Environmental Assessment Report

Former Hoxton Park Aerodrome

Concept Plan & Concurrent Project Applications for the Construction of Warehousing and Distribution Facilities for Woolworths Limited

Submitted to
Department of Planning
On Behalf of the Proponent Mirvac Projects Pty Limited

March 2010 ■ 09622

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JBA Urban Planning Consultants Pty Ltd operates under a Quality Management System. This report has been prepared and reviewed in accordance with that system. If the report is not signed below, it is a preliminary draft.

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Signature  Date 15/03/10

This report has been reviewed by: Gordon Kirkby

Signature  Date 15/03/10

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Statement of Validity

Prepared under Part 3A of the Environmental Planning and Assessment Act, 1979 (as amended)

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In respect of	Hoxton Park Concept Plan and Concurrent Project Applications
Concept Plan & Concurrent Project Applications	
Applicant name	Mirvac Projects Pty Limited
Applicant address	Level 26, 60 Margaret Street, Sydney
Land to be developed	Former Hoxton Park Aerodrome (Part)
Proposed development	Construction of warehouse and distribution facilities and associated infrastructure
Environmental Assessment	An Environmental Assessment (EA) is attached
Certificate	I certify that I have prepared the content of this Environmental Assessment and to the best of my knowledge: ▪ It is in accordance with the Environmental Planning and Assessment Act and Regulation. ▪ It is true in all material particulars and does not, by its presentation or omission of information, materially mislead.
Signature	
Name	Jennie Buchanan
Date	15 March 2010

Executive Summary

Introduction

This Concept Plan and three Project Applications are submitted to the Minister for Planning pursuant to Part 3A of the Environmental Planning and Assessment Act 1979 (EP&A Act). This is to fulfil the Environmental Assessment Requirements issued by the Director General for the preparation of an Environmental Assessment for a Concept Plan and concurrent Project Applications for development on part of the Len Waters Estate (former Hoxton Park Aerodrome).

The proponent is Mirvac Projects Pty Limited.

The Site

The site is located approximately 6.5km west of the Liverpool CBD on Cowpasture Road within the new industrial suburb, Len Waters Estate. The site is located within the Liverpool Local Government Area and was formerly occupied by the Hoxton Park Aerodrome.

The site has an area of approximately 50.17 hectares and is generally clear of vegetation and built form structures, although a few hangers and buildings associated with the former aerodrome still exist on the site.

To the immediate east of the site is the Hinchinbrook Creek Corridor and to the immediate west of the site is the M7 Motorway. Further east and west of those features is low density residential development. Residential development is also proposed to the north of the former aerodrome site.

The Proposal

Concept Plan and Project Approval is sought for the construction of warehouse and distribution facilities at the Len Waters Estate (formerly Hoxton Park Aerodrome). In particular approval is sought for:

- Concept approval for general site layout;
- Concept approval for building envelopes relating to two warehouses and associated parking on the southern residual lot;
- Project approval for construction and 24 hour, 7 day a week operation of a BIG W warehouse and distribution facility (89,000m^2 GFA) and associated parking;
- Project approval for staged construction and 24 hour, 7 day a week operation of a Dick Smith warehouse and distribution facility (51,726m^2) and associated parking; and
- Project approval for construction of associated infrastructure including:
  - Tree removal;
  - Internal road network;
  - Southern detention basin;
  - Site landscaping;
  - Related site services; and
  - subdivision

Future Applications will be lodged for the:

- Design, construction and operation of the two warehouse buildings on the residual lot;
- Design and construction of the northern detention basin; and
- East west link (bridge) over Hinchinbrook Creek.

Relevant Legislation, Strategies and Environmental Planning Instruments

The following are applicable to the proposed development:

- Environmental Planning and Assessment Act 1979;
- Threatened Species Conservation Act, 1995
- National Parks and Wildlife Act, 1974
- Rural Fires Act 199 (NSW)
- NSW State Plan
- Sydney Metropolitan Strategy
- Draft South West Subregional Strategy:
- Employment Lands for Sydney Action Plan 2007
- Liverpool Industrial Lands Strategy
- State Environmental Planning Policy (Major Development) 2005;
- State Environmental Planning Policy (Infrastructure) 2007;
- State Environmental Planning Policy No. 64 – Advertising and Signage;
- State Environmental Planning Policy No. 55 – Remediation of Land;
- State Environmental Planning Policy No. 44 – Koala Habitat Protection;
- State Environmental Planning Policy No. 33 – Hazardous and Offensive Development;
- State Environmental Planning Policy No. 19 – Bushland in Urban Areas;
- Liverpool Local Environmental Plan 2008; and
- Liverpool Development Control Plan 2008.

Environmental Assessment

Built Form Design

The proposed BIG W and Dick Smith warehouse and distribution facilities will be world class facilities which will house the latest, safest and most efficient supply chain technology.

The Dick Smith facility will be constructed in two stages, the first stage will comprise a 13.7m high warehouse building and the second stage a 37m high high bay facility.

The BIG W facility will comprise a 13.7m high warehouse building and will be constructed in one stage.

So as to ensure that the buildings have a positive visual impact, the proposal includes the following design measures:

- A selection of different cladding profiles so as to break up and articulate the scale of the warehouse buildings. This is further enhanced by the selection of differing cladding profiles displaying a range of cladding textures.
- Use of varying cladding colours – higher elements of the building, in particular the Dick Smith Highbay will be finished in a light grey colour so as to minimise the contrast of the high element of the building with sky and reduce its visual impact.
- Inclusion of additional embellishment items such as contrast trim and stripes in the cladding providing further articulation of the building; and
- Use of considered signage where applicable.

The proposed development, with its mass planting elements along Cowpasture Road, considered signage strategy and generous setbacks of the proposed industrial buildings on the Residual Lot will provide a suitable gateway to the Industrial Estate

Compliance with EPIs
The proposed development is generally consistent with the relevant EPI's applying to the site. In particular the development:

- Provides a suitable road layout and number of parking spaces in accordance with SEPP (Infrastructure) 2007;
- Will include signage of an appropriate size and location in accordance with SEPP 64;
- Can be made suitable for the proposed use in accordance with SEPP 55;
- Does not compromise any protected Koala habitat in accordance with SEPP 44;
- Provides suitable management measures for storage of hazardous goods on site in accordance with SEPP 33;
- Will not have any adverse effects on the adjacent Hinchinbrook Creek Corridor in accordance with SEPP 19;
- Provides the following in accordance with Liverpool LEP 2008:
  - Lot sizes;
  - Flora and fauna mitigative measures;
  - Bushfire protection measures;
  - Appropriate land use; and
- Provides the following in accordance with the Liverpool DCP 2008:
  - Major north/south and east/west link roads;
  - East/west off-road cycle path;
  - Heritage interpretive elements;
  - Appropriate signage;
  - Landscaping;
  - Setbacks; and
  - Waste management.

The proposal does involve a minor variation to the uses permissible in the E3 zone. A small proportion of truck and vehicular parking associated with the BIG W and Residual lot developments will be located on a small part of the E3 zone. The location of these uses in the zone is prohibited under the Liverpool LEP 2008, but is considered acceptable in this case for the following reasons:

- The majority of the small portion of land zoned E3 Environmental Management will be used for an access road which is permissible in the zone, the partial use of this zone for parking will not generate any different environmental effects compared to that of the road;
- The proposed use is not inconsistent with the objectives of the E3 zone as it does not prevent the regeneration of the bushland or generate any adverse flooding impacts on the Hinchinbrook Creek Corridor;
- Further, the use of the land for parking purposes will not have any impact on the recreational enjoyment of the riparian corridor.

It is noted that the Minister has the ability under the Environmental and Planning Assessment Act and Regulations to approve Concept Plans which involve a landuse which would otherwise be prohibited in a Part 4 application.

The proposed highbay of the Dick Smith warehouse will involve a breach between 7 and 22 metre of the maximum height controls applying to the site (15m – 30m). The proposed height variation is considered acceptable in this instance for the following reasons:

- The proposed highbay does not generate any adverse environmental impacts on any residential property due to the significant separation between the two land uses;
- The visual impact has been found to be acceptable;
- The proposed highbay is similar in height to the Blum building which is being constructed on Lot 401 of the industrial estate which rises in height to 30m and is located wholly within the 15m height zone;
- The proposed building will appear similar to other warehouse developments adjacent to the M7 corridor; and
- The proposed development remains consistent with the objectives of the maximum height control in that it will be of a high quality built form, will not result in an adverse reduction of sunlight to any building or public space and provide an appropriate height transition within the Len Waters Estate.

Social and Economic Issues
The proposed development is expected to deliver the following social and economic benefits:

- a $181,945,000 capital investment in the NSW economy;
- generation of 935 jobs (300 net additional jobs) in Western Sydney which is an area nominated in the draft South West Subregional Strategy as requiring a significant number of new jobs;
- construction of world class facilities which will house the latest, safest and most efficient supply chain technology allowing delivery of optimal service to approximately 370 stores in NSW;
- construction of warehousing facilities which demonstrate high levels of sustainability in terms of design and operation;
- construction of new cycle and pedestrian linkages; and
- the orderly and economic use of a site that is well serviced by regional and local infrastructure.

Stormwater Management and Flooding
A Stormwater Management Plan has been prepared for the development. All street and roof drainage will be conveyed by a pipe and overland flow path system to the existing points of discharge to Hinchinbrook Creek. Wherever possible an integrated treatment train approach using swales and at source filters will be adopted. At the discharge locations appropriate end of line water quality treatment measures (e.g. gross pollutant traps) will be installed using high hydrocarbon reducing proprietary units.

ADW Johnson has prepared a Floodplain Impact Assessment for the proposed development. The assessment, which is based on modelling undertaken by Golder Associates, concludes that:

- an area to the east of the development, fronting Ward Place will experience a small increase in flood elevation, however based on field survey the retaining freeboard to finished slab level is in excess of 2m;

- flooding levels will also decrease within the regional retarding basin downstream of Cowpasture Road; and
- the proposal will have an effect on the maximum flow velocities, however ADW Johnson not that these increases are small and the overall maximum velocity encountered for all of the structures is reduced.

Overall ADW Johnson summarise that *"The development of the Hoxton Park site as currently proposed could take place with flood impacts confined to the Environmental Zone east of the proposed development and west of Cowpasture Road. Flood impacts are confined to areas that will not be subject to future development."*

Traffic and Transport
An assessment of the development has found that the traffic generation of the proposed warehouses is similar to that estimated in the studies undertaken by others during the rezoning of the site. In light of this it is expected that the surrounding road network will continue to operate at an acceptable level of service.

The proposed road layout is considered suitable for use by articulated service vehicles and B'Doubles. The main north/south and east/west links are proposed as required by the Liverpool DCP 2008. The development does not provide the road which was to be known as 'Runway Street'. This is because the primary reason for providing 'Runway Street' was for access to smaller industrial lots. As the development of the site no longer involves the construction of smaller industrial lots the smaller internal roads are no longer required for access. This variation has been found acceptable on heritage grounds.

The proposed development will encourage sustainable forms of travel by way of:

- preparation of Work Travel Plans; and
- provision of pedestrian and cycle facilities on site.

The proposed level of parking for staff is in line with the rates stipulated by Council and the RTA and will meet the needs of the proposed shift arrangements and are therefore considered to be appropriate by the assessing traffic consultant.

Contamination
A review of the site's history and site testing undertaken has revealed that the site has a low to moderate potential for contamination. Douglas Partners Pty Limited is of the opinion that no issues of unacceptable environmental concern that warrant remediation action were noted and the site is considered compatible with the proposed development and may proceed from a contamination management standpoint. In this regard, Douglas Partners recommends that the works should proceed under a Construction Environmental Management Plan (CEMP) which includes 'Unexpected Finds Protocol'. A commitment to this effect has been made.

Salinity & Geotechnical Investigation
Following the completion of bulk earthworks, a salinity investigation will be undertaken in accordance with the guidelines for "Site Investigations for Urban Salinity". The report outlining the results of the investigations will incorporate a Salinity Management Plan which will outline management strategies to be employed on the site.

Douglas Partners have undertaken initial geotechnical investigations of the site and have recommended construction methods so as to ensure the site is appropriately compacted prior to construction of the warehouse buildings.

Infrastructure and Utilities
The existing services on the site and adjoining the site can be suitably augmented to service the proposed development.

Heritage (Indigenous and Non-Indigenous)
The site is not a listed heritage item and is not located in a heritage conservation area, it does however exhibit a level of local significance due to its former use as an Aerodrome. In light of this a Heritage Interpretation Plan and Implementation Strategy has been prepared for the proposed development which will involve the implementation of interpretation signage and media on the site amongst other things.

An Aboriginal Archaeological Assessment of the site has revealed that no further management measures are required for the works which are the subject of the three project applications. The only exception to this is the site 45-5-0774 which is located in close proximity the existing drainage inlets on the eastern edge of the development area. At this stage it appears that the existing infrastructure will be maintained and upgraded and that no impacts will occur in adjacent undisturbed areas.

If however, drainage is required in adjacent undisturbed areas, MDCA has recommended that archaeological test excavations be undertaken to determine archaeological potential. A commitment reflecting this recommendation has been made at Chapter 9 of this report.

Biodiversity
The proposed development will result in the removal of 1.475hectares of Shale Plains Woodland which is a subset of Cumberland Plain Woodland. GHD Consulting has found this impact to be acceptable as:

- the patches affected are isolated, small and degraded and as such their removal is not likely to result in a significant impact on the Ecologically Endangered Community;
- the clearing of the site has already been assessed as part of the rezoning process and is permitted in accordance with the VPA applying to the site;
- an off-set strategy has been agreed for the site and includes:
  - conservation of existing remnant vegetation outside of the RFI zone;
  - rehabilitation of 4.06 hectares of existing vegetation; and
  - revegetation activities based on a compensation ration of 1:2.85.

Bushfire Risk Assessment
Although the *Planning for Bushfire Protection 2006* guidelines do not strictly apply to the proposal, the development incorporates defendable spaces and treatments in line with the aims and objectives of the above guidelines.

