The HIS concludes that the Concept Plan takes into consideration the considerable heritage significance of the Eveleigh Carriageworks, while providing a scheme for urban renewal of the highest standard. In summary, the impact of the Concept Plan on the heritage significance of the site is manageable. Heritage significance is conserved through the retention and adaptive reuse of significant buildings, a Conservation Management Plan and the interpretation strategies which will be adopted for the site overall. Heritage items and items of historic interest are shown in Figure 19.



Figure 19 - Heritage items

6.8 Aboriginal heritage

A preliminary Aboriginal Heritage Assessment undertaken by Paul Irish, Consultant Archaeologist of two small parcels of land within the north-eastern corner of Part Lot 4 DP 862514 (*highlighted green in Figure 20*). Specifically, these two portions of land, totalling around 2,000m² in size, represent the only areas within the North Eveleigh site which have not been massively excavated, and therefore could possibly retain archaeological evidence of the past Aboriginal use of the area.

This preliminary Aboriginal heritage assessment was undertaken in accordance with the Department of Environment & Climate Change's 2005 *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* which were prepared for the DoP to identify matters for consideration in the assessment of Aboriginal heritage impacts of projects being assessed under Part 3A of the EP&A Act.

Specifically, these draft guidelines recommend, as a first step, the preparation of a preliminary assessment "to determine if the project is likely to have an impact on Aboriginal cultural heritage", in which case a formal Aboriginal Cultural Heritage Impact Assessment may then be required, under the DGEARs for the development of the site. This preliminary assessment has involved a review of archaeological and other data pertinent to the site and a brief site inspection. Brief consultation with the local Aboriginal community, specifically the Metropolitan Local Aboriginal Land Council, was undertaken. It has not considered any areas outside of the subject lands.

The Aboriginal Heritage Assessment concludes that:

The subject lands are completely historically disturbed and do not retain any Aboriginal archaeological potential. The subject lands do not require further archaeological investigation, such as the preparation of a formal Aboriginal Cultural Heritage Impact Assessment. On archaeological grounds, the subject lands do not have significance to Aboriginal cultural heritage. This recommendation is supported by the Metropolitan Local Aboriginal Land Council.

Based on the findings of this report and preliminary Aboriginal community consultation (with the Metropolitan Local Aboriginal Land Council), it does not appear that the subject lands retain specific Aboriginal cultural/historical significance in and of themselves, however they form part of the broader North Eveleigh site, which has Aboriginal cultural/historical significance for its role in the development of the local Redfern Aboriginal community.

This significance would most appropriately be managed through archival and oral historical research together with the local Aboriginal community into the nature and significance of the Aboriginal connections with the North Eveleigh railyards as a whole (as opposed to for individual portions of that site). Such research should be undertaken prior to or during the preparation of an Interpretation Plan for the North Eveleigh site at the project application stage.

This would assist in the interpretation of the subject lands in the context of future development, but would not represent a physical constraint to the development of the subject lands, in addition to that which may already be posed by the built heritage of the site. The Metropolitan Local Aboriginal Land Council, whose members include people with direct or familial connections to the North Eveleigh site, supports the idea of this research and should be involved in it.

While it is recommended that further research is undertaken and used in the interpretation of the North Eveleigh site, there does not appear to be archaeological or Aboriginal cultural/historical grounds for the preparation of a formal Aboriginal Cultural Heritage Impact Assessment for the subject lands (See **Appendix P**).



Figure 20 - Areas investigated for Aboriginal archaeology



Archaeology 6.9

In accordance with the DGEARs, an Archaeological Development Impact Assessment and Archaeological Zoning Plan (AZP) has been prepared by Archaeological & Heritage Management Solutions Pty and is included at Appendix Q.

This report presents an archaeological impact assessment and zoning plan (AZP) prepared for proposed re development of the North Eveleigh Railway Workshop site.

The assessment indicates that the site has moderate to high potential to contain relics associated with historical, railway era occupation (c1880 - present). These relics are expected to have low to moderate significance as a contributory element to the overall State significance of the carriageway site. Distinctions between areas with moderate and low significance are made within the report. A small area of land adjacent to Wilson Street that may contain soils with potential to contain Aboriginal sites or objects is also identified.

The Archaeological Development Impact Assessment concludes that:

"This assessment has found that historical archaeological relics probably survive below current ground surfaces throughout most of the North Eveleigh Railway Workshops site.

Initial assessments of significance suggest that these relics are likely to be of low to moderate significance for their ability to contribute information about the development and operation of the State significant North Eveleigh Workshop site.

Locations, likely to contain moderately significant archaeological remains and areas that are likely to contain archaeological remains of low significance have been identified. No areas with relics of likely high heritage significance have been identified.

A small area of land adjacent to Wilson Street that may contain potential Aboriginal Archaeological deposits was identified. however further Aboriginal archaeological assessment is required to confirm this".

The Archaeological Development Impact Assessment and Archaeological Zoning Plan (AZP) recommends:

- Archaeological management of the site to include preparation of an Aboriginal impact assessment for the small area of land adjacent to Wilson Street.
- Further targeted historical research is recommended at project application stage for areas identified as having moderate historical archaeological potential and significance. Where the results of this research suggest that it is warranted, it is recommended that archaeological test excavation is undertaken.
- If relics are revealed in areas of the site during test excavation or during development of the site, an archaeologist must inspect the remains to assess their significance prior to their disturbance or removal. If required, and subject to the significance assessment, the remains would be recorded by the archaeologist as part of the test excavation or prior to the recommencement of work. It is unlikely that any remains at the site would have sufficient integrity and value, related to their fabric to require in-situ retention.
- Should any archaeological excavation be required a research design must be prepared.

6.10 Structural

A preliminary structural assessment for the site has been prepared by Robert Bird Group and is included at Appendix R. This report concludes that based on visual inspections carried out and review of the proposed redevelopment, the proposed development can be structurally accommodated on the site.

Robert Bird Group have confirmed that the existing heritage buildings proposed for re-use will be suitable structurally for the proposed re-uses with some structural modification required and subject to further investigation at the detailed design stage.

