW. One of the core directions of the plan is the requirement to

examine how to increase the proportion of containers moved by rail from the ports to intermodal terminals in the Sydney metropolitan area and regional NSW.

The key strategic objective is to develop ways by which freight volumes on rail could be increased as a means by which the rate of growth of freight on Sydney's roads could be better managed or reduced. This would be achieved through a process of establishing intermodal terminals throughout Sydney. The concept of a network of terminals to serve the Sydney market balances the needs for scale and efficiency at any one terminal with the preference to locate terminals close to the market, thus reducing the trucking distance to and from the terminal to the distribution points.

The NSW Government has identified key areas that require further intermodal development. These are the outer west, south west and inner west of Sydney. The Minister for Infrastructure and Planning has indicated that, in addition to the existing intermodal terminal system, at least two larger terminals in Western Sydney will be needed and a number of locations, close to the Sydney Orbital road network, are being considered.

Notwithstanding this industrial growth in the west and south west, there is a need for an intermodal facility in the central western Sydney industrial area. Sydney Ports has identified the need for an intermodal facility to service the inner and middle western suburbs of Sydney, and identified the most appropriate location for that facility to be at the site of the former Enfield Marshalling Yards.

Such a facility at that location would contribute to:

- The distribution network for imports and exports whose origin or destination is in the inner and middle western suburbs of Sydney;
- The NSW Government's requirement for a shift in mode share from road to rail in relation to freight movement to / from Port Botany;
- A reduction in the growth of truck movements on road networks between Port Botany and western Sydney;
- Environmental improvements associated with reduced truck movements, and their associated air quality and green house gas emissions; and
- Job creation and wider economic benefits, both locally and regionally.

Sydney Ports has accepted the principles contained in the Milton Morris (2003) review and, consistent with the concept of a network of intermodal terminals in the Sydney metropolitan area, Sydney Ports has decided to seek approval for the development of the site at Enfield at a reduced scale from that previously proposed in 2001. The proposal would supplement the existing intermodal network throughout the Sydney metropolitan area, and fits within a likely pattern of approximately three larger intermodal facilities to complement the existing smaller intermodal facilities. This complies with the framework of the conclusions of the Milton Morris review and, at the same time, provides the required volume to achieve an increase in the transfer of freight to rail from the road network. It further reduces the potential for external impacts by providing for warehouses on the site, internalising the movement of full containers from the rail and loading point to the warehouse.

Consistent with the concept of a network of intermodal terminals, the new proposal ensures that the proposed ILC supports only a subregional catchment rather than the entire Sydney metropolitan area and, through the provision of on-site warehousing, reduces the possibility of external impacts of trucks transferring containers from the rail and loading point to warehouses. At the same time, it provides a size and critical mass to support the achievement of the 40% rail mode share target.

The environmental (biophysical) and social benefits associated with the proposed ILC at Enfield are discussed in Sections 22.2 and 22.3.

22.2 Environmental (Biophysical) Considerations

A detailed assessment of biophysical considerations of the proposed ILC is contained within Part F of the Environmental Assessment (EA). The key benefits which would result from the project include:

- The provision of habitat for the Green and Golden Bell Frog. This would complement the existing frog habitat areas on the new Enfield Marshalling Yards and in two other locations nearby and should contribute significantly to a successful outcome for the Draft Green and Golden Bell Frog Recovery Plan prepared by the Department of Environment and Conservation (DEC);
- Rehabilitation of weed infested areas on the ILC site and provision of habitat suitable for a range of native flora and fauna; and
- Rehabilitation of contaminated lands on site.

The construction and operation of the proposed ILC would potentially have some negative impacts. The assessment undertaken, however, indicated that the implementation of appropriate mitigation measures would enable these impacts to be managed and compliance with relevant regulatory requirements achieved. These are discussed in the following sections.