A positive covenant will be placed on the title so as to ensure that the management prescriptions detailed in the bushfire assessment will be complied with and a commitment has been made which will ensure that the detailed design of the buildings comply with the following recommendations of the bushfire consultant:

- Any operable windows shall be fitted with aluminium/stainless steel mesh flyscreens with a maximum aperture of 2mm;
- Access doors [PA and Vehicle] shall be fitted with seals that seal the bottom, stiles and head of the door against the opening/frame to prevent the entry of embers into the building. Particular attention shall be paid to the gap at the head of the door curtain, where mohair type seals can be used;

- Any external vents, grilles and ventilation louvres shall have stainless steel mesh with a maximum aperture of 2mm square fitted to prevent entry of embers into the building or be fitted with a louvre system which can be closed in order to maintain a maximum aperture or gap of no more than 2mm; and
- Roof ventilators shall be fitted with stainless steel flymesh (2mm aperture) to prevent the entry of embers into the building or be fitted with a louvre system which can be closed in order to maintain a maximum aperture or gap of no more than 2mm.

Noise Assessment
An assessment of the operation of the development has found that the proposal will general comply with the noise criteria set for the project. Minor exceedances of 1 – 2 dB(A) may occur during adverse meteorological conditions, however Renzo Tonin Pty Limited consider that these exceedances are negligible on the basis of the assertive assumptions they have taken for the assessment. They also note that the background noise in this scenario are also likely to rise during adverse weather conditions thereby reducing the impacts of the minor exceedance. In order to ensure that the site is appropriately managed to reduce noise emissions the following commitments have been made:

- All plant and mechanical equipment will be designed, installed and treated with acoustic mitigative measures where required; and
- All operators of the container handlers will be trained to understand correct operations of container handling facility so as to reduce the potential for generation of noise.

The noise predictions made by Renzo Tonin indicate that during the standard hours of operation, construction activities generally comply with the guideline requirements before premises are considered 'noise affected' even when there are numerous items of plant are operating concurrently.

Where works are to be undertaken outside of normal construction hours (i.e. on Saturdays before 8am and after 1pm), Renzo Tonin recommend that equipment activities above L_{aeq} 110dB(A) are minimised or be acoustically treated so as to minimise noise emissions from the site and therefore reduce the exceedance of the noise criteria for 'noise affected'. A commitment to this effect has been made.

Visual Impact Assessment
AECOM has found that the proposed Dick Smith HBRS, in conjunction with the existing Blum HBRS to the north-west of the site, comprise landmark points of interest that will sit visually comfortably within the broad floodplain setting of the proposed development.

The proposed design of the highbay facility has been designed in accordance with the recommendations of AECOM so as to ensure that it provides a visually harmonious and complementary element to that of the existing Blum HBRS to the north-west of the site. In particular:

- Will be of a light sky blue colour, thereby reducing the contrast and visibility of the building against the sky; and
- A variety of finishes (both colour and texture) are proposed so as to reduce the visual bulk and scale of the building.

Ecologically Sustainable Development
The proposed development will incorporate a series of design measures to reduce energy and potable water consumption. These include:

- The incorporation of mechanically operable louvers in the warehouse areas, in order to provide natural ventilation when the ambient conditions are appropriate;
- The distribution centres will incorporate superior thermal performance in the building fabric in excess of the BCA Section J requirements;
- Energy efficient air conditioning equipment and fan selection with efficiencies superior to the minimum Section J requirement;
- Energy efficient lighting with a power density below the Part J6 maximum density and control systems to dim or turn off when not in use;
- Dimming control on warehouse lights to reduce light by at least 35% during low occupancy times when adequate daylight is provided;
- To reduce water consumption, all tapware for the development is required to be 4 star WELS rated, toilets are to be a minimum 4 star WELS rated and urinals are to be minimum 5 star WELS rated.
- Connection to the Sydney Water's recycled system will provide a significant portion (if not all) of the non-potable demand for the site and that this supply will be more reliable than the use of on-site rainwater

Waste Management
Operational Waste Management Plans have been prepared for both the Dick Smith and Big W warehouses, ensuring that waste will be minimised and recycled where possible.

A commercial contractor will be engaged to remove waste from the site.

Construction Management
A Construction and Environmental Management Plan has been prepared for the site which deals with the following key issues:

- Noise Management;
- Waste Management;
- Construction Staging;
- Erosion and Sediment Control;
- Air and Water Quality;
- Flora and Fauna Management; and
- Construction Traffic Management.

BCA Assessment
Preliminary BCA assessments have been prepared for the two warehouse buildings which conclude that both buildings will require alternative solutions so as to satisfy the requirements of the BCA, but that the fundamental design is capable of meeting the requirements of BCA 2009 with the inclusion of fire engineering.

Environmental Risk Assessment
The environmental risk assessment prepared for the project has found that the development generally presents key issues which are of low to medium risk and that sufficient mitigation measures are in place to ensure that no adverse environmental impacts will occur.

Site Suitability
The site presents suitable conditions for industrial development and its use for the proposed warehouse and distribution facilities are in accordance with Metropolitan and subregional strategies applying to the site.

Conclusion

This environmental assessment demonstrates that the matters for which approval is sought are generally consistent with relevant planning strategies and Environmental Planning Instruments applying to the site. It also provides evidence that any potential environmental impacts generated by the development can be appropriately mitigated. The application will result in several public benefits including a significant capital investment in the NSW economy and delivery of a substantial number of jobs in Western Sydney. The applications are recommended for approval.

1.0 Introduction

This Concept Plan and three Project Applications are submitted to the Minister for Planning pursuant to Part 3A of the Environmental Planning and Assessment Act 1979 (EP&A Act). This is to fulfil the Environmental Assessment Requirements issued by the Director General for the preparation of an Environmental Assessment for a Concept Plan and concurrent Project Applications for development on part of the Len Waters Estate (former Hoxton Park Aerodrome).

The proposal involves the redevelopment of the site for warehouse storage and distribution facilities and associated site infrastructure. A photomontage of the proposed development is provided in **Figure 1**. Additional montages are included at **Appendix B**.

Two of the proposed warehouses will be occupied by two subsidiary companies of Woolworths Limited, being BIG W and Dick Smith Electronics.

The report has been prepared by JBA Urban Planning Consultants Pty Limited, for the proponent, Mirvac Projects Pty Limited and is based on information provided by Mirvac Projects Pty Limited and supporting technical documents provided by the expert consultant team.

This EAR describes the site, its environs and the proposed development, and includes an assessment of the proposal in accordance with the Director-General's Environmental Assessment Requirements under Part 3A of the EP&A Act (Refer **Appendix A**). It should be read in conjunction with the information contained within and appended to this report.

Figure 1 – Photomontage of the proposed development

Source: Mirvac Projects Pty Limited

1.1 Structure and Contents of Concept Plan

Concept Approval is being sought for warehousing and distribution facilities on part of the former Hoxton Park Aerodrome, including the following:

- General site layout;
- Land use distribution including variations to current land use permissibility;
- Staging of the development;
- Building envelopes;
- Site Stormwater Management;
- Overall Site Parking and Traffic Generation;
- Site Bushfire Management Measures; and
- Site Construction Management Measures.

1.2 Structure and Contents of Concurrent Project Applications

Three concurrent Project Applications (PAs) accompany the Concept Plan. The individual assessment and concurrent issuing of each of the project applications is pivotal to ensuring Woolworths are secured on the site.

Stage 1 Infrastructure Project Application

The Stage 1 Infrastructure Project Application consists of:

- Bulk excavation/ earthworks;
- Tree removal;
- New access roadways;
- Provision of infrastructure and site services;
- Detention basin in the south-western corner of the site;
- Drainage works;
- Subdivision;
- Staging of the construction of the infrastructure; and
- Landscaping.

Dick Smith Building Project Application

The Dick Smith building Project Application consists of:

- Earthworks;
- Establishment of building pads;
- Staged construction of the building;
- Building design and construction, including fitout;
- Specific operational and use details of the Dick Smith warehouse and distribution centre, including 24 hours, 7 days a week operation;
- Signage; and
- Parking.

BIG W Building Project Application

The BIG W building Project Application consists of:

- Earthworks;
- Establishment of building pads;
- Building design and construction, including fit out;
- Specific operational and use details of the BIG W warehouse and distribution centre, including 24 hours, 7 days a week operation;
- Signage; and
- Parking.

1.3 Certification of Works

It is noted that the above projects will be delivered concurrently and certified independently. It is requested that any conditions of consent relating to certification be drafted in such a way that staged certification of the projects can occur.

1.4 Future Applications

In addition to the applications described above, future applications will be submitted for the following:

- Stage 2 Infrastructure, including northern detention basin, second access road including a bridge over Hinchinbrook Creek and new intersection at Cowpasture Road; and
- The development of the residual lot within the southern portion of the site.

1.5 Consultation

The following consultation was undertaken during the preparation of this Concept Plan:

- Proponent met with officers from Liverpool City Council on four occasions:
  - 3 December 2009 - General Manager - Phil Tolhurst - Project Overview and Briefing.
  - 14 January 2010 - Adam Coburn - Director of City Planning, Theo Zotos - Executive Planner and, Milan Marecic Director City Strategy - Project update and VPA discussions.
  - 29 January 2010 - Adam Coburn - Director of City Planning, Theo Zotos - Executive Planner and 3 council engineers - Further project update, VPA discussions, general site matters.
  - 12 February 2010 – Liverpool Council Officers and Department of Planning Officers in attendance.
- Proponent met with officers from the Department of Planning on three occasions:
  - 7 December 2009 – Preliminary briefing prior to lodgement of Preliminary Environmental Assessment
  - 12 February 2010 – Liverpool Council Officers and Department of Planning Officers in attendance (meeting at Liverpool Council).
- Relevant authorities and service providers consulted with as part of the project design – details provided in ADW Johnson report appended to this EAR;
- Proponent consulted with owners of Lots 401, 402 and 403 DP 1141990; and

- Mary Dallas Consulting Archaeologists with the Gandangara Local Aboriginal Land Council, Darug Tribal Aboriginal Corporation, Darug Custodians Aboriginal Corporation and Darug Aboriginal Cultural Heritage Assessments.
- The proponent also attempted to meet with DECCW prior to lodgement of the Environmental Assessment Report, however DECCW was not willing to meet until such time as they had been contacted by the Department of Planning.

Further to the above, it is noted that the recent rezoning process for the Liverpool Local Environmental Plan 2008 involved public consultation process and as such there is already a community expectation that the site will be used for industrial / warehouse type uses.

1.6 Existing Development Consents

There are two existing development approvals applying to the site which have been granted by Liverpool City Council:

- D/556/2010 – issued on 10 November 2009
  - Approval granted to dismantle and remove off site the disused sheds and portable buildings
- D/837/2010 – issued on 28 January 2010
  - Approval for stock piling of fill on the former aerodrome site

Copies of the above consents are included at **Appendix BB**.

2.0 Site Analysis

2.1 Site Location and Context

The site is located approximately 6.5km west of the Liverpool CBD on Cowpasture Road within the new industrial suburb, Len Waters Estate (see locality plan at **Appendix B**). The site is bound by the M7 Motorway to the west, Cowpasture Road to the south, Hinchinbrook Creek to the east and the proposed residential suburb of Elizabeth Hills to the north (**Figure 2**). The site was formerly the Hoxton Park Aerodrome. The site is located within the Liverpool LGA. Site Analysis and location plans are included at **Appendix B**.

Figure 2 – Site plan

2.2 Land Ownership and Legal Description

The site is legally described as:

- Part Lot 400 DP 1141990 – owned by Hoxton Part Airport Limited (HPAL) Freehold Pty Limited; and
- Lot 10 DP 1139171 – owned by Liverpool City Council.

Figure 3 delineates the different ownership of the site.

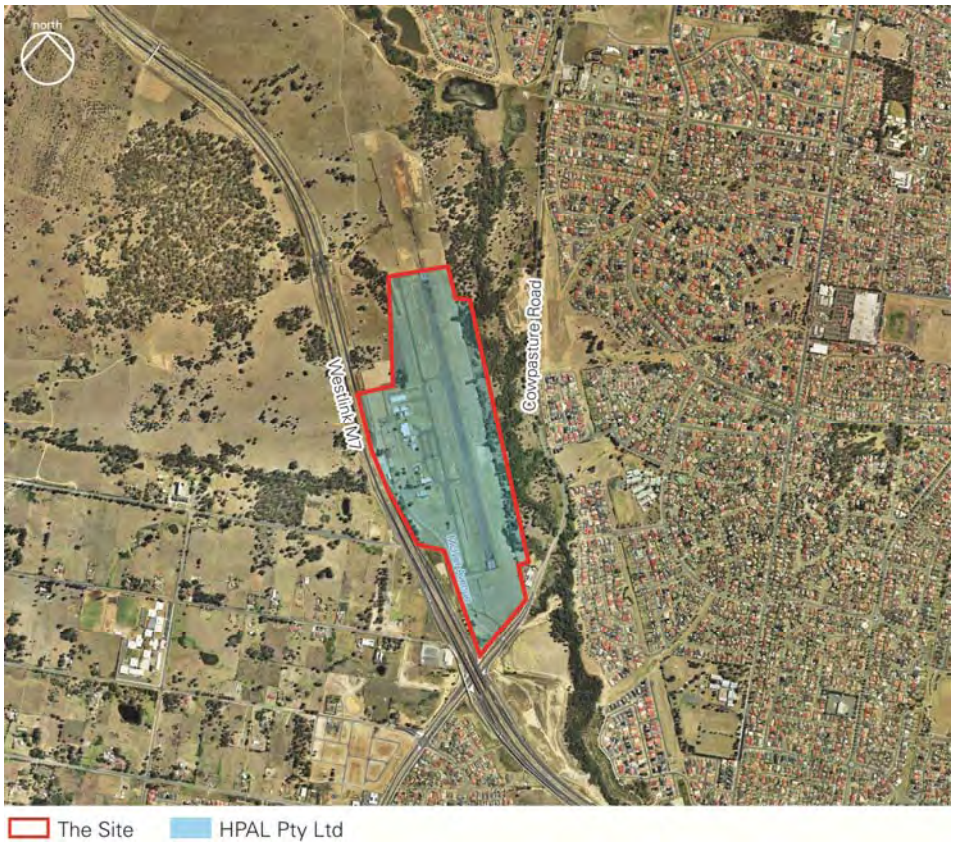

Figure 3 – Site ownership plan

2.3 Existing Development

2.3.1 Existing Use

The site was most recently used as Hoxton Park Aerodrome, an uncontrolled airfield for light aircraft and helicopters for private flight training and flying. As the aerodrome was never used for commercial flights, the aerodrome does not have a passenger terminal. Several airport hangers and associated buildings, which were occupied by the flying school and other similar companies, were erected to the west of the runway and some still exist on the site today. These buildings are low scale in nature and are generally constructed out of corrugated metal sheeting or brick.