The preliminary structural report recommends that the following further investigation/reports should be undertaken at the detailed design stage (Project Application stage):

- Full dilapidation surveys of all existing buildings to remain
- Detailed geotechnical investigations including potential test-pits to assess foundation level of existing structures
- Detailed electrolysis investigation
- Vibration analysis to determine impact of adjacent rail lines on the existing structures

- Forestry Commission assessment and strength grading of all existing structural timbers proposed to remain within existing buildings
- Detailed strength assessment of structural items to remain within existing structures such as suspended floor slabs and columns where existing structural documentation is not available to determine load capacity.

6.11 Building Code of Australia

A Concept Building Code of Australia Compliance Report has been prepared by Steve Watson and Partners and is included at Appendix S. The purpose of this report is to establish if the concept design is capable of complying with the requirements of the Building Code of Australia, 2007 (BCA).

An assessment of the design has concluded it is capable of achieving compliance with statutory building code requirements subject to limitations stated in the BCA report issues and compliance for new buildings with issues identified in Section 6 of the BCA report. It is noted that Morris Godding Access Consulting has addressed disabled access issues on a site wide basis.

The following will required for the existing heritage buildings that are proposed to be re-furbished

- Conduct a detailed BCA audit having regard to the new use and works proposed.
- Review existing essential fire-safety measures against the requirements of current Australian Standards.
- Develop a fire-upgrading strategy that has regard to heritage conservation issues and reasonable cost/benefit outcomes.

6.12 Rail Impacts

6.12.1 Noise and Vibration Impacts

In accordance with the DGEARs, Acoustic Dynamics have been prepared a preliminary assessment and advice of potential noise and vibration impact at the proposed North Eveleigh development site, resulting from the proximity of the site to the adjacent railway corridor (Appendix T). This report examines the proposed Concept Plan and addresses, in accordance with the DGEARs, noise and vibration impacts from adjacent rail activities, including mitigation and monitoring measures where appropriate. This is undertaken consistent with guidelines published by RailCorp including:

- Interim Guidelines for Applicants Consideration of Rail Noise and Vibration in the Planning Process; and
- Interim Guidelines for Councils Consideration of Rail Noise and Vibration in the Planning Process.

The State Environmental Planning Policy (Infrastructure) 2007 is also addressed, as it relates to noise and vibration. Monitoring and measurement results from surveys conducted at the site during September 2007 are analysed.

Further to comparison of the data obtained from site noise and vibration surveys with the RailCorp guidelines and SEPP (Infrastructure), the following conclusions are drawn:

- The facade setbacks proposed for the concept design and detailed within Table 1.3.1 of the Preliminary Acoustic Report are considered acceptable with regard to noise and vibration intrusion;
- The site layout proposed for the concept design allows for the provision of some "acoustically" shielded outdoor areas for recreational and other uses;
- The site layout proposed for the concept design provides some buildings and facades with "acoustic" shielding from direct line-of-site to the adjacent railway corridor;
- Based on the above information, the concept design facade setback information detailed in Table 1.3.1 of the Preliminary Acoustic Report and subsequent to the inclusion of adequate acoustic design measures, the proposed development of the North Eveleigh site can be constructed to comply with the various applicable criteria, standards and guidelines for rail related vibration intrusion; and
- Further investigations into various acoustic design aspects are recommended, during the detailed design stages of the project, as detailed within section 8.2 of the Preliminary Acoustic Report. These further investigations should be carried out during the detailed design stages of the project.

6.12.2 Underground Rail Connection

A preliminary structural assessment for the site has been prepared by Robert Bird Group and is included at Appendix R. This report concludes that based on the visual inspections carried out and review of the proposed redevelopment, the proposed development can be structurally accommodated on the site.

Jeffery and Katauskas performed a geotechnical assessment of the site, included in Appendix U, and concluded that provided; detailed geotechnical investigations, design, and construction are carried out in accordance with recommendations contained within their report, the proposed development will not have any adverse affect or result in unacceptable risks of geotechnical instability to the rail corridor.

The proposed Railcorp dive and tunnel consists of a new rail tunnel that passes under a portion of the North Eveleigh site at its north eastern corner. The proposed future tunnel and dive require a below ground zone within the North Eveleigh site to be excluded from containing foundations, structures or site retention anchoring. There is also a second zone further from the proposed tunnel where foundations and structures may pass but must be founded below the zone to ensure the tunnel alignment is not loaded by the adjacent structures or foundations.

In summary, the preliminary structural assessment concludes that the proposed location of new buildings on the site (including foundations and basements) is achievable in terms of the rail dive and tunnel from a structural point of view subject to the following.

- No permanent site retention for basements may be placed in the zone where no structure can be founded/located but temporary anchoring would potentially be possible provided it was not required permanently and was de-stressed as the exclusion zone is for the future tunnel and not for current conditions.
- If foundations such as piles are carried down below the foundation exclusion zone, above ground structures and suspended basements would be permitted in areas where structure is allowed but loading of the ground is not. This effectively would result in deeper foundations and a heavier lowest level basement slab than if the foundation exclusion zone was not applied.

6.12.3 RailCorp Services

The redevelopment will need to ensure the integrity of RailCorp's operations. The Concept Plan anticipates that all existing RailCorp infrastructure shall be decommissioned by RailCorp. The proponent has obtained a services search of the site and is in continued consultation with RailCorp in relation to the decommissioning of services.

The Concept Plan accommodates RailCorp's spatial requirement for an easement along the western boundary to provide electrical services from Wilson Street to the proposed RailCorp substation.

6.12.4 Impacts on Geotechnical and Structural Stability

A Preliminary Geotechnical Investigation Report has been prepared by Jeffery and Katauskas Pty Ltd and is included at Appendix U. This preliminary geotechnical investigation report has been prepared based on previously obtained subsurface information to assess the geotechnical issues for the proposed redevelopment and in particular the DGEARs.

The subsurface investigations of the site indicate that the site is underlain by surface fill covering natural silty clays that grade into shale bedrock. Groundwater was encountered within the upper shale strata. The geotechnical issues for future development of the site are detailed within this report, together with general geotechnical recommendations on design and construction. Overall, based on the results of this preliminary geotechnical investigation, the site is considered suitable for the proposed redevelopment and such construction works would be similar to those undertaken at other nearby sites.