22.2.1 Noise and Vibration

Conclusions resulting from the investigations undertaken as part of the Noise Impact Assessment were as follows:

- Operational noise emissions from the site may exceed the NSW DEC noise criteria without appropriate mitigative measures. Dominant noise sources were found to be the idling of trains and plant operating in the northern end of the site. Noise emission from the site, with noise mitigation measures applied, would comply with the amenity noise criteria under calm-isothermal conditions at all receivers, except for 1dB(A) exceedances at two locations. A 1dB(A) exceedance is considered minor and insignificant, as a change in noise level of 1dB(A) is inaudible under field conditions. With noise mitigation measures applied, noise emission complies with the intrusiveness noise criteria under calm, isothermal conditions at all receivers In both the amenity and intrusiveness assessments, under the most adverse wind conditions (i.e. wind blowing from source to receiver), exceedances of the noise criteria still exist;
- Noise generated by construction activities may potentially exceed the NSW DEC's criteria for construction noise, depending on the duration of construction activities. Where noise exceedances

are likely, suitable noise mitigation measures would be considered to reduce construction noise emission to compliant levels;

- Noise management measures detailed in Chapter 11 for construction and operations would be considered to minimise adverse noise impacts where they may occur, to achieve compliance with criteria where reasonable and feasible;
- Future road traffic noise levels would comply with the NSW ECRTN criteria at all assessment locations; and
- Considering the assessment of rail noise along the dedicated freight line between Port Botany and Enfield, undertaken as part of the Port Botany Expansion EIS, the number of movements associated with the ILC would not have a significant impact beyond any impact which is currently occurring.

The DEC's Industrial Noise Policy takes cumulative impact into account with its Amenity Criteria, which considers all existing industrial noise sources at each noise assessment location and sets noise criteria that avoid the cumulative build-up or 'creep' of industrial noise over time in an area. Therefore, by following the policy guidelines, noise impact from each noise source is minimised to acceptable levels, thus minimising cumulative noise impacts upon receivers.

22.2.2 Air Quality

The construction air quality assessment outlined in Chapter 12 – Air Quality showed that, with the prescribed mitigation measures in place, the ambient air quality criteria for particulate matter and deposited dust would be met around the site borders. This would be confirmed during the construction phase by continual monitoring of 24-hourly average PM_{10} levels around the site. Showing that the 24-hourly PM_{10} criterion is met will indicate the other particulate matter and dust deposition criteria have also been met.

The air quality assessment of the on-site ILC operations phase concludes that with emissions from a capacity ILC vehicle-and-machine fleet modelled 24 hours per day over the course of a year, the risk of air quality impact from the two key pollutants during operations is very low. The assessment of the air quality impacts from increases in off-site vehicle traffic indicates that only marginal increases in PM_{10} and NO_2 concentrations can be expected, and these are much less than the criteria for those parameters.

Cumulative impacts were included in the assessment of both construction and operational phase air quality impacts by including background levels of air pollution within the various modelling assessments.

A major objective of the project is to assist in reducing the long-term environmental impacts from land based container transport activities arising from the predicted growth in port trade by increasing the proportion of containers transported by rail. The project will contribute to this target by reducing the levels of fuel consumption due to a reduction in the growth of container truck movements. Although off-set by an increase in locomotive emissions, emissions from fuel consumption would be less and numbers and hence regional air quality would be better and greenhouse gas emissions less.

22.2.3 Hydrology, Hydraulics and Water Quality

The hydrology and hydraulics assessment outlined in Chapter 10 demonstrated that the development has little or no discernible impact on the flooding and drainage environment provided that the proposed mitigation measures such as detention basins are incorporated into the design. The key feature of the internal drainage system would be the rearrangement of the site catchments in order that the drainage from the main ILC area is conveyed to a single point of control at the southern end of the site. Here, issues associated with potential flooding and water detention would be addressed with a significant detention basin infrastructure. A much smaller detention basin would also be required at the north eastern side of the site.

In order to reduce the potential water quality impacts during construction, general measures to control erosion of soil and sedimentation would be implemented prior to construction works. Appropriate soil erosion and sedimentation controls would need to be in place during the period of construction until all ground surfaces are stabilised and re-vegetated.

Water quality treatment during the operational phases has been proposed that would treat the first flush runoff from the proposed ILC site. This would improve the quality of the runoff water from the site to Coxs Creek. Stormwater runoff originating in the northern sector would also be subject to water quality controls to ensure that water quality is maintained or improved.

Several water cycle management opportunities have been considered and their suitability to the ILC site assessed. The reduction in demand for potable water and the re-use of rainwater have been identified as the main suitable opportunities that would assist in meeting the requirements of water sensitive urban design and ecologically sustainable development for the ILC site.

22.2.4 Flora and Fauna

The ILC site represents a highly disturbed and modified environment that provides habitat to a number of common, disturbance tolerant flora and fauna species. Within the areas of likely disturbance, the habitats and vegetation communities present are considered to be of low ecological value. The ILC proposal is not considered to affect, threaten or have an adverse impact on any of those plants or animals listed under schedules of the TSC Act or the EPBC Act.