This use ceased in December 2008 and the site is currently unoccupied.

2.3.2 Existing Buildings

With exception of the hangers and buildings which have been partially demolished and the airstrip which has been decommissioned, the site is generally cleared, and predominantly comprises mown grassed areas. HPAL are currently in the process of demolishing the existing structures. Photographs of the site are provided at **Figures 4** to **6**.

Figure 4 – Photograph of the site looking south-east

Figure 5 – View across the site looking east toward Hinchinbrook Creek

Figure 6 – View from the intersection of Aviator Avenue and Cowpasture Road looking north

2.3.3 Physical Context

The site has an area of approximately 50.17 hectares and is located on a floodplain within the headwaters of Hinchinbrook Creek. The site is adjoined to the west, north and east by elevated land comprising of low, rolling hills. Most of these elevated areas comprise either of existing or future proposed residential development.

2.3.4 Services

The site is currently connected to water (potable) and electricity. The site is also connected to communications infrastructure. All services require upgrading to accommodate the proposed development.

2.4 Environmental Factors

Vegetation

The site predominantly comprises of mown grassed areas which are heavily modified and dominated by exotic species.

There are small patches of Alluvial woodland within the unmown lands of the former aerodrome. These patches are disconnected from the higher quality woodlands located within the Hinchinbrook Creek corridor and feature severe weed infestation.

Bushfire Prone Land

The site has previously been cleared for the construction of the airport runways and associated infrastructure. Scattered trees exist within the area occupied by the service buildings, with low exotic grassland covering the remainder of the site.

The Bushfire Prone Land Map prepared as part of the Liverpool Local Environmental Plan 2008 (Liverpool LEP) identifies the site as affected by the 100 metre wide buffer zone to the Category 1 Bushfire Prone Vegetation within the Hinchinbrook Corridor.

Visual Context

The site is most visually prominent from M7 motorway and Cowpasture Road.

It is also visible to a lesser degree from some residences and open space areas within the adjacent elevated lands. The heavily vegetated Hinchinbrook Creek riparian corridor provides a strong visual screening role for residential development to the east and north-east of the site.

2.5 Heritage

The former Hoxton Park Aerodrome is not listed as a heritage item within any statutory authority and is not located within a Heritage Conservation Area. Notwithstanding the above, the former Hoxton Park Aerodrome is considered to have some local significance. It was developed by the Royal Australian Air Force in 1942-43 as one of a series of aircraft dispersal airfields on the perimeter of Sydney. After World War II the site was initially leased for use as a tyre test track, but reverted back to the airport until 2008.

2.6 Existing Transport Network

The site has a frontage of approximately 250 metres along Cowpasture Road, which forms the southern boundary of the site. The existing site access is off Cowpasture Road, via Aviator Avenue, the road previously used to access the airport.

Cowpasture Road is currently a two-lane dual access road, identified as a classified road by the RTA. The section of Cowpasture Road in the vicinity of the former Hoxton Park Aerodrome is subject to a speed limit of 70km/h but is currently being upgraded to a four lane road. A new intersection at the south of the site is almost nearing completion.

The site is also adjacent, but with no direct access, to the M7 Motorway. The proposed access road will be located approximately 200 metres from the M7 Motorway exit and on ramps. The M7 Motorway is a four-lane motorway providing an uninterrupted route between the M2, M4 and M5 motorways.

Public Transport

The site is not directly accessible by public transport. The nearest rail station is Liverpool Rail Station, located approximately 12 kilometres, by road, to the proposed access way into the site. The local bus providers, Metrolink and Busabout, run bus services to and from Liverpool Rail Station to within 600 metres of the site (southern boundary), with services running at least one an hour between 6am and 6pm (in both directions).

2.7 Surrounding Development

To the north of the site

To the north of the site is the remainder of Lot 400 DP 1141990. The site is currently vacant, with some vegetation, particularly along the Hinchinbrook Creek to the north-east. The northern section of Lot 400 DP 1141990 has been earmarked for retail/commercial and low density residential development as part the newly named suburb of Elizabeth Hills.

Further north of the site is the residential suburb of Cecil Hills.

To the east of the site

Directly east of the site is Hinchinbrook Creek. Beyond Hinchinbrook Creek are Cowpasture Road and the low density residential suburbs of Hinchinbrook and Green Valley.

To the south of the site

Directly south of the site is Cowpasture Road and the M7 Motorway intersection. Further south is a golf driving range, which is zoned RU1 – Primary Production, and the residential suburbs of Hoxton Park and Hinchinbrook.

To the south-east of the site is an existing service station which is accessed via Cowpasture Road.

To the west of the site

To the north west of the Len Waters Estate, on Lot 401 DP1141990, a 30m highbay warehouse (Blum facility) is currently being constructed as can be seen in **Figure 7**.

To the west the site is directly adjacent to the M7 Motorway, a four lane motorway providing uninterrupted journey between the M2, M4 and M5 motorways. Beyond the M7 is a Mirvac / Landcom joint venture called Parkbridge Estate which will accommodate approximately 700 residential lots.

Figure 7 – Blum Warehouse and High Bay Facility to the west of the site

2.8 Summary of Site Opportunities and Constraints

Site Opportunities

- The site is relatively physically unconstrained;
- The site of the proposed development is generally clear of vegetation;
- The site is within a very close proximity to the M7 Motorway, which provides uninterrupted access to the M2, M4 and M5 Motorways;
- The site's zoning permits the proposed use as a warehouse and distribution facility;
- The site consists of one large lot, with the proposed development located on 50.17 ha, making it suitable for large-scale industrial development;
- The maximum FSR of 0.75:1 (on Residual lot only) facilitates large-scale industrial development; and
- There is considerable separation between the site's proposed industrial uses and residential areas.

Site Constraints

- Flooding and requirement to provide detention basins
- The height limit within the Liverpool LEP 2008 limits development to 15 metres and 30 metres, in the western and eastern parts of the site, respectively;
- The site is identified within the buffer zone of the Category 1 Bushfire Prone Vegetation along Hinchinbrook Creek;
- The zoning of the north-west of the site requires an amendment to reflect the required size of the proposed future northern detention basin, spill zone and, subsequently, the B1 Neighbourhood Centre zone;
- The site contains small patches of Alluvial Woodland, although of low quality, these are considered to Cumberland Plain Woodland which is listed as a threatened species under the Threatened Species Conservation Act;
- Close proximity to Endangered Ecological Communities and habitat of Threatened Species in Hinchinbrook Creek; and
- E3 zone provides restrictions on use permissibility.

3.0 Planning Framework and Context

3.1 Relevant Legislation

3.1.1 Environmental Planning and Assessment Act 1979

Part 3A of the EP&A Act outlines the process for considering major project applications. In particular it outlines:

- What development consists a major project;
- The matters which the Minister must take into account when assessing a major application;
- Information which must be submitted with a major project application;
- The environmental assessment requirements for approval;
- Public exhibition of major project applications;
- Assessment report procedures; and
- Appeals under Part 3A.

The proposed development meets the objectives of the Act in that it:

- involves the orderly and economic use and development of land;
- comprises a sustainable form of development; and
- will not generate any adverse impacts on the environment, provided that the recommended mitigative measures are implemented.

3.1.2 Threatened Species Conservation Act, 1995

The *Threatened Species Conservation Act 1995* (NSW) (TSC Act) identifies and protects threatened and endangered species, populations and ecological communities. The objectives of the Act include:

- conserving biological diversity and promoting ecologically sustainable development;
- preventing the extinction and promoting the recovery of threatened species, populations and ecological communities;
- protecting critical habitats; and
- encouraging the conservation of threatened species, populations and ecological communities.

A Flora and Fauna assessment undertaken by GHD consultants is discussed further in Section 8.13.

3.1.3 National Parks and Wildlife Act, 1974

The *National Parks and Wildlife Act 1974* (NSW) (NPW Act) provides the primary basis for the legal protection and management of Aboriginal sites and relics within NSW. The NPW Act requires amongst other things:

- consultation with the DECCW prior to development to determine the existence of items of Aboriginal heritage;
- consultation with local Aboriginal groups; and
- consent to disturb or destroy Aboriginal heritage sites/items.

Any land containing Aboriginal cultural heritage impacted by future development would normally be subject to an application for 'consent to destroy' under Section 90 of the NPW Act. Pursuant to section 75U of the EP&A Act, as the Project is being determined under Part 3A, NPW Act approval would not be required, however the usual requirements under the NPW Act in relation to the management of indigenous heritage would still apply.

An Aboriginal archaeology assessment has been undertaken and is included at **Appendix D**.

3.1.4 Rural Fires Act 1997 (NSW)

Amongst its objectives, the *Rural Fires Act 1997* (NSW) (RF Act) seeks to prevent, mitigate and suppress bush and other fires. Section 75U of the EP&A Act removes the requirement for a bushfire safety authority to be issued under Section 100B of the RF Act for projects determined under Part 3A. Nonetheless, the Project does not include subdivision for a residential purposed and is not a 'special fire protection purpose' under the RF Act.

The RF Act is supplemented by detailed bushfire protection planning guidelines in the form of Planning for Bushfire Protection 2006 and specifies relevant asset protection zones and design standards for certain types of development. The document has a focus on residential development and specific APZ's therein, however, all development on bushfire prone land must consider the aims and objectives of the document.

It is noted that the Section 149 Certificate for the site identifies part of the site as bushfire prone land. A Bushfire Assessment is included at **Appendix E**.

3.2 Strategic Planning

3.2.1 NSW State Plan

The NSW State Plan was released in November 2007. It sets key strategic priorities for the NSW Government and is to be used to guide decision making and resource allocation. Of relevance to this application is the priority relating to 'Growing Prosperity Across NSW' which includes activities that promote productivity and economic growth, including rural and regional NSW.

The relevant actions in the State Plan are:

- *Working with local businesses to keep jobs and investment in NSW and side by side with Invest Australia to promote Sydney and regional NSW as first-rate business destinations;*
- *Reducing turn around times and increasing the certainty of expected timeframes for major development assessment approvals*
- *Protecting employment land in existing areas and fast tracking zoning and availability of serviced industrial land to meet the needs of business growth across the State*

The proposed development assists the NSW Government in achieving the above actions that they are committed to in that it will:

- Provide a significant investment in the NSW economy;
- Will provide a significant number of new jobs in NSW; and
- Will make use of a site that is well serviced by existing public infrastructure.

The economic and employment benefits of the project are discussed in more detail at Section 8.4 of this report.

3.2.2 Sydney Metropolitan Strategy

The Sydney Metropolitan Strategy was introduced by the NSW State Government in 2005 to provide a broad framework to manage growth in Sydney until 2031. The former Hoxton Park Aerodrome site is considered in the Metropolitan Strategy as part of the employment lands along the M7 Motorway Corridor, i.e. Action A1.5.2 *'Protect and enhance employment lands in the M7 Motorway Corridor'.*

The proposed uses for the former Hoxton Park Aerodrome site are therefore consistent with the NSW State Government's strategic planning for the land along the M7 Motorway Corridor as the proposed development enhances the land available for employment purposes.

3.2.3 Draft South West Subregional Strategy:

The Draft South West Subregional Strategy was prepared by the NSW State Government to translate the Metropolitan Strategy actions to a local and subregional level. The former Hoxton Park Aerodrome site is considered specifically within the Draft South West Subregional Strategy as a site suitable for large scale industrial purposes:

> ***"Hoxton Park Aerodrome site will become vacant in 2008 and is strategically located at the junction of Cowpasture Road and the M7 Motorway. It could be anticipated that this area of 120 ha will, when zoned, provide large sites for warehousing, logistics and manufacturing. Appropriate planning controls should be applied to ensure that opportunities for these types of uses are not limited by the construction of small factory units."***

The proposed development is therefore consistent with the NSW State Government strategic planning for the former Hoxton Park Aerodrome as it will result in large scale warehousing and distribution facilities and does not limit the development of the site through the construction of small factory units.

The Draft South West Subregional Strategy identifies an employment capacity target of 35,000 additional jobs in the Liverpool LGA by 2031. The proposed development will contribute to the target significantly, with approximately 935 employees to be located within the Dick Smith and BIG W warehouse buildings (net increase of 300 jobs for NSW).

As with the Metropolitan Strategy, the proposed development is consistent with Action SW A1.5.1 *'Protect and enhance Employment Lands in M7 Motorway Corridor'* within the Draft South West Subregional Strategy as it enhances the land available for employment purposes.

3.2.4 Employment Lands for Sydney Action Plan 2007

The Employment Lands for Sydney Action Plan was release in 2007 and builds upon the findings of the high level Employment Lands Task Force. Key Action No. 2 of the Action Plan is 'Release more employment lands' and the site is identified within the Action Plan as 'proposed employment lands'.

As the site was rezoned to IN1 General Industrial and IN2 Light Industrial within the Liverpool LEP, the relevant planning controls are consistent with the Action Plan. Likewise, as the proposed warehouse and distribution facility will considerably increase the employment capacity on the site, the proposed development is also consistent with the Action Plan.