Provided the detailed geotechnical investigations, design, and construction of the proposed works are carried out in accordance with the general recommendations given within Jeffery and Katauskas report, the proposed redevelopment shall have no adverse effects on the adjacent RailCorp facilities and corridor or result in unacceptable risks of geotechnical instability of the site or the adjoining properties. It is considered that the redevelopment works can be carried out in order to satisfy the DGEARs in relation to geotechnical aspects.

6.12.5 RailCorp Access

The Concept Plan has considered that a RailCorp access road shall be constructed by RailCorp along the southern boundary of the site within the rail corridor.

The Concept Plan allows for the provision of access and egress at three locations along the RailCorp access road; at the western end, east of the Paint Shop, and adjacent to the Telecommunications Equipment Centre.

6.13 Social and Economic Assessment

6.13.1 Social Impacts

A Social Impact Assessment for the site has been prepared by Redfern-Waterloo Authority and is included at **Appendix V**. The redevelopment of the North Eveleigh site will be a major catalyst for the economic and social revitalisation of Redfern-Waterloo Authority's (RWA) Operational Area.

The Redfern-Waterloo area is the traditional home of the Gadigal Clan of the Eora Nation. Redfern is a centre of major significance to Aboriginal people who have a strong association with the area and contribute to its strong sense of identity.

The proposed Concept Plan for North Eveleigh provides for a vibrant mixed use sustainable community with its own identity that celebrates the sites industrial heritage and reconnects with the wider neighbourhood.

This Social Impact Assessment outlines the long term social sustainable issues relevant to the RWA's Operational Area and the cultural, social, and economic opportunities which will be provided by the redevelopment of the North Eveleigh site. It also assesses and addresses the impacts of the proposed development on the community.

A summary of the key issues and assessment is provided below:

Jobs Growth

- The proposed development will generate a total of 92,139m² of residential development and 87,868m² of non-residential development. The non residential component will include 61,072m² for commercial development, 4,000m² for retail and 22,796m² of cultural uses (19,468m² being the existing CarriageWorks). The construction cost is estimated at \$550 million.
- The number of jobs which will be generated for the redevelopment of North Eveleigh is estimated as follows:
 - 3,270 jobs will be generated from commercial, retail and cultural development.
 - 3,328 construction jobs.
- For every \$1 million in construction cost a total of 24.9 job years could be generated in the economy. Based on these calculations the proposed Concept Plan for the North Eveleigh site as a whole will indirectly generate in the order of 13,679 jobs in the construction industry.
- Around 300 new jobs may be generated for indigenous people through the RWA Indigenous Employment Model as a result of the development on the North Eveleigh.

Housing and Population

It is anticipated that the North Eveleigh site will provide for up to 1,258 dwellings and a population of up to 2,400 new residents. Housing will comprise a mix of studios, one, two and three bedroom.

Community Facilities

- the area.
- new and existing residents.

Pedestrian Cycle Bridge

North Eveleigh site.

Open Space

- landscape design open space areas and parks.

Heritage

- - following heritage items will be adaptively reused:
- Chief Mechanical Engineers Building
 - Scientific Services Building No.1
 - Paint Shop
 - Telecommunications Equipment Centre
 - Blacksmiths' Workshop
 - Building and 1,000m² in the Blacksmiths' Shop.
 - reused.



 Childcare: It is intended that the development provide for a 45 place childcare centre which will be accessible for the public. It is estimated that there will be 71 children aged between 0-5 years in North Eveleigh over the next 5-7. The standard of provision is considered to be higher than the existing standard in

 Community Centre: It is intended that the former Scientific Services building be adaptively reused for the provision of a new 883m² community centre which will serve the needs of the new residents at North Eveleigh as well as the wider community. It is envisaged that the facility will provide for cultural development and artistic expression as well as meeting rooms and services which will benefit

• A key aspect of the redevelopment of North Eveleigh will be the construction of a pedestrian and cycle bridge which will link North Eveleigh to the Australian Technology Park and improve access and connectivity to Redfern Railway Station. The proposed bridge is the subject of a separate Project Application but is an integral element of the design of North Eveleigh. The new pedestrian and cycle bridge will be funded by the RWA and proceeds from the sale of

 Provision will be made for publicly accessible open space which will provide opportunities for cultural activities and events. The proportion of open will amount to approximately 20% of the site area. Open space will be landscaped and treated to achieve high quality standard of amenity and design.

A significant proportion of the Fan of Tracks will be incorporated in the

Approximately 52,730 m² (29%) of Gross Floor Area of the proposed redevelopment will be included within heritage/historic buildings.

 The Concept Plan delivers an integrated design for the whole site which respects its existing character and maximises its heritage significance by:

- Adaptive Reuse: preserving and adaptively reusing core heritage buildings to ensure the meaning and significance of its traditional railway history is not lost. All items of heritage significance which are identified in State Environmental Planning Policy (Major Projects) are intended to be adaptively reused. The

• The Proposal provides for an increase of 12,000m² in the Carriage Workshop

• The Clothing Store which has been identified as an item of historic significance in the Redfern-Waterloo Built Environment Plan is also intended to be adaptively

A significant portion of the Fan of Tracks will be retained and interpreted.

Traffic

- The cumulative traffic model demonstrated that the road network within the study area has the capacity to accommodate the increase in traffic volumes expected both in the short term and in 2016 if proposed minor works for intersection capacity improvements are undertaken at three intersections in Darlington.
- The standards proposed for the development will provide adequate parking within the site for the levels of residents and employment expected. Internal roads within the development should therefore be largely fee of parked cars providing a significant amount of spare parking capacity in the area and limit the need for on street parking.

Impact on the Local Area

 A key urban design objective for the concept plan is a framework which responds to the existing urban form and typologies within and surrounding the site, achieve high quality urban design, accommodate a mix of land uses. Design measures have been introduced to ensure minimal impacts on the surrounding residential development.