The ILC site does, however, provide marginal habitat for the Green and Golden Bell Frog. The creation of the Frog Habitat Area would minimise the impact of any further disturbance or habitat loss that may result from the development of the ILC site. The development of the ILC site provides an opportunity to ameliorate adverse impacts on Green and Golden Bell Frogs that may be occurring in the area, as well as assisting with the conservation of the species. The development of a secure frog habitat and the linking of habitat areas to other Green and Golden Bell Frog sites nearby is consistent with the aims of the Green and Golden Bell Frog Draft Recovery Plan prepared by the NSW DEC.

22.2.5 Conclusions to Environmental Considerations

Overall it is considered that the development of the former Enfield Marshalling Yards site as an ILC would have very few negative impacts on the biophysical environment. Impacts on air, water, noise

and the natural environment would be effectively managed. Based on the range of factors assessed it is considered that development of the proposed ILC would have a positive impact on the biophysical environment.

22.3 Social Considerations

A detailed assessment of social considerations of the proposed ILC is contained within Part G of the EA. The key benefits which would result from the project include:

- Providing reuse of a currently derelict land area, some of which (the Community and Ecological Area) will be developed for community use;
- Provision of access to rail heritage items by display on the site or relocation to railway heritage museums; and
- Development of landscape measures to provide an improved aspect for those who currently view a derelict, industrial site.

The construction and operation of the proposed ILC would potentially have some negative impacts. The assessment undertaken, however, indicated that the implementation of appropriate mitigation measures would enable these impacts to be managed and compliance with relevant regulatory requirements achieved. These are discussed in the following sections.

22.3.1 Land Use

The proposed ILC development is to be undertaken principally within the boundary of the site currently owned by Sydney Ports and acquired for that purpose. Works comprising a noise barrier north west of the site, rail connections to the freight rail network and a bridge connection to Wentworth Street will be undertaken on RailCorp land. Accordingly, the opportunities for impact on land use are limited.

Construction and operational traffic has the potential to impact on land use. Construction and operational traffic is to be managed through the implementation of appropriate traffic management plans. The proposal would not result in material land use impacts to residents along the dedicated freight line to Port Botany.

The presence of an intermodal facility in this area has the potential to influence the composition of industrial and commercial businesses in the vicinity. However, since the area is predominantly industrial at present, changes to individual businesses within the surrounding industrial zones would have a negligible impact on adjoining land use.

Land use benefits would arise through rehabilitation of the southern end of the site through possible reuse of the Tarpaulin Factory building and creation of a Community and Ecological Area. This would mitigate any potential impacts on adjacent residential properties.

22.3.2 Heritage

The European Heritage Report concluded that the past scale and extent of demolitions at the former Enfield Marshalling Yard site have removed the essential elements that characterise the qualities of a railway marshalling yard. As a result the landscape can no longer communicate any degree of railway heritage significance. The proposal to develop the site as an Intermodal Logistics Centre also presents an additional loss of context.

The assessment indicates that there are two items of State significance (Tarpaulin Factory and Pillar Water Tank) and three items of local significance (Pedestrian Footbridge, Wagon Repair Shed and Yard Master's Office) on the former Enfield Marshalling Yards. Options have been developed for the two items of State significance to be retained on site where they will be subject to ongoing maintenance. This provides an opportunity to preserve their values for future audiences. The items of local significance which can be relocated, the Pedestrian Footbridge and gantry crane associated with the Wagon Repair Shed, should first be offered to a railway heritage organisation. Failing that, they would be recorded and demolished. There may be an opportunity for use of part of the Pedestrian Footbridge on site. As their presence is incompatible with the proposed site use, the Wagon Repair Shed and Yard Master's Office would be removed.

The site has been extensively disturbed through its use as the former Enfield Marshalling Yard, and no natural soils are thought to remain on the site. As a result there are no indigenous heritage constraints for development of the site and no further indigenous heritage assessments for the site would be required as part of the detailed design.

22.3.3 Visual and Landscape

The proposed ILC would be located on a site that has been traditionally subject to industrial activities and which has become generally derelict in appearance. The immediate surrounds are also largely industrial, with some residential areas in Greenacre, Belmore and Strathfield South bordering the site. The proposed development would generally be in keeping with the existing character of the area. Some relatively high and/or bulky structures would increase visibility of the site beyond its current levels, but with low or moderate visual impacts.