3.2.5 Liverpool Industrial Lands Strategy

The Liverpool Industrial Lands Strategy forms the basis for the preparation of the Liverpool Local Environmental Plan 2008 and included the following description of the former Hoxton Park Aerodrome:

> ***"... Given its superior location, the site could be developed as a high-technology park, which is often characterised as an area with a high proportion of professionals and knowledge based activity. Mixed use businesses, particularly transport-related businesses would also be appropriate in this location."***

The proposed development takes advantage of the superior location due to the accessibility to the Sydney Orbital Network and is a transport based activity. The proposed development is consistent with the Strategy's objective for the former Hoxton Park Aerodrome site.

3.3 Environmental Planning Instruments

This section summarises the relevant State and Regional Environmental Planning Instruments and policies that apply to the site. The following planning instruments and planning policy documents are of key relevance to the proposed development:

- State Environmental Planning Policy (Major Development) 2005;
- State Environmental Planning Policy (Infrastructure) 2007;
- State Environmental Planning Policy No. 64 – Advertising and Signage;
- State Environmental Planning Policy No. 55 – Remediation of Land;
- State Environmental Planning Policy No. 44 – Koala Habitat Protection;
- State Environmental Planning Policy No. 33 – Hazardous and Offensive Development;
- State Environmental Planning Policy No. 19 – Bushland in Urban Areas;
- Liverpool Local Environmental Plan 2008; and
- Liverpool Development Control Plan 2008.

3.3.1 State Environmental Planning Policy (Major Development) 2005

Major Development SEPP identifies development that is of State significance. Clause 6 of the Major Development SEPP identifies that development, that in the opinion of the Minister for Planning is development of a kind referred to in Schedule 1 (Classes of Development), is declared to be a project to which Part 3A of the EP&A Act applies.

Pursuant to Clause 6 of the Major Development SEPP, the Minister for Planning formed the opinion that the proposed development meets the criteria in Schedule 1, Group 4, Clause 12 of the SEPP, having satisfied himself that the development is a "distribution or storage facility" with a capital investment of more than $30 million.

Subsequently, the Director General's Environmental Assessment Requirements for the project were issued.

3.3.2 State Environmental Planning Policy (Infrastructure) 2007

Cowpasture Road is identified as a classified road by the RTA. Therefore, Clause 101 of the Infrastructure SEPP *'Development with frontage to classified road'* applies.

Clause 101(2) of the Infrastructure SEPP requires that, prior to approval, the consent authority must be satisfied that:

(a) Where practicable, vehicular access to the land is provided by a road other than the classified road, and

(b) The safety, efficiency and ongoing operation of the classified road will not be adversely affected by the development as a result of:

(i) The design of the vehicular access to the land, or

(ii) The emission of smoke or dust from the development, or

(iii) The nature, volume or frequency of vehicles using the classified road to gain access to the land, and

(c) The development is of a type that is not sensitive to traffic noise or vehicle emissions, or is appropriately located and designed, or includes measures, to ameliorate potential traffic noise or vehicle emissions within the site of the development arising from the adjacent classified road.

An assessment of the proposed road design is provided at Section 8.6 of this report.

The proposed development is identified as traffic generating development within Schedule 3 of the Infrastructure SEPP as it is defined as "industry" with a floor area in excess of 5,000m^2 and with direct access to a classified road.

Clause 104 of the Infrastructure SEPP requires that for development applications, for development described within Schedule 3, the consent authority:

(a) Give written notice of the application to the RTA within 7 days of after the application is made, and

(b) Take into consideration

(i) Any submission that the RTA provides in response to that notice within 21 days after the notice was given (unless, before the 21 days have passed, the RTA advises that it will not be making a submission), and

(ii) The accessibility of the site concerned, including:

(A) The efficiency of movement of people and freight to and from the site and the extent of multi-purpose trips, and

(B) The potential to minimise the need for travel by car and to maximise movement of freight in containers or bulk by rail, and

(iii) Any potential traffic safety, road congestion or parking implications of the development.

Therefore, the RTA is required to be notified of this proposed development, and any submission made by the RTA within 21 days of the notification, regarding the proposed development, is required to be taken into consideration. It is noted that the DoP referred the Preliminary Environmental Assessment for the project to the RTA who provided initial comments. A response to the RTA comments is provided in the traffic report at **Appendix S**.

3.3.3 State Environmental Planning Policy No. 64 – Advertising and Signage

SEPP 64 aims to ensure that signage is compatible with the desired amenity and visual character of an area, provides effective communication in suitable locations, and is of high quality design and finish.

Details of the proposed signage are provided at Sections 6.7 and 7.6 of this report and an assessment of the proposal against the specific provisions of SEPP 64 is provided at **Appendix F**.

3.3.4 State Environmental Planning Policy No. 55 – Remediation of Land

State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55) aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment. It requires that a consent authority must not consent to the carrying out of any development on land unless it has considered whether the land is contaminated, and if the land is contaminated whether or not the land can be made suitable for the proposed use. A Phase 2 Environmental Site Investigation has been undertaken and is discussed within Section 8.7 of this report.

3.3.5 State Environmental Planning Policy No. 44 – Koala Habitat Protection

SEPP 44 aims to encourage the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline.

A Flora and Fauna Assessment prepared by GHD Pty Limited (**Appendix C**) determined that the site does not comprise Koala Habitat as there is no evidence that the species occurs within the study area and there are no records that indicate the presence of a resident population within the study area. As such SEPP 44 is not applicable to the development.

3.3.6 State Environmental Planning Policy No. 33 – Hazardous and Offensive Development

The purpose of SEPP 33 is to ensure that in considering any application to carry out potentially hazardous or offensive development, the consent authority has sufficient information to assess whether the development is hazardous and if so to impose conditions to reduce or minimise any adverse impacts.

The proposed development will involve the storage of special goods such as aerosol cans and other flammable goods.

BigW has up to 60t of largely flammable materials within a "special goods area" which is built to AS 1940 compliance (Dangerous Goods Store) and is drenched with foam sprinklers. Big W will also have up to 40t of largely flammable aerosols contained in a cage which is built to FMGlobal requirements generally in excess of Australian Standards.

BigW also warehouses some expanded polystyrene (bean bag fill) in an enclosed room with suppression sprinklers. This has all been discussed with NSWFB and they are happy with the containment.

Dick Smith also has smaller quantities of similar goods aerosols and alcohols and these will be caged and covered with additional sprinklers to meet AS and FMGlobal requirements. DSE will have an above ground diesel tank. This tank will store 61, 300 litres of fuel and will be designed and manufactured in accordance with AS 1490 and AS1692

A screening analysis has been prepared for the development and is included at **Appendix DD**.

3.3.7 State Environmental Planning Policy No. 19 – Bushland in Urban Areas

The general aim of SEPP 19 is to protect and preserve bushland within the urban areas referred to in Schedule 1 of the Policy because of:

- Its value to the community as part of the natural heritage;
- Its aesthetic value; and
- Its value as a recreational, educational and scientific resource.

Under SEPP 19, development consent is required from the local council for the carrying out of a proposal that will disturb bushland zoned or reserved for public open space. SEPP 19 also applies to land adjoining land zoned or reserved for public open space.

Liverpool LGA is listed under Schedule 1 of SEPP 19 as an area to which the policy applies. The Proposal adjoins land to the east that is zoned or reserved for public open space. Therefore, the SEPP is a relevant consideration in the assessment of the proposed development.

An ecological assessment has been prepared by GHD Pty Limited, refer to Section 8.13.

3.3.8 Liverpool Local Environmental Plan 2008

The Liverpool Local Environmental Plan 2008 (Liverpool LEP) currently provides the planning framework for the assessment of this development proposal. It identifies land use zones within which certain land uses are permissible or prohibited. It also includes a number of clauses containing provisions that must be considered in determining development applications. The relevant aspects of the Liverpool LEP are set out in **Table 1** below.

Table 1 – Relevant provisions under Liverpool LEP

Issue	Standard
Zone	▪ IN1 – General Industrial; ▪ IN2 – Light Industrial; ▪ RE1 – Public Recreation; ▪ SP2 – Infrastructure; and ▪ E3 – Environmental Management.

Issue	Standard
Permissible uses	IN1 – General Industrial Car parks, industrial (other than heavy industries), industrial retail outlets, light industries, **warehouse or distribution centres** IN2 – Light Industrial Car parks, industrial retail outlets, light industries, storage premises, **warehouse or distribution centres**
Height	15-30 metres
Floor Space Ratio	0.75:1 (part of Residual lot only)

On 29 August 2008, the Liverpool Local Environmental Plan 2008 (Liverpool LEP) came into force. Under the Liverpool LEP, the subject site was zoned a mix of IN1 General Industrial, IN2 Light Industrial, RE1 Public Recreation, SP2 Infrastructure and E3 Environmental Management. However, the above zoning was delayed until such time that airport operations had ceased on the land.

The airport ceased operating in December 2008 and a Voluntary Planning Agreement relating to the dedication and regeneration of the riparian lands, installation of stormwater infrastructure and construction of a new road / bridge crossing was signed between the landowner and Liverpool City Council.

As a result, the Liverpool LEP zoning now applies to the site (see **Figure 8**).

As can be seen from **Table 1**, warehouse and distribution centres are permissible in both the IN1 General Industrial and IN2 Light Industrial zones. A further discussion on the zoning of the site and the proposals compliance is included at Section 8.2.

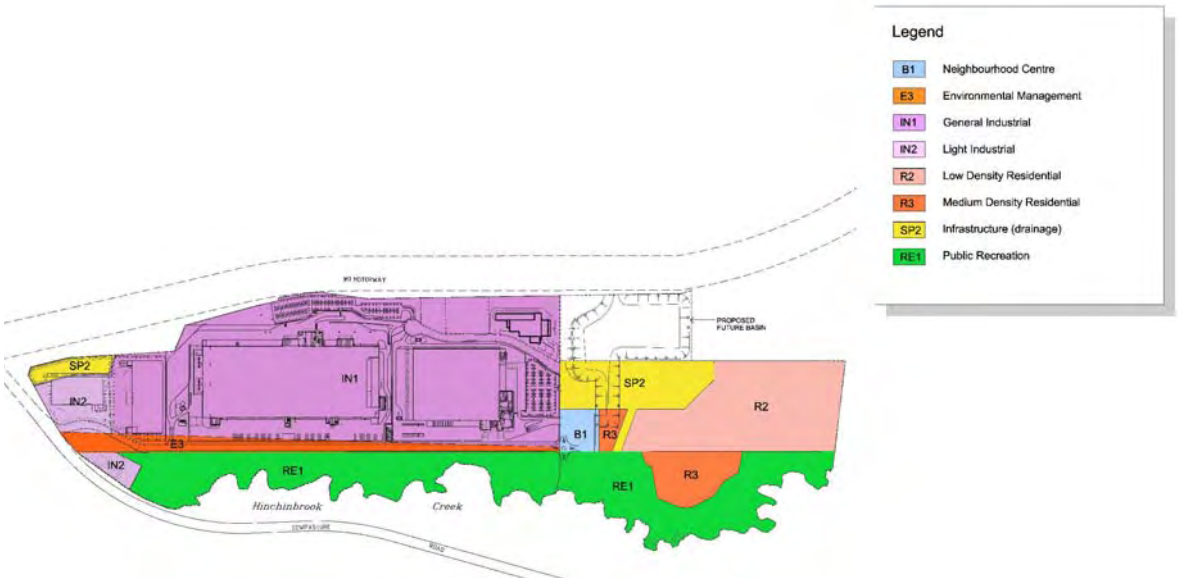

Figure 8 – Overlay of zoning of the site under Liverpool LEP 2008

Source: Mirvac Design

3.3.9 Voluntary Planning Agreement

The details of the VPA between Liverpool City Council and the landowner HPAL Freehold Pty Limited (included at Appendix CC) in regards to the development of the overall site are as follows:

- Development contributions (monetary), to the value of over $2.2million, prior to the issue of a subdivision certificate for a plan that when registered would create the first residential lot on the land. The contributions are for a variety of public purposes, including (but not limited to) library, museum, district community and recreation land and recreational facilities.
- Development contributions (works) required at various stages of development, for:
  - the remediation and management of land zoned RE1 Public Recreation and the subsequent dedication of land to Council (at no cost);
  - the construction of a bike and pedestrian pathway;
  - drainage and stormwater works;
  - construction of a bridge over Hinchinbrook Creek to provide access from Cowpasture Road to the M7 underpass;
  - signalised intersections; and
  - bus shelters.
- Dedication of land for public recreation, stormwater detention and drainage by the earlier of:
  - The issues of a subdivision certificate for a plan that when registered would create the first residential lot of the development; and
  - The development (not including super-lot subdivision) of land zoned B1 Neighbourhood Business; and
  - The development of more than 25 hectares of land zoned either IN1 General Industrial or IN2 Light Industrial.

This proposal seeks some amendments to the timing and delivery of the above public benefits as discussed in Section 4.10. It does not propose any changes to the public benefits to be delivered and will deliver them much sooner than if the industrial lands were to be delivered in accordance with market conditions.

It is noted that the VPA contains a provision which excludes the application of section 94 and section 94A of the EP&A Act to the 'development'. Development is defined as '*the future development of land zoned IN1 General Industrial and IN2 Light Industrial (up to 411,000m2), land zoned R2 General Residential and R3 Medium Density Residential (up to 250 lots).*'

3.3.10 Liverpool Development Control Plan 2008

The Liverpool Development Control Plan 2008 (Liverpool DCP) provides guidelines on certain types of development throughout the local government area, as well as containing certain planning controls, including car parking rates, applying to the site. The Tables of Compliance, at **Appendix F** assess of the proposed development against the requirements within the DCP.

The specific objectives relating to the Former Hoxton Park Airport Site include:

Accessibility

To ensure a clear relationship between accessibility and land use by:

a) Promoting a movement system that gives appropriate priority to: walking, cycling, public transport, and private vehicles.
b) Guaranteeing a movement system that relates accessibility demand to location of development type.

c) Ensuring that servicing is able to be carried out appropriately.
d) Ensuring movement priorities, traffic speeds and street and road designs are appropriate to the location and give priority to pedestrians and children.
e) Guaranteeing adequate accessibility for emergency vehicles.
f) Building upon existing movement patterns and infrastructure by utilising the existing street layout.
g) Providing safe access during flooding events.