6.13.2 Economic Impacts

• An Economic Impact Assessment has been prepared by Hill PDA and is included at Appendix W. Hill PDA's analysis of the proposed Concept Plan has identified a number of direct and indirect economic implications that are likely to result from the redevelopment of the site. Outlined below is a summary of the potential impacts and Hill PDA's key findings:

Employment and Economy

- The Subject Site is strategically located within Sydney's 'Global Arc' and within the 'Sydney CBD to Sydney Airport Economic Corridor'. The provision of high quality, flexible commercial floorspace as part of the Subject Site's redevelopment will support the Government's objectives to enhance Sydney's role as a Global City and to build the number of jobs provided within this corridor.
- The North Eveleigh Concept Plan proposes the efficient re-use of a redundant brownfield site located in close proximity to magnet infrastructure such as transport and premier educational institutions.
- The provision of 61,072sqm of commercial floorspace, within close proximity to major transport infrastructure (Eveleigh and Macdonaldtown Rail Stations, bus networks, Parramatta Road, Sydney Airport) and business services (Redfern Town Centre, Sydney CBD) will attract desirable business investment and its associated employment opportunities.
- The proposed commercial floorspace will provide opportunities for businesses seeking to cluster with existing research, innovation and media industries in the locality and thereby support the Government's vision for a research and innovation zone on the western edge of Sydney CBD.
- The proposed provision of 87,868sqm of employment generating floorspace on the site will provide a range of skilled, semiskilled and unskilled employment opportunities for local residents experiencing high levels of social and economic disadvantage.
- Employment opportunities for local residents will be provided during all phases of development. Consequently jobs will not only be provided during the construction phase and through building apprenticeships but also through permanent and part time operational jobs associated with the future business tenants. The success of the latter will be supported by vocational education and training programs provided in conjunction with surrounding educational institutions such as the University of Sydney.

 The proposed Concept Plan will generate an estimated net gain of 3,270 - 3,300 full and / or part time operational jobs on the site. These jobs will be suitable for a range of age groups and skills in accordance with the objectives of the RWA Employment and Enterprise Plan.

- The Concept Plan has been estimated to have a capital investment value of \$550million by WT Partnership (See Appendix X). This will directly generate approximately 3,328 construction jobs.
- Through construction multipliers the proposed Concept Plan will indirectly generate in the order of 13,679 jobs in the construction industry or 1,368 jobs per year for 10 years.
- Through the multiplier effect, the proposed Concept Plan will generate a further \$497million activity in production induced effects and \$529million in consumption induced effects. Total economic activity generated by the construction of the proposed development will therefore be approximately \$1026 million.
- The proposed mix of employment, retail and residential uses will create an environmentally sustainable environment for living and working.

Other Economic Considerations

- The incidence of housing stress is particularly pronounced in inner city areas where housing prices have risen steeply as a result of the growing attraction of inner city living and gentrification. To exemplify the significance of this change in the City of Sydney median dwelling prices increased by a significant 62% between 1998 and 2008.
- The RWA's Operational Area has been traditionally characterised by lower income households. This is in part a result of the area's industrial heritage and the high proportion of public housing. These communities experience high levels of social and economic disadvantage that is exacerbated by the significant gap between their median household incomes and property prices.
- Housing affordability is also an issue for lower income city workers i.e. workers within the hospitality and service industries. These workers are critical to the efficient operation of Global Sydney and play an important role in its economy. They are however becoming increasingly priced out of living in inner city area's (in favour of more affordable locations in Western Sydney) or having a greater dependence on commuting. The latter trend placing particular strain on city shift workers.
- The RWA's provision of a component of affordable housing on the Subject Site will not only seek to address issues of social equity but also the economy. This is because the provision of affordable homes within the inner city will enable the retention of a diverse workforce in close proximity to Global Sydney. This will support the function of businesses within Global Sydney and their economic SUCCESS
- Maintaining diversity in the Global Sydney labour force will also minimise the potential for labour shortages. Should labour shortages occur for a range of lower income jobs, businesses would need to attract staff through higher salaries and other incentives. These additional costs would in turn need to be passed onto the consumer through the costs of services and goods.
- The provision of affordable housing on the Subject Site will also enhance the economic wealth of disadvantaged families through a number of measures. Firstly more affordable housing options allows for a greater proportion of a households income to be directed to quality food, health services and care. Improved health and access to employment opportunities increases the ability for these households to break the cycle of disadvantage.

- sustainability.
- forecast change.
- expenditure
- within the Waterloo / Green Square area.
- sustainability.

North Eveleigh Concept Plan Prepared for Redfern - Waterloo Authority

• The potential for some (or all) commercial space on the site to be occupied by one of the neighbouring universities will enhance opportunities for local residents, Sydney's youth and mature persons seeking ongoing education. Enhanced education and learning has a positive influence on an individual's ability to earn and to find suitable employment. Higher employment rates and incomes in turn have positive spin off benefits to the local and wider economy through improved spending power, service demand and economic

 There is a clear positive correlation between improved education, learning and the economy. It has been estimated by the Organisation for Economic Cooperation and Development (OECD) that just one additional year of education for a population increases economic output by between 3% and 6%. Improved education achieves these benefits by raising productivity, innovation, competitiveness, technological progress and by enhancing industries ability to

The proposed Concept Plan seeks to enhance connections between the Subject Site, neighbourhood shops and local centres such as Redfern to support the growth and viability of local businesses by increasing expenditure and demand for services. It is estimated that the proposed mix of uses on the site will generate an additional \$24.5 million to \$26.5 million in local retail

The North Eveleigh Retail Study² found that the proposed 4,000sqm of retail floorspace would help to meet the existing undersupply of supermarket floorspace in the defined trade area; help to meet the demands generated by new residents and workers and provide convenient retail facilities for local residents and workers without the need to drive. The retail component of the Concept Plan would serve a different trade area to the proposed retail facilities

 The significant visual and environmental improvements proposed for the Subject Site and associated public realm, in addition to the proposed mix of uses, will enhance the image of the RWA Operational Area. This will have positive flow on effects to additional investment and development interest in the local area. This will benefit the locality's vitality, viability and economic

² North Eveleigh Workshops, Sydney Assessment of potential for Retail Facilities.