Those areas subject to low-moderate or moderate visual impacts would be those in residential areas that have prominent views of site elements. There are few locations where this occurs. Most of the residential areas with potential views to the site would be subject to low visual impacts because the change to the landscape created by the development would be minimal.

The most prominent views of the development would occur from some of the industrial areas on the eastern and western sides of the site. The visual impacts in these areas are regarded as low, due to the low visual sensitivity and the compatibility of additional industrial elements with the existing industrial landscape.

A range of landscape measures has been proposed to reduce the visibility of the development and improve landscape amenity. The most notable of these is the establishment of a Community and

Ecological Area on the southern part of the site. This would provide a large area with improved amenity that would be prominent from Punchbowl Road and properties along the southern part of Cosgrove Road.

The light assessment identified that the light spill on the neighbouring areas would be virtually undetectable. Lateral light spill and glare would be minimised as the light fittings would focus illumination downwards.

22.3.4 Social

The Local Government Areas of Strathfield, Bankstown and Canterbury support a growing population which is ethnically diverse. These councils maintain a range of schools and community facilities within the local area, although none would be directly affected by the proposal. The key benefit provided by the proposed ILC site for the local community is the employment opportunities it creates during the construction and operation phases and the potential for stimulating commercial and light industrial activities within the surrounding industrial area.

There are, however, a number of issues that concern members of the local community. These are mainly focused on actual or perceived traffic increases on local roads and the associated safety, noise and air quality impacts. Although the proposal would lead to a relative reduction in heavy vehicle traffic across the Sydney metropolitan area, there may be some additional traffic movements on certain arterial roads close to the ILC site. These movements do not represent a significant adverse impact and would be mitigated through the development of appropriate traffic management plans.

Community stakeholders also raised the issues of air quality and noise from truck and train movements during 24 hour operation of the site. Air quality studies identified that, with suitable management, there would be no negative air quality impacts through construction and operation. Noise mitigation, including both at source measures and acoustic barriers, would be required to ensure that sleep arousal noise criteria are not reached and to minimise the impacts of site operations on local residents along Cosgrove Road and Roberts Road. The acoustic barriers would be landscaped to enhance the view of the site and to prohibit views of site operations from the surrounding roads.

The Community and Ecological Area on the southern end of the site would have amenity benefits, particularly for residents along Cosgrove Road due to its aesthetic qualities. It could also provide a local educational resource through planting of native species and habitat for the Green and Golden Bell Frog.

22.3.5 Conclusions to Social Considerations

Overall it is considered that the development of the derelict former Enfield Marshalling Yards would have very few negative impacts on the local culture and way of life. Visual, air quality and noise impacts would be effectively managed and a community resource would be provided through provision of a Community and Ecological Area. Based on the range of factors assessed it is considered that development of the proposed ILC would have a positive impact on the local and regional social environment.

As noted above, a significant benefit of the project will be to assist in managing the long-term social impacts from land based container transport activities arising from the predicted growth in port trade by increasing the proportion of containers transported by rail. The project would contribute to this goal by reducing the overall growth in the numbers of port related trucks travelling across metropolitan Sydney, thus aiding amenity and congestion management on the road network.

22.4 Economic Considerations

To assess the economic implications of the proposed ILC development and to determine whether the project is justified in economic terms, an economic impact assessment was undertaken.

The economic assessment was undertaken using Input – Output Analysis, which involves the use of multipliers to assess economic activity. The assessment used the following measures:

- Output – incorporating gross revenue of commercial activities and gross expenditure for non-commercial activities;
- Value added – calculated as gross revenue less the cost on intermediate inputs into production and imported goods and services;
- Household income – incorporating wages, salaries and other payments to management and employees; and
- Employment – expressed in the number of full time equivalent jobs.

The total economic impact is the sum of the direct effects and flow-on effects to other sectors of the regional economy. The direct effects comprise the initial round of output, value added, income and employment generated by the proposed ILC activities. The flow-on effects are the additional output, value added, income and employment that result from purchases by organisations and employees involved in these activities. The flow-on effects were calculated using multipliers.

The economic impact was assessed in terms of construction and operational activities. The economic impact from the construction phase showed:

- In the peak year of construction activity business turnover directly related to the proposed development will be about $80 million, with flow-ons to other companies adding another $84 million. Associated value-added, a measure of the net contribution to the region's economy, is expected to total over $70 million;
- Household income generated directly from construction activities during the peak impact year is anticipated to be about $18 million, with over 370 full-time equivalent jobs; and
- Indirect household income is expected to be almost $19 million, with an associated 475 jobs, giving total employment (both direct and indirect) of around 850 jobs for that peak year.