Social Benefits

To establish affordable and accessible facilities and resources that allow people to maintain wellbeing, live and recreate by:

a) Making appropriate provision for social and community needs.
b) Providing for a full range of housing types, form and tenure.
c) Establishing a hierarchy of recreation facilities and parks/reserves.
d) Ensuring that development creates a 'people place' by giving priority to people and
a) human relationships through housing mix and safety.
e) Accommodating life-long educational and learning needs.

Environmental Benefits

To ensure a clean, safe and healthy environment that builds on existing resources and produces quality built and natural assets by:

a) Establishing appropriate drainage and floodplain management that, contributes positively to the area.
b) Developing solutions to manage environmental issues on-site.
c) Ensuring that waste disposal is effective and efficient and that recycling is utilised at every opportunity.
d) Ensuring a high standard of water and air pollution management and water quality.
e) Maintaining and enhancing the quality of the natural environment.
f) Connecting and enhancing vegetation corridors and providing links between the Western Sydney regional parkland and the Hinchinbrook Creek Corridor.
g) Promoting the conservation of flora and fauna, including the retention of Cumberland Plain Woodland.
h) Promoting the development of place and a quality built environment with people and human relationships as a central consideration.

Economic Benefits

To establish economic capital that is accessible and meets the needs of the community by:

a) Ensuring appropriate accessibility to employment.
b) Ensuring the area's needs are identified in a local context through provision of local facilities and services.
c) Ensuring infrastructure is sufficient to meet current and predicted need.
d) Providing appropriate locations for local institutions.

4.0 Concept Plan

The Concept Plan establishes the vision and planning and development framework which will be used by the consent authority to assess future development proposals within part of the former Hoxton Park Aerodrome site. It articulates what Mirvac Projects Pty Limited is seeking to achieve for future development and sets the broad parameters for the development of the site.

This section of the document establishes the key development objectives and outcomes that underpin the development of this part of the former Hoxton Park Aerodrome site and recommends strategies to achieve these outcomes. These strategies result in actions which are detailed in the Statement of Commitments.

The area to which the Concept Plan applies is shown in **Figure 9**.

Figure 9 – Area to which Concept Plan applies

4.1 Concept Approval

Concept Approval is being sought for warehousing and distribution facilities, including the following:

- General site layout;
- Land use distribution including variations to current land use permissibility;
- Staging of the development;
- Building envelopes;
- Site Stormwater Management;
- Overall Site Parking and Traffic Generation;
- Site Bushfire Management Measures; and
- Site Construction Management Measures.

4.2 Numerical Overview

Table 2 provides a numerical overview of the proposal.

Table 2 – Numerical overview of the proposal

Aspect of Development	Number
Site Area	50.17 hectares
Building Heights: ▪ BIG W Warehouse ▪ Dick Smith Warehouse - Stage 1 - Stage 2 ▪ Residual Lot	 ▪ 13.7 metres ▪ 13.7 metres ▪ 37 metres ▪ 12.4 metres
Gross Floor Area: ▪ BIG W Warehouse ▪ Dick Smith Warehouse ▪ Residual Lot - Building 1 - Building 2	 ▪ 89,003m^2 ▪ 51,726m^2 (44,555m^2 stage 1 and 7,171m^2 stage 2) ▪ 22,435m^2 (Total) - 8,335m^2 - 14,100m^2
Parking Spaces ▪ BIG W Warehouse ▪ Dick Smith Warehouse ▪ Residual Lot - Building 1 - Building 2	 ▪ 460 car spaces ▪ 327 car spaces ▪ 201 (Total) - 85 car spaces - 116 car spaces

4.3 Site Layout

The development comprises three main components, as shown in **Figure 10**, including:

- the Dick Smith warehouse building;
- the BIG W warehouse building; and
- Mirvac Residual Land Warehouses - two warehouse buildings to be provided within the southern portion of the site (to be subject to future project applications).

A new north/south access road which will be accessed via a new intersection (currently under construction by the RTA) at the south of the site on Cowpasture Road and a new east/west access road are also proposed. All roads will be constructed as part of the Stage 1 PA, with the exception of the part of the east/west road which is east of the new north south road as this will involve further design work and as such it is proposed to lodge a separate application in the near future for these works. The section of the east/west road which is located under the M7 linking with the Park Bridge estate will also be the subject of a separate application.

The application also seeks approval for the location and size of the southern detention basin.

A revised layout of the site north of the industrial/warehouse development is also proposed as a result of the reduced size of the northern detention basin as discussed in more detail in Section 4.4 below.

The above components are described in more detail within the relevant project application descriptions.

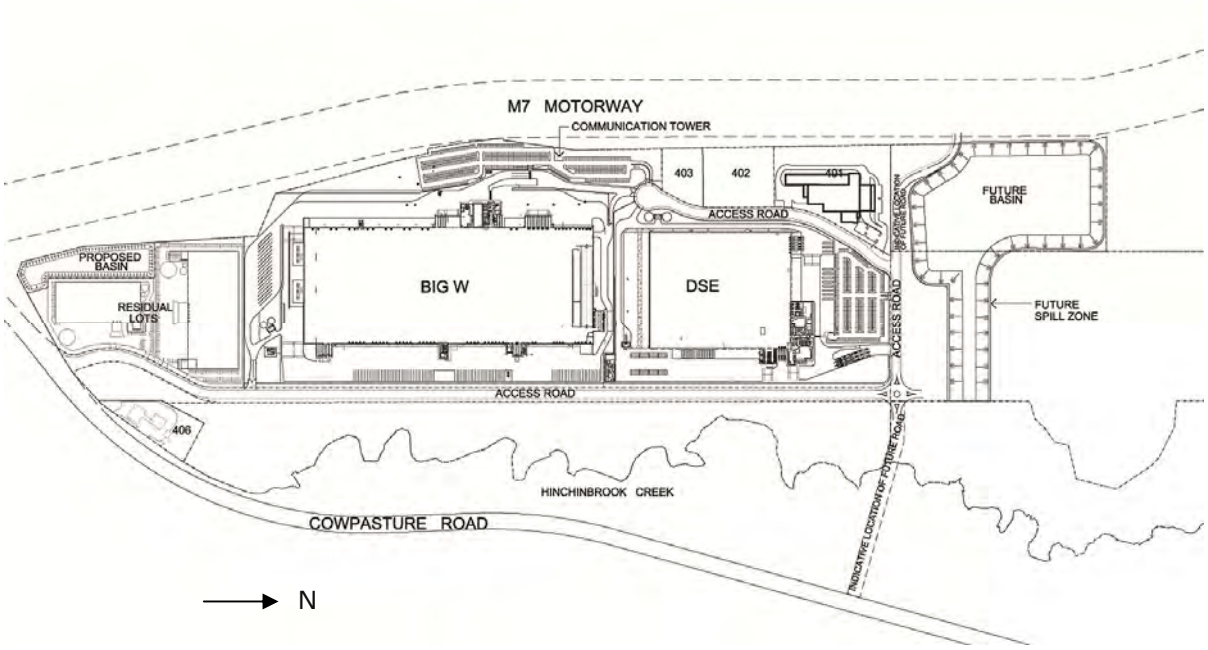

Figure 10 – Proposed site layout

Source: Mirvac Projects Pty Limited

4.4 Amendments to Land Use Permissibility

A variation to the E3 zone is proposed so as to allow for some onsite parking for the residual lot and truck parking for BIG W to be provided within that zone (shown in **Figure 8**). This is discussed further in Section 8.2 of the report.

4.5 Building Envelopes

This Concept Plan seeks approval for the overall building envelopes of the proposed Dick Smith, BIG W and Mirvac Residual Lot warehouse buildings.

The detailed descriptions of the Dick Smith and BIG W warehouse and distribution facilities are provided within the Project Applications (see **Chapters 6** and **7** respectively) while the detailed descriptions of the Mirvac Residual warehouse buildings will be subject to future applications. The building footprint details are provided below and shown in **Figure 11**.

The Residual lot includes two warehouse building envelopes. The building envelope 1 is proposed to be 131 metres long, 63 metres wide and 12.4 metres high, with an attached 500m^2 office building.

The envelope of building 2 will be 175 metres long, 78 metres wide and 12.4 metres high warehouse building, with an attached 500m^2 office building.

These buildings are likely to be used for warehousing / light industrial purposes. The detailed plans and elevations will be submitted as part of future applications.

Figure 11 – Layout of warehouse / industrial buildings on the residual lot

Source: Mirvac Projects Pty Limited

4.6 Parking and Servicing

A total of 988 car parking spaces for employees will be provided across the site. This figure has been informed by the number of employees to be accommodated on site, the parking provision within the range of Liverpool Council's Development Control Plan 2008 and the RTA's *Guide to Traffic Generating Development*.

The car parking spaces will be spread across the site with the following associated with each development:

- BIG W Distribution Centre 460 spaces;
- Dick Smith Distribution Centre 327 spaces; and
- Mirvac Residual Lots 201 spaces.

The parking associated with each building will be located closely to the relevant building to ensure ease of access.

4.7 Water Cycle Management

Parsons Brinkerhoff Australia Pty Ltd has prepared a Stormwater and Water Quality Management Strategy for the proposed development, a copy of which is provided at **Appendix I**.

The proposed stormwater management measures for the site are shown in **Figure 12**. These include:

- Vegetated (dry) basins [essentially oversized swales] in subcatchments A, C and F.

- A landscaped buffer area on subcatchment C prior to the GPT and the vegetated water quality basin.
- Gross pollutant traps for the removal of coarse sediment, gross pollutants, nutrients, heavy metals and hydrocarbons. Two types of gross pollutant traps were specified. The first type is based on a typical gross pollutant trap, removing sediment and gross pollutants only, and is used prior to the vegetated basins. The second type has a higher hydraulic residence time, which results in higher sediment removal rates, as well as heavy metal and hydrocarbon removal properties, and is proposed where the basins and other vegetated elements could not be accommodated in the development layout.

The above treatment devices will be subject to ongoing inspection and maintenance so as to ensure that they are performing as required.

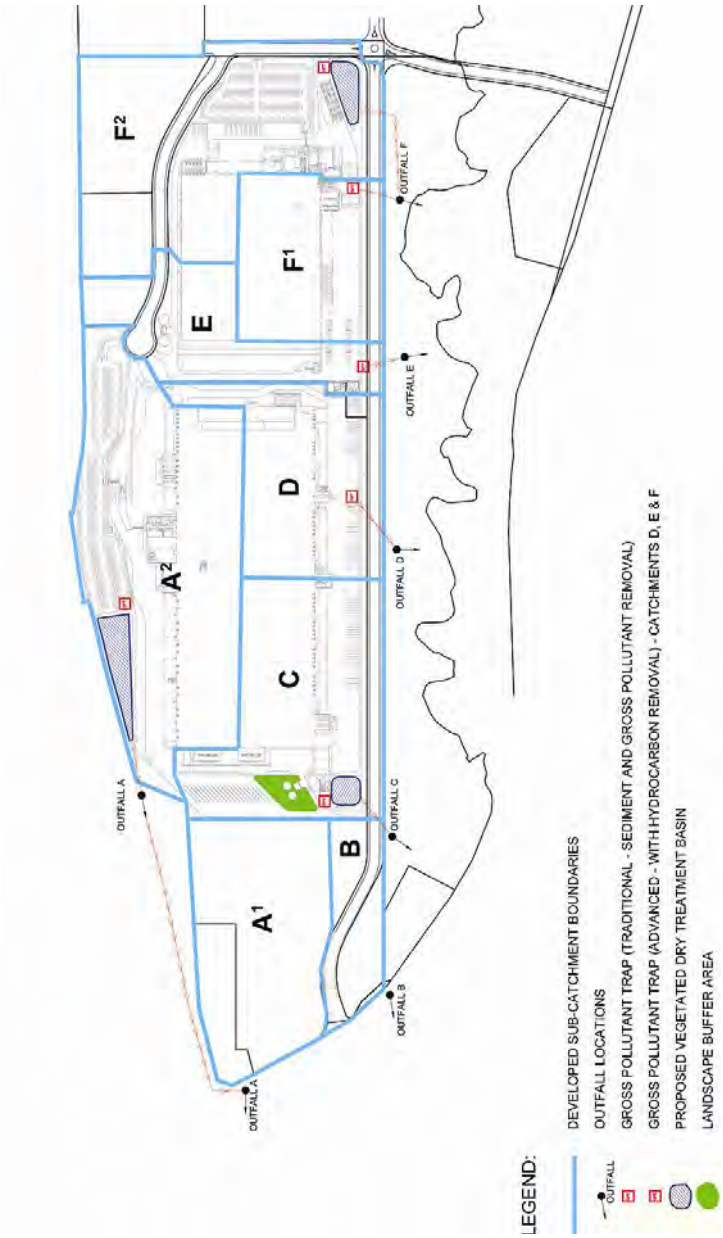

Figure 12 – Proposed stormwater management strategy

Source: Parsons Brinkerhoff Australia Pty Ltd

4.8 Pedestrian and Cycle Facilities

The proposed development will include 1.5 metre wide pedestrian pathways on one side of all new internal roads. Controlled pedestrian crossings will also be incorporated at the two traffic signal controlled intersections with Cowpasture Road.

Bicycle parking facilities will be provided in association with the BIG W and Dick Smith warehouse buildings.

A dedicated cycle path is proposed on the new east/west road. The cycle path will have a width of 2.5m.

4.9 Indicative Project Staging

The timely approval of the proposed development is essential to guarantee the take up of the site by Woolworths. The proposed warehouse buildings will contribute a total of 935 jobs on site which is an additional 300 jobs to the NSW economy. The take up of the site by Woolworths (BIG W and Dick Smith) is contingent on the approval of this concept plan and the attached project applications by May 2010 and construction commencing on site in May/June 2010.

The separate project applications included with this Concept Plan will ensure that the delay of one stage will not affect the staging and timing of the other elements within the proposed development.