In summary, the North Eveleigh Concept Plan is strongly supported on economic grounds because it will:

- support Government objectives to enhance business and employment opportunities in Global Sydney;
- make efficient use of a redundant brownfield employment site within close proximity to transport and other magnet infrastructure;
- generate new employment opportunities suited to a range of ages and skills;
- support local businesses and the local economy;
- provide education, training and employment opportunities for local residents to the benefit of their social and economic well being;

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- provide affordable housing options to create a socially equitable and inclusive community and a diverse local labour force;
- have positive economic flow on effects to the wider economy; and
- improve the vitality and character of the Subject Site to the benefit of the surrounding area.

Staging 6.14

The project will constructed in 6 stages over a period of approximately 9 years as detailed in Figure 21. The proposed staging:

- Allows for approximately 300 units and one commercial building in each stage.
- Ensure that the earliest stages are closest to access points and existing infrastructure provision.

The staging plan is indicative only and will be determined by market conditions.

It should be noted that Yaama Dhiyaan and the Training School will remain on site.



Figure 21 - Staging Plan





PAR



It is proposed that, following construction, the following will be dedicated to Sydney City Council:

- New roads in accordance with the City of Sydney standards.
- Open Space areas.

The long term management and maintenance of the road and open space network will be the responsibility of City of Sydney Council. Figure 22 illustrates details of open space and roads proposed to be dedicated.



6.16 Drainage and Flooding

The Hydraulic Service Concept Design Report prepared by Warren Smith and Partners, is located at Appendix Y. The concept design of the stormwater catchment and drainage management system is presented on drawing SK STW 01 which is appended to the Warren Smith and Partners report.

The North Eveleigh site is completely self-contained. The proposed drainage system for the site shall deposit into the existing 1200mm and 600mm dia stormwater lines connected to Traverser 1 and 2 respectively. These two lines converge and continue south where it eventually deposits into the Sydney Water stormwater system. These two lines are RailCorp owned infrastructure.

Warren Smith and Partners have modelled the catchment areas of the 1200mm and 600mm dia lines which includes; North Eveleigh, part of the rail corridor, and part of Australian Technology Park. This is described in SK STW 02 which is appended to the Warren Smith and Partners report.

Sydney Water has indicated that its normal requirement for on site detention is the provision of 20m³ per 1,000m² of developed site area and acknowledged that the proposed provision for this site is well in excess of their requirement. Additional on site detention has been provided in the proposed stormwater design to comply with the RailCorp requirement that there be zero overflow results into the rail corridor.

The proposed stormwater design shall not exceed the capacity of the existing; 600mm line, 1200mm line, and the 1250mm wide x 1125 high Munni Creek culvert.

The stormwater management system considers the capture of stormwater for the purpose of reuse. This is addressed in the ESD section of this report.

Reduction in Pollution Loads Through Water Sensitive Urban Design

The North Eveleigh site is located within the Munni Creek sub-catchment in the upper reaches of the Alexandra Canal catchment which joins the Cooks River and eventually drains to Botany Bay. The quality of stormwater leaving the North Eveleigh site and ultimately draining to these waterways can be managed by incorporating water sensitive urban design elements into the site's landscaping and water systems.

The targets specified in the base case for water quality represent the widely accepted 'Best Management Practice' targets. The Sydney Metropolitan Catchment Management Authority issued a consultation draft on its environmental targets for urban stormwater in October 2007 and in this report, the SMCMA recommends more rigorous targets for stormwater quality improvement from medium to large scale developments. These new targets are reflected in the targets for the sustainable case.

However, despite new targets being issued, current thinking in stormwater management is moving away from using these uniform targets in favour of adopting site specific targets that focus on positive outcomes for receiving water ecosystems. This approach is reflected in the targets for the restorative case.

Targets and actions for the reduction of pollution loads in stormwater through the use of water sensitive urban design is outlined in the table below.

Modelling of stormwater quality using the MUSIC software package and in conjunction with the landscape concept plan showed that in order to meet the base case in stormwater quality improvement, bio-retention zones would need to be integrated into the drainage system with a total area of 905m². In addition a gross pollutant trap (GPT) similar to a CDS will need to be installed before the discharge point at the eastern traverser, To assist in improving runoff quality in the central area and to provide water for reuse, a 200m³ rainwater tank collecting water from the CarriageWorks roof will be highly beneficial.

In order to meet sustainable case targets, the total areas of the site designated as bioretention areas will need to be doubled to 1.765 m². Increasing the area of bioretention on the site will be possible by setting aside more of the road margins for bioretention instead of using hard surfaces and by incorporating bio-retention into the landscaping features. In the sustainable case a GPT and rainwater collection system will still be required.

In order to pursue a restorative approach to catchment management the landscape would need to be designed to limit connectivity between hard surfaces and the drainage system, so that only 2-5% of the site area is directly connected to the drains and the majority of runoff is drained initially through swales and across pervious surfaces.

The RWA advocates at least the achievement of base case targets and actions for achieving water sensitive urban design. It is recommended that further modelling and testing is undertaken during the design phase to assess viability and site area constraints to enable the achievement of sustainable targets and actions which may be implemented for the development.

Figure 22 - Open Space and Road Dedication Plan

Stormwater quality improvement	 Improve storm water runoff quality by reducing the average annual load of: Total Phosphorous by 45%; Total Nitrogen by 45%; Total Suspended Solids (TSS) by 80%; For up to the 3 month ARI peak flow retain: Visible oil or grease; Litter > 50mm, and Sediment >0.125mm 	 Improve storm water runoff quality by reducing the average annual load of: Total Phosphorous by 65%; Total Nitrogen by 45%; Total Suspended Solids (TSS) by 85%; Gross pollutants (>5mm) by 90% [In accordance with recommendations from 	 Focus on reducing stormwater impacts on downstream ecosystems. Reduce the directly connected impervious area of a site to 2-5% of the catchment area. Use green roofs to provide thermal benefits as well as maximise evapotranspiration and provide habitat / 	 6.18 Utilities 6.18.1 Water Supply The concept design for the reticulation of water Partners report. Water supply for the site will be provided by four Two separate ring mains within the site, to be own to the west. There shall be no dead end mains. The concept design design for water reticulation and junctions at a spacing not greater than approximation.
Stormwater quantity management	 Provide on-site detention of stormwater to mitigate drainage capacity constraints Collect rainwater for reuse in irrigation 	 SMCMA (2007).] Provide on-site detention to meet with capacity constraints and use WSUD to slow stormwater Use distributed tank storages located around the site and bioretention zones to encourage slow subsurface flow and infiltration Use rainwater and 	 increase biodiversity. Maximise on-site rainwater reuse, retention, detention, infiltration and evapotranspiration Reduce directly connected impervious area to 2-5% of catchment. Maximise green areas, incorporate roof gardens, streets trees and bioretention trenches 	 The proposed mains within the site will be appricapacity. 6.18.2 Sewerage The concept design for the reticulation of sewer Partners report. The site shall be serviced by a system which of Sydney Water system located in Iverys Lane. upgraded to satisfy Sydney Water requirements The development shall be services by new infra sewerage infrastructure within the site shall be of the set of the state shall be services.
		stormwater for non-potable uses	 Reinstate pre-development creek beds as swales 	6.18.3 Electricity Supply The North Eveleigh Electrical and Services Cor