The economic impact from the operation of the proposed ILC in 2016/2017 showed:

- The value of output (the sum of gross business revenue of companies engaged in activities at the ILC) is estimated to be $72.7 million. Anticipated value added, a measure of the net contribution to the region's economy, was estimated to be $52.5 million;

- Direct employment (full time equivalents) was estimated to be almost 500 and corresponding household income was almost $25 million; and
- Flow on effects of the ILC activities in 2016/2017 were estimated to total $68 million in output, $38 million in value added, 360 jobs and $17 million in corresponding household income.

The operation of the proposed ILC is anticipated to generate a total impact on the economy of western Sydney of over $140 million in output in 2016/2017. Value added attributable to this was estimated as over $90 million. Household income generated by the operation of the ILC was forecast to be about $42 million in 2016/2017. Associated employment was estimated at over 860 jobs.

22.5 Ecologically Sustainable Development

Ecologically Sustainable Development (ESD) is a major principle now used in guiding environmental impact assessment. While there is no universally accepted definition of ESD, the NSW Government in its various State of the Environment Reports has suggested the following definition of ESD:

"Using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased."

By following an ecologically sustainable path of development, the likelihood of serious environmental impacts arising from economic activity and development should be reduced.

The principles of ESD, as defined in Clause 6 of Schedule 2 of the *Environmental Planning and Assessment Regulation, 2000* are as follows:

- The precautionary principle – namely, that if there are threats of serious environmental damage, lack of scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation;
- Inter-generational equity – namely, that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations;
- Conservation of biological diversity (biodiversity) and ecological integrity;
- Improved valuation and pricing of environmental resources.

The principles of ESD were considered during the assessment of the proposed ILC.

22.5.1 Precautionary Approach

The precautionary principle was invoked in the means by which impact assessment was undertaken and mitigation measures identified and prescribed. This was undertaken as follows:

- Potential impacts were identified conservatively, in that all potential impacts were considered and assessed, even if there was no evidence that there may be an impact possible from the proposed development activity;

- Assessment of impacts was undertaken using established and, in some cases, Government prescribed methodology, all of which were conservative in their approach and likely to identify an impact when one was not necessarily likely; and
- Mitigation measures and monitoring programs were identified to ensure that impacts, should they occur even when not predicted, would allow any unforeseen impacts to be addressed as appropriate.

22.5.2 Inter-generational Equity

The maintenance of inter-generational equity is essential in the development of any infrastructure project. This was considered in the proposed ILC through:

- The clean-up of contaminated areas and weed infestation on the site, so as not to provide a worse problem to be dealt with later;
- Scarce resources will not be used in the construction or operation of the development. Relative savings have been identified in fuel usage and reduced greenhouse gas emissions by a reduction in truck movements from Port Botany to the distribution and service area of Sydney to be served by the proposed ILC at Enfield; and
- Existing impacts on the community (mainly associated with transport activities in the inner west of Sydney) will not be increased beyond that which would otherwise occur. The proposed ILC development would not separately contribute to any impacts which future generations will need to deal with. Of particular note, rail noise and increased vehicle numbers on arterial roads were identified by the community as problems that will become worse. The proposed ILC will not contribute directly to these, but as a stakeholder in the area and a user of roads and rail, Sydney Ports is committed to working with Government and the community to address these issues.

22.5.3 Biodiversity and Ecological Integrity

Overall, the proposed development will have a positive impact on the biodiversity or ecological integrity of the area proposed for development.

The site of the proposed development has very limited, if any, ecological value at present. The only identified impact from the proposal, a marginal one at that, was the loss of potential foraging habitat for the threatened Green and Golden Bell Frog during the construction phase of the project.

To off-set this limited impact, the EA has identified ecological value in providing a frog habitat area at the southern end of the site. This would complement the existing frog habitat areas on the new Enfield Marshalling Yards and in two other locations nearby and should contribute to a successful outcome for the Draft Green and Golden Bell Frog Recovery Plan prepared by DEC.

Biodiversity will also be enhanced by replacing extensive areas of weed infested land with native vegetation which will also be of benefit to native fauna.

22.5.4 Valuation of Environmental Resources

The economic evaluation undertaken for the project identified a range of social and environmental benefits associated with shifting container freight from the road network onto the rail system. Those benefits included reductions in noise pollution, air pollution, greenhouse gas emissions, accident costs and road congestion costs. These were explored and, where possible, quantified. The benefit estimate for the 2016/2017 year when the proposed ILC would operate at full capacity was $1.0 million. Quantified social and environmental benefits were calculated to have an estimated present value of approximately $3.7 million over the initial 9 years of operation (discount rate of 7%).