The key stages in the Construction Staging Plan are identified within **Figure 13** and are:

- **Stage 1**: Services, Infrastructure & Bulk Earthworks — Jun 2010 – Mar 2012;
- **Stage 2**: Construct BIG W building — Jun 2010 – Mar 2012;
- **Stage 3**: Construct Dick Smith building and small retention basin (south) (Stage 1) — Jun 2010 – Jan 2012;
- **Stage 4**: Construct Dick Smith High Bay (Stage 2) — 2016.

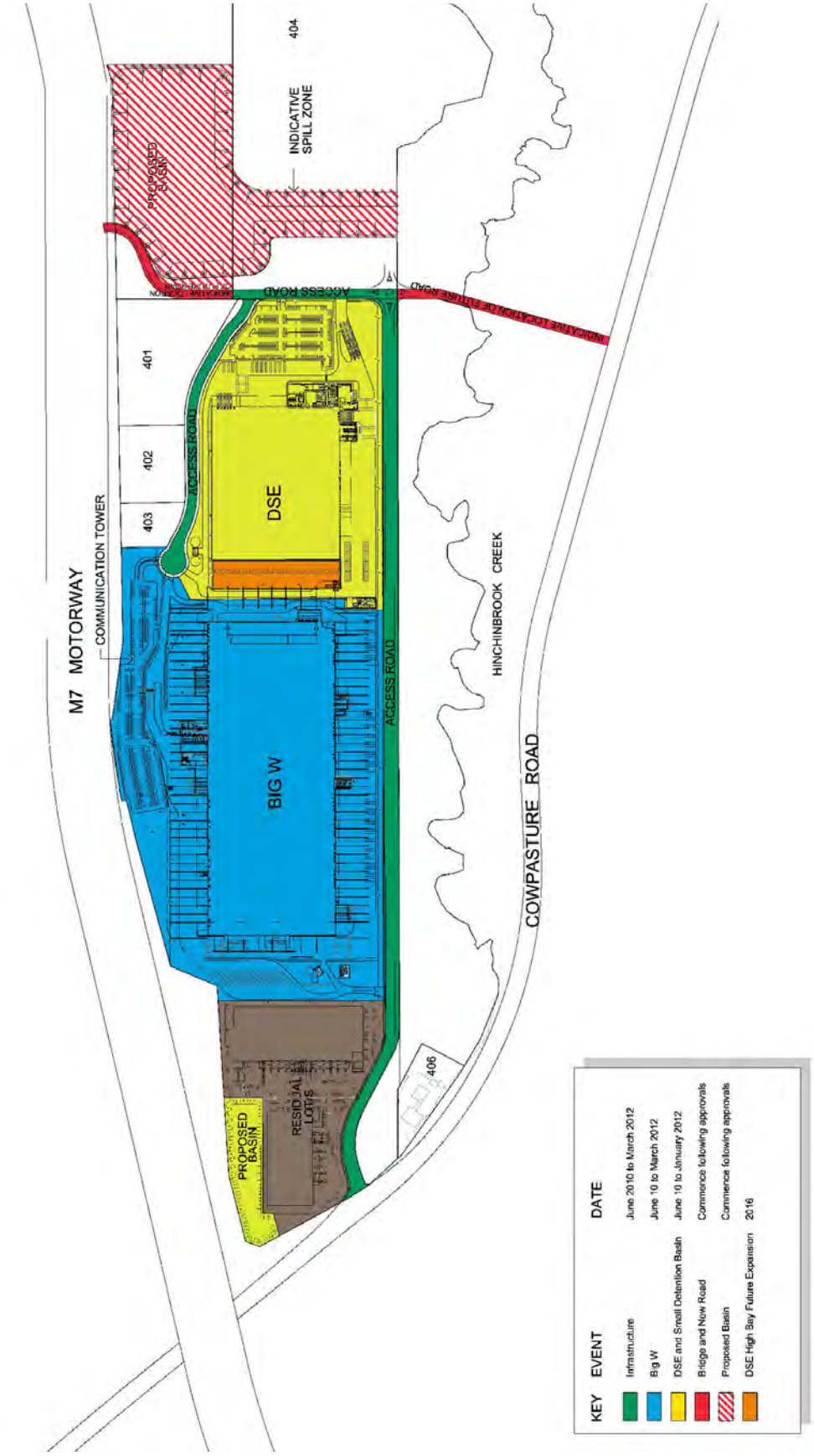

Figure 13 – Construction staging plan

Source: Mirvac Constructions Pty Limited

4.10 Voluntary Planning Agreement

The Proponent proposes to amend the Voluntary Planning Agreement between HPAL Freehold Pty Limited and Liverpool City Council as part of this development. The proposed modifications do not seek to alter the public benefits that are to be provided, but rather seek to amend the time at which they are required to be delivered and the method that they are delivered.

The proposed changes are summarised below (see full details at **Appendix H**):

- Dedication of land and payment of contributions to Liverpool City Council for regeneration works in Hinchinbrook Creek;
- Amend the timing of delivery for the southern detention basin to be completed prior to dedication of the roads;
- Amend the timing of delivery for the northern detention basin to be completed within 18 months of all relevant approvals; and
- Amend the timing of delivery of the bridge to be completed within 18 months of all approvals.

The overall acceleration of the project will deliver the various infrastructure components contained within the VPA significantly earlier than if the industrial development was market driven and reliant on the staged take up of smaller industrial lots as was originally envisaged.

4.11 Design Alternatives and Need

During the rezoning process it was envisaged that the site would be developed as a series of small industrial lots. This development proposes an alternative design approach by providing a series of larger scale warehouses on the site. The benefits of this design alternative is that the site will be developed in a more cohesive manner and the jobs and infrastructure to be generated / provided on the site will be delivered much sooner.

There is genuine need for the proposed development as Woolworths existing facilities in NSW have reached capacity. The generation of new jobs on the site is also much needed in Western Sydney.

5.0 Stage 1 Infrastructure Project Application

This Project Application seeks approval for the following works:

- Bulk excavation/ earthworks;
- Tree removal;
- New access roadways;
- Provision of infrastructure and site services;
- Detention basin in the south-western corner of the site;
- Drainage works;
- Subdivision;
- Staging of the construction of the infrastructure; and
- Landscaping.

A detailed description of each component is provided below. The area the subject of the Stage 1 Infrastructure PA is shown in **Figure 14**.

It is noted the Liverpool City Council has already granted approval to others for demolition of existing buildings and structures on the site.

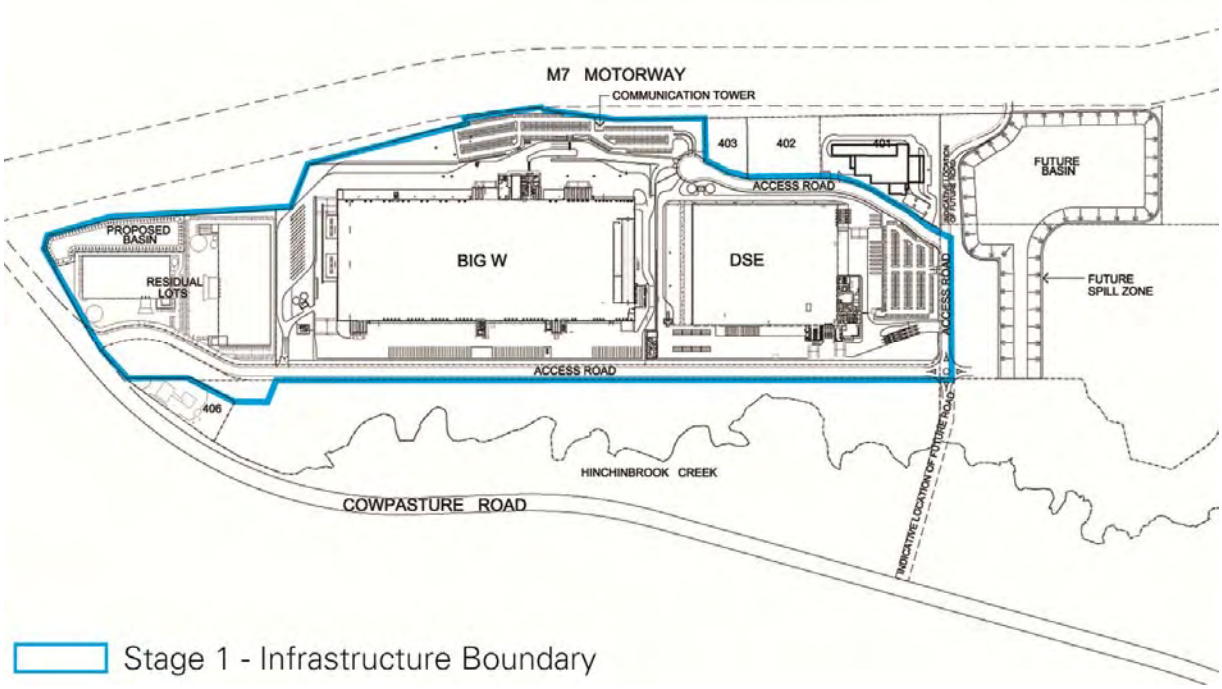

Figure 14 – Application boundary of Stage 1 Infrastructure PA

5.1 Tree Removal

In order to prepare the site for the proposed earthworks, existing trees located on the site will be removed. Approximately 1.475ha of Shale Plains Woodland (subset of Cumberland Plain Woodland), which has been assessed as having low ecological significance, will be removed. GHD have prepared an ecological assessment of the existing trees on the site (refer to Section 8.13 and **Appendix C**).

5.2 Bulk Earthworks

The proposed bulk earthworks largely result from a requirement to raise the site above the 1 in 100 year flood level.

As shown in **Figure 15**, up to 1.5 metres will be cut from the north-west and west portions of the site. However, the majority of the site will be raised up to 1.5 metres, with a portion of the future BIG W warehouse to be raised by up to 2.5 metres.

It is anticipated that approximately 180,000m^3 of fill will be required to be imported to the site. The figures relating to cut and fill are indicative at this stage, and will be confirmed prior to any excavation works on the site.

Mirvac have secured an approval (DA-837/2010) from Liverpool City Council for stockpiling of approximately 100,000m^3 of fill on Part Lot 400 DP 1141990.

5.3 Installation of Services

ADW Johnson has prepared advice regarding the availability of services on the site and in the vicinity of the site (**Appendix I**)

Services, including water (potable and recycled), sewerage, electricity, gas and telecommunications will be extended, as required, to service the proposed development.

The electricity and sewerage system will be extended from the existing connection along Cowpasture Road and follow the north-south access road.

The water (potable) connection will be installed from Cowpasture Road and potentially from new connections to be provided at the north of the site in the future.

Reticulated gas will be made available to the site via an extension from the main located in Middleton Grange. Gas will be provided along the east-west and north-south access roads.

The location of the services on the site are provided in **Figure 16** (a full size image is provided at **Appendix I**). Connections will be made at lot boundaries and will be subject to detailed design at the CC stage.

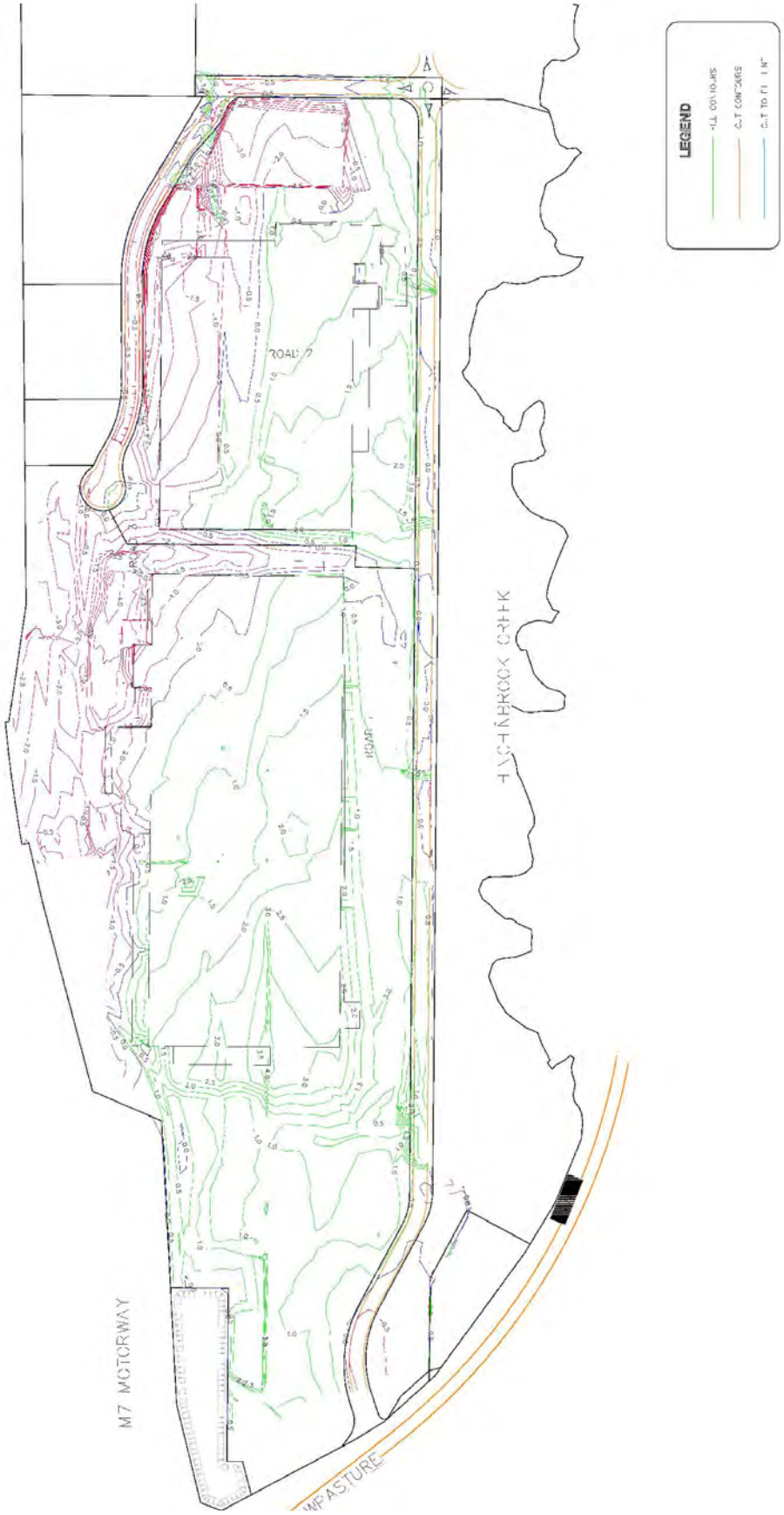

Figure 15 – Areas of cut and fill (fill shown green and cut shown red)

Source: ADW Johnson

Figure 16 – Location of existing and proposed services

Source: ADW Johnson

5.4 Road layout and access

Vehicular access for the proposed development will be via a new signalised intersection to the south of the site on Cowpasture Road which is currently under construction by the RTA.