6.17 Contamination

The site has been subject to various contamination investigations since 1993. The reports detail the contamination status of the site. Both soil and groundwater contamination that requires remediation and/or management prior to redevelopment has been identified across the site.

A Remediation Strategy for the Redevelopment of the site has been prepared by SMEC Australia (SMEC) (Appendix I). The Remediation Strategy has been prepared to satisfy the consent authority that the remediation of the site has been considered and will be addressed as part of the redevelopment so that the site is suitable for its proposed mixed use. The Remediation Strategy outlines the remediation goals, the proposed remedial strategy for the soil and groundwater that has been identified on the site and the environmental management procedures which will be implemented as part of the remediation works and to demonstrate that the site can be remediated in a safe and environmentally sound manner, taking into consideration the nature of the development and the interests of the stakeholders and surrounding community.

In summary, the North Eveleigh Rail vard site can be remediated for the proposed land uses in a safe and environmentally sound manner, taking into consideration the nature of the development and the interests of the stakeholders and surrounding community. The proposed strategy effectively addresses the nature and extent of contamination (with data gaps currently being addressed) and the key features of the proposed development. The Strategy is reasonably straightforward, practical and achievable.

The remediation strategy is flexible such that the strategy will remain applicable if details of the development are modified in the future to meet the specific requirements of the stakeholders. The remedial works will be performed in accordance with the regulatory requirements of the Department of Environment and Climate Change (DECC) and Department of Natural Resources (DNR). Accordingly, the Remediation Strategy, the RAP and the subsequent remedial works will be subject to review by the EPA Accredited Site Auditor for the project. On completion of remediation, appropriate Site Audit Statements will be issued for the relevant land uses.

Rod Harwood of WSP Environmental Pty Ltd has been appointed as Site Auditor to provide advice on contamination and remediation for the North Eveleigh site. In this role he has reviewed the "Remediation Strategy" document prepared by SMEC. This review is included at **Appendix J**. In summary, Rod Harwood concurs that the remediation strategy prepared by SMEC is a reasonable approach to the remediation of the site and endorses the remediation strategy.

A Hazardous Materials Survey Report for the North Eveleigh Rail Yards has also been prepared by Hibbs & Associated Pty Ltd and is included at Appendix K.

ater is presented on drawing SK W01 which is appended to the Warren Smith and

our connections to the existing Sydney Water 375mm main located in Wilson Street. owned by Sydney Water, will be provided; one to the east of CarriageWorks, and one ns.

ion allows for hydrants at 80m nominal spacing and stop valves at the location of tees pproximately 300m.

propriately sized to have adequate capability for domestic demand and fire fighting

verage is presented on drawing SK S01 which is appended to the Warren Smith and

h drains in an east to west direction. The system shall discharge into the existing . This will require that a section of the existing lverys Lane sewerage system be nts.

frastructure designed to meet the capacity of the proposed population. All existing e decommissioned.

oncept Report is Located at Appendix Z.

The site is currently services by an Energy Australia on-site substation (S7680) which has spare capacity in the order of 700kVA.

Electricity supply to the recently refurbished CarriageWorks is provided by the new substation. Additional substations may be required within the site, location and size shall be dependent on the proposed staging and supply requirements from the proposed development.

Preliminary advice from Energy Australia has indicated that augmentation of the network shall be required to service the projected demand for the development. Energy Australia is currently investigating and preparing HV design information.

A feasibility study on the options for electrical supply infrastructure, utilising an approach of efficiency first to reduce overall demand of electricity, followed by the exploration of alternative supply sources or increasing Authority supply infrastructure shall be conducted at the Project Application Stage.

Existing electrical supply to former rail structures and infrastructure within the site is provided by the RailCorp supply network. RailCorp intends to decommission the supply from the site.

6.18.4 Gas Supply

Gas supply into the site shall be provided by connection to the existing main in Wilson Street. Reticulation of gas pipes shall be made available within service trenches in footpaths of the proposed development.

6.18.5 Telecommunications

New telecommunications supply to the site shall be required and provided by Telstra via fibre optic technology. Reticulation of the telecommunications network will be made available within shared service trenches in footpaths of the proposed development.

Existing telecommunication services to former rail structures and infrastructure within the site is provided by the RailCorp supply network. This system will be decommissioned by RailCorp.



7 Suitability of the Site

The North Eveleigh Precinct Redevelopment project has evolved following a systematic analysis and review of the site in a regional, sub-regional, and local context. The study area currently supports defunct rail yards and sheds and the proposal envisaged within this Concept Plan aims to enhance the existing heritage structures and promote new land uses to create a modern mixed use development on the CBD's fringe.

The site is strategically located and has good access connections by car and public transport. A range of complementary services including the University of Sydney, CBD, entertainment and employment facilities are located within close proximity of the site, reinforcing it's appropriateness for residential, employment and community uses.

The site is relatively flat which reduces construction complexities and minimises accessibility issues. The proposal is designed to exploit the latent opportunities of the site by locating residential and employment floor space around a community precinct, improving pedestrian and vehicular circulation and upgrading of landscape. A range of environmental, social and economic impacts are associated with the redevelopment of the site, most of which are considered to be positive. The key social and economic impacts are outlined below whilst the balance of environmental issues are addressed in Section 6.0.