22.5.5 Conclusions on Ecologically Sustainable Development

Assessment of the project against the principles of ESD provided a framework for the proposed ILC to:

- Recognise, describe and assess the effects of construction and operation on environmental resources;
- Avoid irreversible and detrimental damage to ecological resources;
- Enhance the health and quality of the environment, and may assist in benefiting present and future generations;
- Minimise any impact on rare and endangered species and ensure conservation of biological diversity; and
- Ensure that environmental costs are included, if possible, in the economic evaluation of the project.

In preparing this EA, the potential environmental impacts from the proposed activities have been investigated and a range of mitigation measures developed to minimise any adverse effects. All mitigation measures proposed in the EA have been developed based on the principles of ESD. It is clear that the principles of inter-generational equity and conservation of biological diversity are met and, if there is any doubt about potential detrimental effects on the environment, a precautionary approach is applied.

The principles of ESD will be further assessed by Sydney Ports during the detailed design phase of the project. This design assessment will enable Sydney Ports to identify and investigate the feasibility of implementing additional ESD measures, including further opportunities to:

- Use low impact building materials;
- Minimise the consumption of water and energy and the generation of waste;
- Reduce the impact of the proposal on the biophysical environment and the community; and
- Identify suitable site management practices.

The outcomes of this further ESD assessment will be incorporated as appropriate into the final design of the site or the relevant Construction or Operational EMP.

22.6 Summary of Justification

The construction and operation of the proposed ILC at Enfield is justified on the following basis.

22.6.1 Strategic

The proposed ILC at Enfield would contribute to the NSW Government's target for a shift in mode share to 40% by rail by 2011 in relation to container transport to and from Port Botany. The ILC at Enfield would contribute to the development of an intermodal network in the Sydney metropolitan area. It would do this by providing a distribution network for container imports and exports whose origin or destination is in the inner and middle western suburbs of Sydney. The project would assist in a reduction in the rate of growth of truck movements on road networks between Port Botany and western Sydney and an improvement in environmental conditions associated with reduced truck movements, especially in terms of greenhouse gas emissions.

A significant benefit of the project will be to assist in managing the long-term impacts from land based container transport arising from the predicted growth in port trade by increasing the proportion of containers transported by rail. The project would contribute to this goal by reducing the overall growth in the numbers of port related trucks travelling across the Sydney metropolitan area, thus aiding amenity and reducing growth in congestion on the road network.

Development of the ILC and the increase in rail transport will also result in an increase in reliability in the logistics chain, with associated economic and commercial benefits.

22.6.2 Biophysical

Overall, the proposed development will have a positive impact on the biodiversity or ecological integrity of the area proposed for development, and it is considered that it would have very few negative impacts on the biophysical environment. Impacts on air, water, noise and the natural environment would be effectively managed. Based on the range of factors assessed it is considered that development of the proposed ILC would have a positive impact on the biophysical environment.

22.6.3 Social

The development of the ILC at the former Enfield Marshalling Yards would have very few negative impacts on the local culture and way of life. Visual, air quality and noise impacts would be effectively managed and a community resource would be provided through provision of a Community and Ecological Area. Based on the range of factors assessed it is considered that development of the proposed ILC would have a positive impact on the local and regional social environment.

22.6.4 Economic

The proposed ILC would make a positive contribution to the growth that is occurring in the western Sydney regional economy. In particular, it will facilitate the rapid movement of imports and exports, a central tenet of forecast western Sydney growth. Industries targeted for growth in western Sydney are reliant on the types of efficient international transport links that would be provided by the ILC.

The economic benefits from the proposal are shown, including significant business turnover and household income and employment generation.

22.6.5 Conclusion

It is concluded that the development of the proposed Intermodal Logistics Centre at Enfield:

- Is justified in terms of addressing NSW Government policy aims in terms of increasing rail mode share for container freight from Port Botany;
- Is justified in providing social and environmental benefits for the general community, while managing any potentially negative impacts by adopting appropriate management measures;
- Is justified in economic terms in providing a substantial financial benefit to the community through economic activity and employment generation. Social and environmental benefits were also quantified in economic terms; and
- Would not detrimentally affect the health, diversity and productivity of the environment and would assist in these elements being maintained for the future benefit of generations.