From the new intersection, a north / south access road is proposed which will be positioned between the new warehouse buildings and Hinchinbrook Creek. The access road will have a reserve varying between 17m (at the southern end near Cowpasture Road only) and 21.8m which includes two lanes (3.5m each) and a 1.5m footpath on the western side of the road. On street parking / break down bays will be provided within the road reserve are also proposed. Only the section of the road which is south of the new east/west road will be constructed as part of this project, the northern section of the north/south road will be constructed in the future as part of the residential development. A typical cross section of the new north/south road is provided in **Figure 17**.

A section of the new east/west road will also be constructed as part of the proposed scope of works. The east/west road will have road reserve width of 20m and will provide access to Lots 401 to 403 as well as the staff parking area for BIG W. Once the new access road has been constructed, the existing access road, Aviator Avenue, will be decommissioned. A typical cross section of the new east/west road is provided in **Figure 18**.

The section of this road which is west of the new north/south access road will be constructed as part of the Stage 1 Infrastructure PA. The section of the east/west road which is east of the north/south access road involves the construction of a new bridge over Hinchinbrook Creek and the construction of a new intersection at Cowpasture Road. These works will be the subject of a future application as they will involve a significant amount of design works and a number of separate approvals.

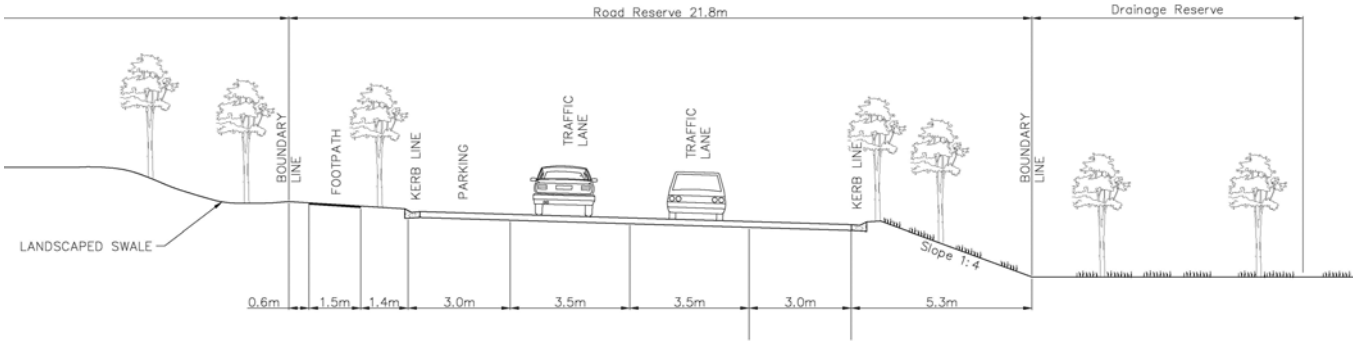

Figure 17 – Typical cross-section of the new north/south road

Source: ADW Johnson

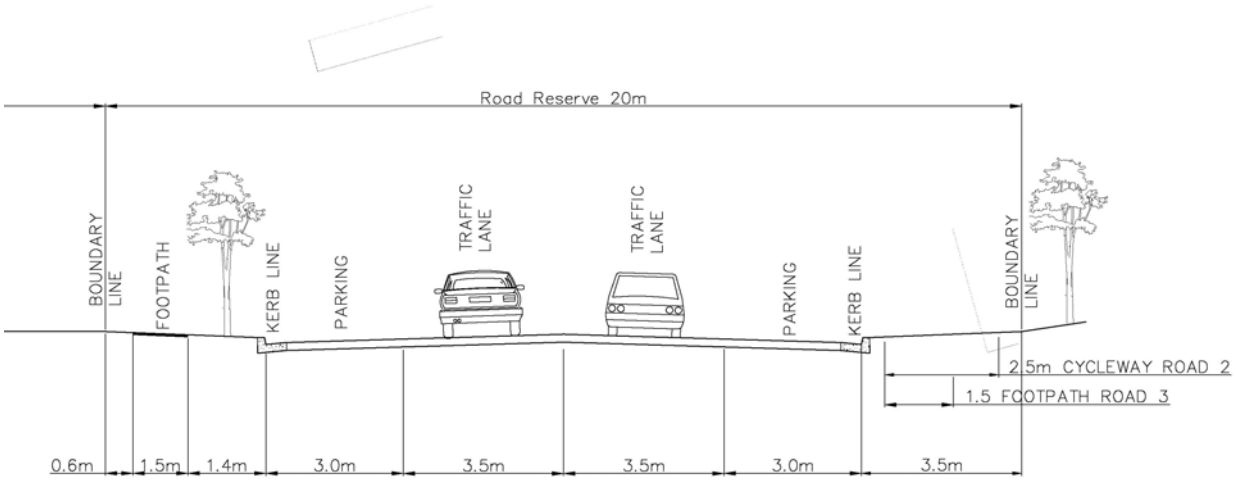

Figure 18 – Typical cross-section of the new east/west road

Source: ADW Johnson

5.5 Building Pads for Residual Lot Warehouse Buildings

The Stage 1 Infrastructure project will include the establishment of the building pads for the two southern warehouses. The sites will be benched at the appropriate levels to accommodate future development. Once established, the building pads will be planted with hydroseeded grass as shown on the landscape plans, prepared by Habitation Landscape Architects at **Appendix J**.

5.6 Southern Detention Basin

As required within the VPA, the Stage 1 Infrastructure PA will include the formation of the southern detention basin of approximately 9,800m^2 in size. An indicative plant schedule for the detention basin is provided on the landscape plans at **Appendix J**.

5.7 Landscaping

Landscape Plans were prepared for the site by Habitation Landscape Architects; refer to plans at **Appendix J** and in **Figure 19** (on next page).

The landscaping includes boundary treatment to assist in screening the development from surrounding residential development and the M7 motorway.
The boundary planting for the northern, southern and western boundaries include:

- A perimeter screen planting of *Waterhousia floribunda* 'Sweeper' (Weeping Lily Pilly), an evergreen tree with dense foliage that is anticipated to attain a mature height of 8 metres;
- A formal planting to the car park of *Tristaniopsis laurina* 'Luscious' (Water Gum), an evergreen tree with dense foliage that is anticipated to attain a mature height of 8 metres;
- Informal planting of *Eucalyptus moluccana* (Grey Box), a locally occurring species that can attain a height of up to 25 metres;

- Mass planting incorporating evergreen tree species *Eucalyptus moluccana* (Grey Box), *Casuarina glauca* (Swamp Oak) and *Eucalyptus tereticornis* (Forest Red Gum), ranging in 12-20 metres in height.

On the eastern boundary the landscaping has been designed in accordance with the recommendation of the bushfire consultant. The landscaping will comprise turf planting and *Lophostemon confertus*, Brush Box trees spaced evenly along the western verge of the north/south road.

The trees to be planted will have a pot size of 45 litres at the time of planting. The trees along the western boundary and car parking areas will be planted densely to ensure screening from the M7 Motorway and residential areas beyond, and create shade and reduce the visual impacts of the car parking areas. The trees are expected to mature within 5 years of planting.

All of the proposed tree plantings are native. A 1.8m chain wire fence will be erected around the property boundaries.

5.8 Subdivision

HPAL Freehold Pty Limited are currently in the process of registering a subdivision to create a 'superlot' for the industrial lands. This will be known as Lot 405. Development consent for this subdivision was issued by LCC as DA-446/2010.

Following on from this, it is proposed to subdivide the site further so as to reflect the development of the site. As shown on the subdivision plans at **Appendix K** it is proposed that the site will be subdivided into the following lots:

- Lot 4051 – Dick Smith Warehouse and Distribution Facility (10.62ha)
- Lot 4052 – BIG W Warehouse and Distribution Facility (19.97ha)
- Lot 4053 – Southern Detention Basin (9,837m^2)
- Lot 4054 – Residual Lot (4.921ha)
- Lot 4055 – Hinchinbrook Riparian Corridor (to be dedicated to Council)

Upon completion of the major infrastructure:

- All new roads will be made public by dedication;
- Proposed Lot 4053 will be dedicated to Liverpool City Council for drainage purposes, in accordance with the Voluntary Planning Agreement;
- Proposed Lot 4055 will be dedicated to Liverpool City Council for Open Space, in accordance with the Voluntary Planning Agreement;
- Appropriate easements will be created over any new or existing services as required by the relevant authorities; and
- Existing easements benefiting Lots 401 – 403 will be amended to suit the revised layout of the site. It is noted that the existing easements benefiting Lots 401 – 403 are temporary in nature and contemplate development of the site.

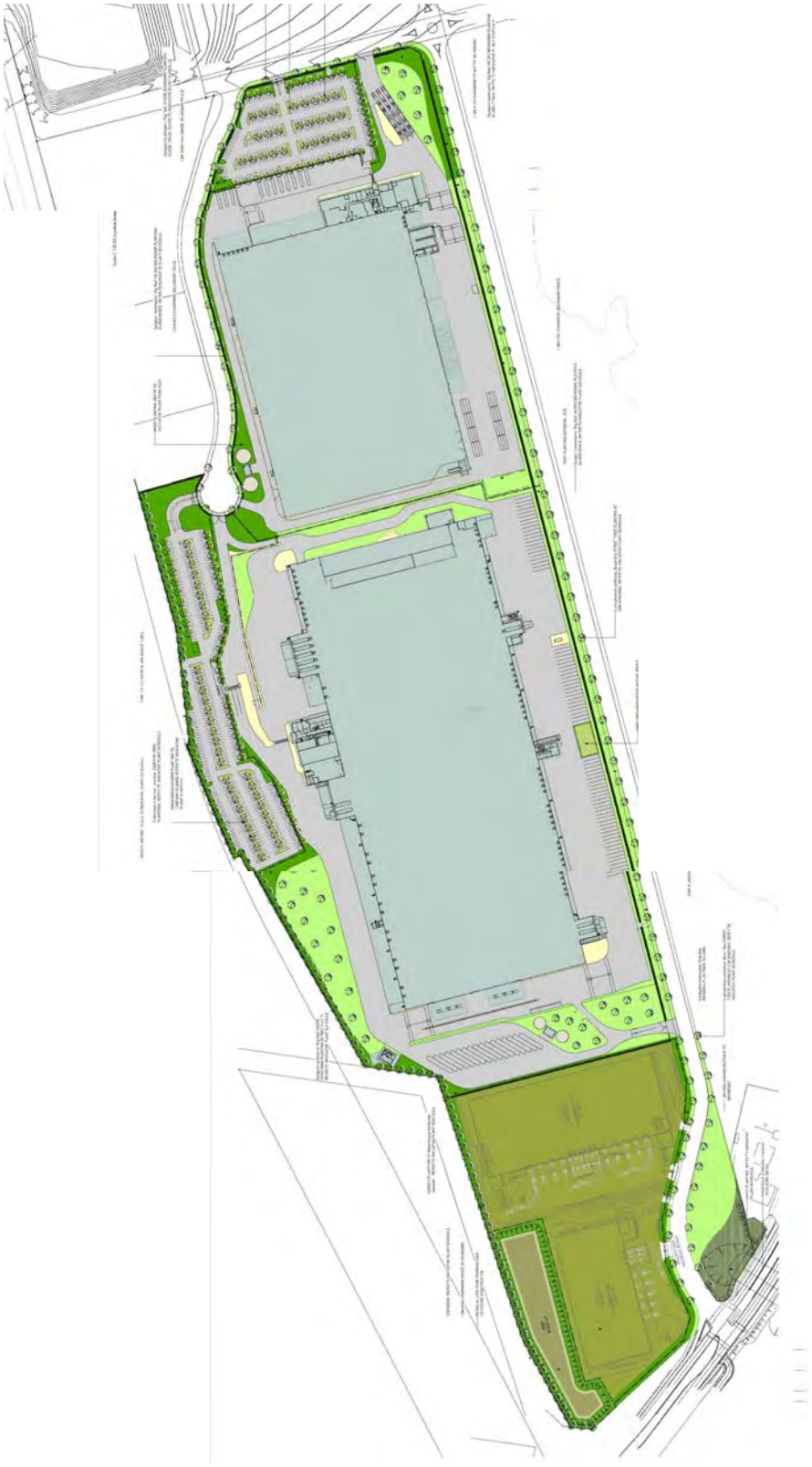

Figure 19 – Landscape plans

Source: Habitation Landscape Architects

6.0 Dick Smith Warehouse Project Application

This Project Application relates to the construction and operation of the Dick Smith warehouse building. The proposed development includes:

- Earthworks;
- Establishment of building pads;
- Staged construction of the building;
- Building design and construction, including fitout;
- Specific operational and use details of the Dick Smith warehouse and distribution centre, including 24 hours, 7 days a week operation;
- Signage; and
- Parking.

The boundary of the works included in this application is provided in **Figure 20**.

This development in Hoxton Park will provide Dick Smith with a long-term efficient consolidated distribution centre to service stores nationally.