The site is exceptionally well located in terms of access to transport and educational facilities providing an ideal location for significant commercial, residential and educational development. The locational benefits of the site for the proposed mixed use redevelopment are stated above at Section 6.1.

7.1 Public Interest

The redevelopment of the North Eveleigh site in accordance with the Concept Plan contained in this document is considered to be in the public interest because:

- The proposal enables the reuse of surplus government land, reactivates North Eveleigh and connects it back into the community;
- The proposal is to meet demand for increased dwelling and employment opportunities for the region experiencing high growth and an ageing population;
- The new development will contribute towards meeting the economic and social needs of Sydney's inner city community;
- It is consistent with the objectives of the EP & A Act to encourage the economic and orderly development of land;
- The land use, built form, access and landscape principles have been planned and designed in order to minimise adverse impact on the natural and built environment and respond to the existing characteristics of the locality;
- The development of the site will generate significant economic and social benefits as outlined above;
- The proposal is consistent with and will assist in realising the strategic objectives and vision of the Sydney Metropolitan
 Strategy, Redfern Waterloo BEP (Stage One), and Schedule 3 of the SEPP (Major Projects);
- The proposal is in accordance with the provisions and requirements of the key relevant planning instruments and should not have any significant negative impact on the environment, property values or public health; and
- The proposal will not pose any undue risk to the safety and security of the surrounding community and public in general.
- The proposal enables the sustainable improvement of the Operational Area and the achievement of environmental, social and economic benefits.

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8 Draft Statements of Commitment

The Draft Statement of Commitments details the various contributions, additional studies, applications and works the proponent commits to undertake in association with the project. The mechanics of how and when these commitments will be confirmed and delivered will be subject to ongoing consultation.

Subject	Description of Commitment	Timing
Design Excellence	The proponent commits to achieving design excellence of the Project in accordance with Clause 22 Part 5 Division 3 of State Environmental Planning Policy (Major Projects) 2005. The design of any roof top plant shall be integrated with the design of the building and roof to minimise visual bulk and avoid additional overshadowing. Roof top plan will be adequately attenuated to avoid acoustic impacts on the development and surrounding properties.	 To be addressed at Project Application Stage
Accessibility	The proponent commits to providing access to and through the site in accordance with the Building Code of Australia.	 To be addressed at Project Application Stage
Community Benefit	 A new child care facility to service the demands of the proposed population will be provided. A new cultural/community facility to service the demands of the proposed population will be provided. Provision of jobs for indigenous people in accordance with RWA Indigenous Employment Model. 	 To be addressed at Project Application Stage
Affordable Housing	A significant proportion of the new dwellings in North Eveleigh will be affordable housing which will be managed by a registered community housing organisation or government agency. This will be funded by the RWA's affordable housing developer levies.	 To be addressed at Project Application Stage
Public Open Space	 The proponent commits to providing public open space, subject to the City of Sydney Council accepting the dedication. Public open space will comprise at least 15% of the site's area. The following are to accompany the Project Application: Summary of preliminary discussions with the City of Sydney Council regarding dedication; A landscape plan demonstrating proposed landscape scheme consistent with the Landscape Strategy Report prepared by TDS + JAAA; A landscape protection and maintenance strategy consistent with the Arboricultural Assessment and Development Impact Report prepared by Landscape Matrix; and Plans illustrating proposed subdivision of the land to enable dedication as public open space. Commitments by the proponent advising of the intended timing of the proposed landscape works, subdivision and dedication of the proposed public open space. The public open space will be remediated in accordance with the recommendations of the "Remediation Strategy for North Eveleigh Yard" undertaken by SMEC and dated March 2008. The timing of the proposed remediation will be advised at Project Application stage A significant portion of the Fan of Tracks will be retained and interpreted. 	To be addressed at Project Application Stage
Tree Management	 Tree protection measures will be implemented for trees to be retained. The significant trees at the eastern end of the site adjacent to the Chief Mechanical Engineer's Office Building will be retained. 	 To be addressed at Project Application Stage
Crime Prevention Through Environmental Design	 A Safety Management Strategy will be prepared to provide guidelines for the application of CPTED principles and Safer by Design best practice models. 	 To be addressed at Project Application Stage
Traffic	 The Concept Plan commits to: The provision of road works to Wilson Street to enable access to the site. This will include improvements to the existing access at the western end of the site, and improvements to the intersection of Wilson St and Shepherd St for a new site access. The associated Road application will be submitted to the Roads and Traffic Authority. Detailed designs for the intersection improvement works identified in the Traffic Impact Assessment to be prepared. All public roads that are intended to be dedicated must be constructed to the standards of the City of Sydney Council. The dedication of public roads. 	 To be addressed at Project Application Stage



Subject	Description of Commitment
Environmental	a. Residential
Sustainable Development	Residential development will need to meet the following targets:
	the BASIX water consumption benchmark.
	 the BASIX energy consumption benchmark.
	Further modelling and testing must be undertaken to assess effective and appropriate options for the achievement of sustainable and restorative targets and actions which may be implement the development.
	b. Commercial
	Commercial development will be capable pf achieving the following targets:
	 Buildings should achieve 4.5 star ABGR.
	 Buildings should achieve a 1.5 stars NABERS rating.
	Further modelling and testing must be undertaken to assess effective and appropriate options for the achievement of sustainable and restorative targets and actions which may be implement the development.
	c. Non-Potable Water
	 Further assessment will be undertaken into the viability of obtaining an external non-potable water supply.
	In addition, the proponent commits to further investigate the opportunity for including the following Ecologically Sustainable Development principles:
	 Design internal apartment layouts to maximise natural ventilation and to capture prevailing winds;
	 Utilise roof forms to capture natural light and ventilation;
	 Re-use and recycle stormwater;
	 Use of high thermal mass materials within apartments;
	 Promote the use of alternative energy sources for common areas,
	 Ensure natural light and ventilation is provided to common areas to minimise energy consumption;
	 Divide the layout of the apartments into zones to reduce heat and cooling energy consumption;
	 Reuse of roof water and rainwater run off;
	 Utilise low water flow fixtures and tap ware;
	Reuse rainwater for spray irrigation with rain and moisture detector controls; and
	 Recycling grey waste water.

Timing

To be addressed at Project
 Application Stage

plemented for

plemented for

Subject	Description of Commitment
Water Quality &	The Concept Plan commits to:
Quantity Management	Water quality management
	 Improve stormwater run-off quality by reducing the average annual load of :
	- Total Phosphorous by 45%,
	- Total Nitrogen by 45%,
	 Total Suspended Solids (TSS) by 80%. For up to 3 month ARI peak flow retain:
	 Visible oil or grease, Litter > 50mm and Sediment >0.125mm
	Stormwater quantity
	 Provide on-site detention of stormwater to mitigate drainage capacity constraints.
	Collect rainwater for reuse in irrigation.
Aboriginal Heritage	The Aboriginal history of North Eveleigh site will be documented so that this can be used in any future Interpretation Strategy. The Metropolitan Local Aboriginal Land Council w participate in this process.
European Heritage	The following heritage items and item of historical interest will be retained and adaptively reused:
	- Carriage Workshop
	- Blacksmiths' Shop
	 Paint Shop Chief Mechanical Engineers' Office Building
	- Scientific Services Building No.1
	- Telecommunications Equipment Centre
	 Clothing Store A Conservation Management Plan and Interpretation Strategy will be prepared in accordance the HIS prepared by Weir + Phillips (2008).
Archaeology	 Prior to demolition of items of local or higher significance the existing buildings will be recorded in accordance with NSW Heritage Council Guidelines. Any impacts on items or places of archaeological significance will be managed under the relevant legislation and the recommendations of the Archaeological Development Impacts.
Archaeology	and Zoning Plan prepared by Archaeological and Heritage Management Solutions.
Rail Impacts	• The proponent will provide three access gates through the development to access the rail corridor. These will be provided along the southern boundary of the site, at the wester eastern end of the Paint Shop and adjacent to the telecommunications building.
	 The proponent will ensure that the development complies with the engineering restrictions imposed by RailCorp in relation to the North Eveleigh Dive as outlined within the Con Eveleigh Dive and Tunnel Alignment Concept Design Corridor Protection draft drawings SK-100/02, SK-101/01 to SK-105/01, SK-110/01 to SK-112/01, SK-120/01 to SK-124/01, 134/01included as an attachment in the Structural Issues Report prepared by Robert Bird Group.
	The proponent will liaise with RailCorp to ensure the decommissioning of RailCorp's services through the site which are identified in the services search.
	Detailed geotechnical investigations and design and construction of the proposed works will be carried out in accordance with the general recommendations contained in the Geotechnical Investigation prepared by Jeffrey and Katauskas Pty Ltd report.
Noise and Vibration	Conduct further detailed noise and vibration investigations in accordance with the Preliminary Acoustic Report by Acoustic Dynamics Report (2008)
	The proponent will comply with RailCorp's Interim Guidelines for Applicants - Consideration of Rail Noise and Vibration in the Planning Process.
Payment of Developer Contributions	 Developer Contributions will be made in accordance with the Redfern -Waterloo Contribution Plan 2006 (as amended).
Payment of Affordable Housing Contributions	• Affordable Housing Contribution will be made in accordance with the Redfern-Waterloo Authority Affordable Housing Contribution Plan 2006 (as amended).
Site Contamination	A site audit statement(s) will be provided prior to final occupation certificate(s) certifying the land is suitable for the proposed use.

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act Assessment	•	To be addressed at Project Application stage.
n end, at the nell Wagner North SK-130/01 to SK- Preliminary	•	To be addressed at Project Application Stage
	•	To be addressed at Project Application Stage
	•	Prior to issue of Construction Certificate
	•	Prior to issue of Construction Certificate
	•	Prior to Occupation



Subject	Description of Commitment
Structural	Further assessment will be undertaken at Project Application stage including investigations into the structural adequacy of the heritage buildings which are to remain and electrolysis.
Sydney Ports Impacts	The Concept Plan commits to ensure that the Sydney Ports' communication link between Botany Bay and Darling Control is maintained.
Sydney Airports Corporation Limited impacts	The Concept Plan commits to include the requirements of SACL. An application will be forwarded to SACL.
Transgrid impacts	The Concept Plan commits to ensure the Transgrid 330kV underground cable is not impacted by the development. Appropriate methods of construction and footings will be employed to e is no adverse effect.
Construction Management	A Construction Management Plan will be prepared by the proponent and will be submitted to the satisfaction of the Principal Certifying Authority. A Traffic Management Plan (TMP) for construction will be prepared which addresses construction access and egress to the site, including vehicle routes and parking for workers, staging and construction of internal road network and other relevant issues. The TMP will be prepared in accordance with the RTA guidance on TMP's.
Community Communication	The Proponent must develop a strategy for informing the community about the development.

	Timing
	 To be addressed at Project Application Stage
	 To be addressed at Project Application Stage
	 To be addressed at Project Application Stage
o ensure there	 To be addressed at Project Application Stage
and timing of	 Prior to the issue of the Construction Certificate.
	To be addressed at Project Application stage.

9 Conclusion

This environmental assessment and Concept Plan application outlines the proposal for the North Eveleigh Precinct Redevelopment Project. The assessment, together with the appended technical reports, comprises a comprehensive study based on the provisions of Part 3A of the *Environmental Planning and Assessment Act (1979)* and DGEARs issued by the Department of Planning.

The key conclusions of the study are that overall the impacts of the proposal together with the principles guiding the future redevelopment of the site will result in significant positive social, environmental and economic outcomes for the Redfern – Waterloo Area and the southern fringe on the Inner Sydney subregion. The provision of a high quality mixed use development also responds to the objectives of the State Government's Metropolitan Strategy particularly having regard to the growing population and demand for dwellings and jobs closer to home. The Concept Plan demonstrates a high level of consistency with prevailing planning instruments including the relevant State Environmental Planning Policies and as well as the *Redfern – Waterloo Built Environment Plan (Stage One)*.

In conclusion, the site is considered entirely suitable for the proposal contained in the Concept Plan and the implementation of the North Eveleigh Precinct Redevelopment Project is consistent with the public interest.

Accordingly, we seek the Minister's favourable consideration of this application.

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