The world class facility will house the latest, safest and most efficient supply chain technology and will deliver optimal service to approximately 370 stores in the first year of operation. The layout of the proposed development is shown in **Figure 21** and on the architectural plans at **Appendix L**.

Dick Smith is a subsidiary of Woolworths Limited which currently operates two other distribution centres in Sydney; Chullora and Villawood. This new development will replace the existing distribution centres, alleviating capacity constraints, providing integrated container handling facilities and supporting the growth of the Dick Smith business. The development will provide approximately 410 jobs on the site.

Woolworths Limited has a strong history of employee retention and engagement of staff, and the wellbeing of its employees is a primary consideration. All employees will be offered roles at the new distribution centre, or Woolworths will work with them to find other suitable roles within the organisation.

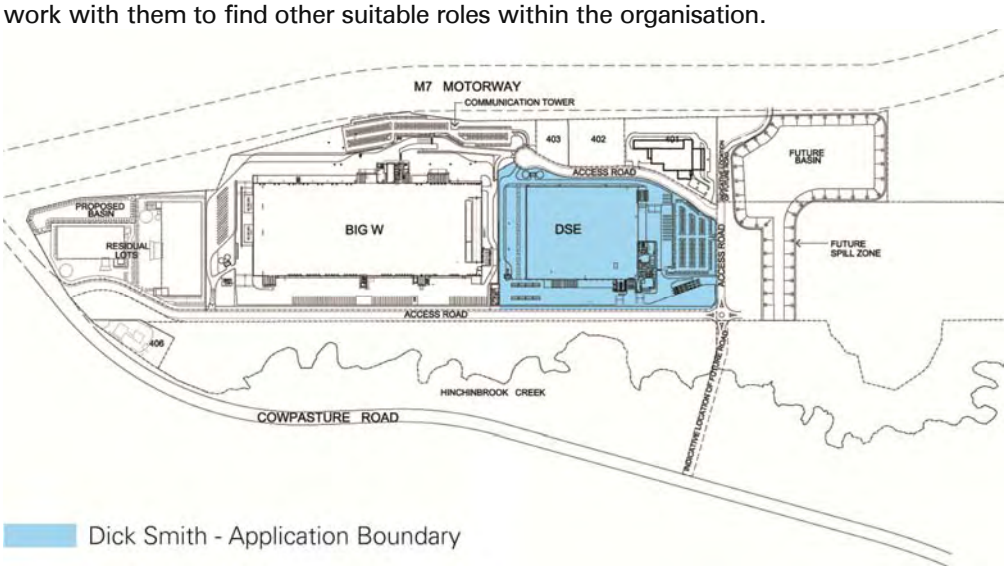

Figure 20 – Application boundary of Dick Smith Infrastructure PA

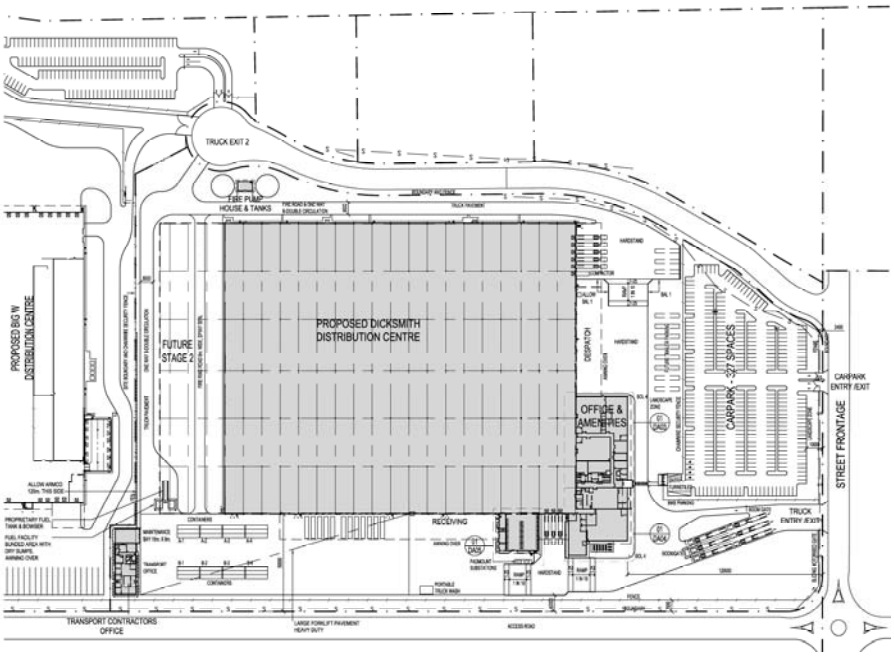

Figure 21 – Image of proposed layout of the Dick Smith Warehouse

Source: MNIA Architects

6.1 Staged Construction

The Dick Smith warehouse will be constructed in two stages. The initial stage involves the excavation and establishment of the building pad, the construction of a 13.7 metre high warehouse building and the construction of the Transport Office, Main Office and Battery Charging Area buildings.

As storage requirements increase, the warehouse building will be expanded to include the 37 metre highbay facility (Stage 2). It is expected Stage 2 will be constructed around 2016.

6.2 Bulk Earthworks and Construction of Building Pad

As noted in Section 5.2, the site will be cut and filled so as to raise the building footprints above the 1 in 100year flood level. In terms of the Dick Smith building, the proposed pad levels will be established at or around RL41.09.

The CEMP (refer to **Appendix M**) identifies further details regarding the excavation and construction of the building pad. This is discussed in more detail at Section 8.19.

6.3 Detailed Design, Construction and Fit out of Warehouse and Distribution Facility (Stage 1)

The building envelope for Stage 1 of the Dick Smith warehouse and distribution facility is 216 metres long and 180 metres wide with a maximum height of 13.7 metres. Stage 2 of the Dick Smith warehouse includes a 40 metre wide, 37 metre high bay extension of the warehouse to the south of the Stage 1 building envelope. It is expected that Stage 1 will be completed in 2012 and Stage 2 in 2016.

The two storey Office and Amenities Building extends out of the north eastern side of the building, with a building envelope of 98 metres long and 36 metres wide and a maximum height of 4.7m. Architectural drawings of the proposed development are provided within **Appendix L**. **Figures 22** to **25** show the elevations of the proposed building.

The warehouse building will be constructed out of colorbond wall cladding and precast concrete. The office and amenities building, to the north of the warehouse, will be constructed out of precast concrete with windows and detailing along the northern and eastern facades. The warehouse building will have a pitched roof constructed out of metal roof sheeting and colorbond capping.

This PA also includes the construction of the transport office and maintenance bay, fire pump house and tanks, and battery charging room. These ancillary buildings will be constructed out of similar materials to the warehouse building, with colorbond cladding and precast concrete panels. Just north of the transport office will be a container handling facility.

This PA also includes the fit out of the warehouse and associated buildings within the Dick Smith warehouse facility, including the racking, storage bays within the warehouse as well as the offices, workspaces and amenities within the ancillary buildings.

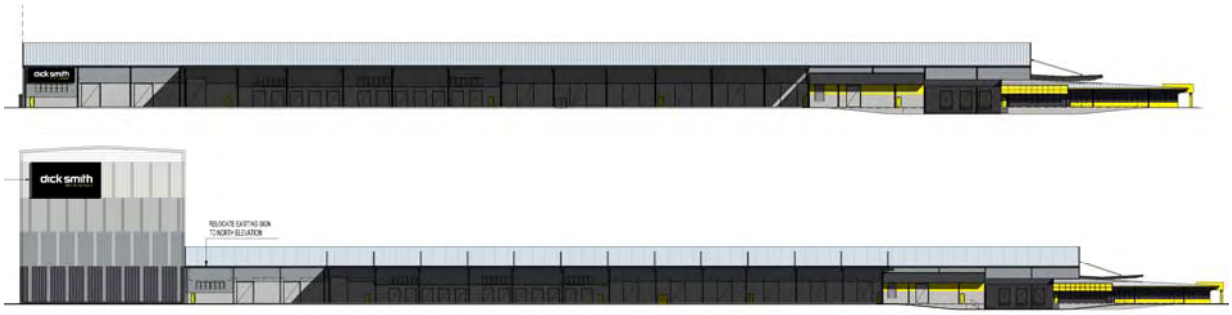

Figure 22 – Eastern elevation of the Dick Smith warehouse

Source: MNIA Architects
(Stage 1 top image and Stage 2 bottom image)

Figure 23 –Northern elevation of the Dick Smith warehouse (Stage 2)

Source: MNIA Architects

Figure 24 – Western elevation of the Dick Smith warehouse (Stage 2)

Source: MNIA Architects

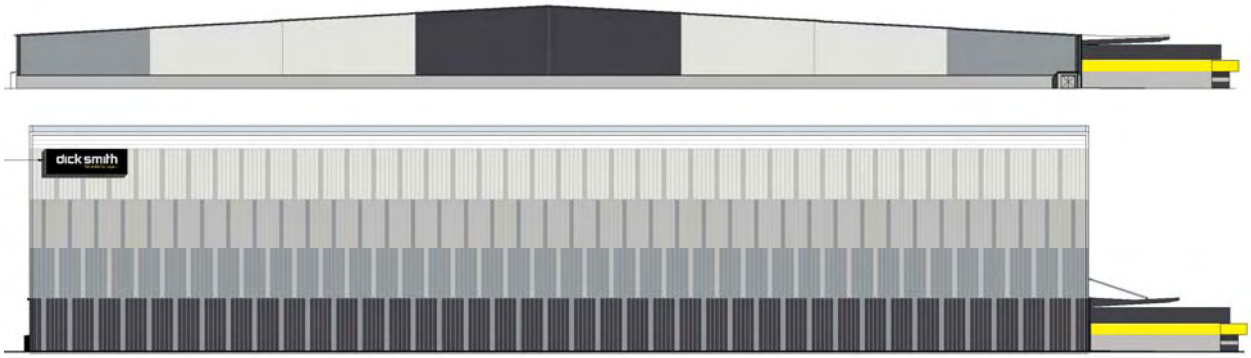

Figure 25 – Southern elevation of the Dick Smith warehouse

Source: MNIA Architects
(Stage 1 top image and Stage 2 bottom image)

6.4 Site Access and On-site Parking

Vehicular access and egress (trucks and cars) is provided to the Dick Smith facility from the new east/west road. Trucks delivering goods will be directed to the receiving area on the eastern side of the warehouse building. Trucks collecting goods will be directed to the despatch dock on the northern side of the building.

A secondary truck exit is provided at the cul-de-sac to the west of the warehouse facility.

As noted previously, 327 on-site parking spaces will be provided for the Dick Smith Electronics warehouse staff. These are provided to the north of the proposed building and will be access via the new east/west road.

Landscaped areas within the car park will feature mass ground cover parking and trees between the rows of car parking for shade and amenity.

6.5 Hours of Operation / Staffing

The Dick Smith warehouse building is proposed to be in operation 24 hours, 7 days a week. During peak periods the number of staff on site at any one time is indicatively noted as follows:

- Day Shift (6am - 2.30pm & 7.30am - 4pm): In the order of 275 employees (total for the 2 day shifts) (Combination of Fulltime, Part time and Casual)
- Afternoon Shift (3.30pm - 11.30pm): In the order of 85 employees (Combination of Fulltime, Part time and Casual)
- Night Shift (11.30pm - 7am): In the order of 50 employees (Combination of Fulltime, Part time and Casual)

6.6 Waste Management

A Waste Management Plan has been produced by Woolworth Limited for the Dick Smith Distribution Centre (refer to **Appendix N**). The majority of the waste produced in the Dick Smith warehouse will be cardboard, plastic and general non-recyclable waste.

A cardboard compactor will be located on the north side of the building, underneath the awning, near the recessed despatch docks. The compactor will have a dedicated roller door with bin lifters.

A plastic baler will also be located underneath the awning of the north side of the building, east of the cardboard compactor.

6.7 Signage and Lighting

Signage

The building identification signage proposed for the Dick Smith warehouse building is identified at **Figure 26** and within **Appendix L**. Stage 1 of the development will include three wall mounted signs to be located on the western, southern and northern facades if the building. The dimensions of the wall mounted signs are:

- 14m long x 4.3m high – southern end of the western façade;
- 10m long x 3m high – southern end of the eastern façade; and
- 5.3m long x 1.8m high – northern façade above the office entrance.

Stage 2 of the development will include two new wall mounted signs, dimensions 20m long x 10m high, to be mounted on the southern ends of both the western and eastern facades. Two signs will also be relocated as part of Stage 2, including:

- 14m x 4.3m sign from the western façade to the southern façade; and
- 10m x 3m sign from the eastern façade to the north façade of the Stage 2 high bay.

The wall signs will be projected approximately 600mm from the wall, with frames 200mm thick, lettering projecting 150mm further from the signs and brackets projecting the signs a further 200-250mm.

In addition to the proposed wall signs, the following free standing signs are proposed:

- A large tower sign on the north-east the site, 7 metres high and 3 metres wide, and
- Two totem signs at the car park and truck entry/exit points, 3 metres high and 1.2 metres wide. The top panels of the tower and totem signs will have white and yellow letters on black background, with the bottom three panels having black text on silver background.

The proposed signage will be illuminated between dusk and dawn.

All of the proposed signage identifies the occupant of the site and does not advertise any 3rd party unrelated to the development.

Figure 26 – Two of the proposed Dick Smith signs

Source: MNIA Architects

Lighting

Lighting on the site has been designed to comply with ANZ Standard 1158.3.1 2005. As detailed in the lighting report prepared by Shelmerdine & Partners (refer **Appendix O**). The estimated brightness of the sign face measured in candela per metre squared is 150-300cd/m^2.

External lighting for the warehouse will be provided in four main areas:

- Truck dock areas (pedestrians and trucks mix);
- Truck only movement areas (no pedestrians);
- Staff/visitor car park bay areas (pedestrian and vehicles mix); and
- Car entry/exit areas (no pedestrians).

The light fittings proposed for the site are generally metal halide pole mounted of building mounted luminaires complete with symmetrical of asymmetrical beams and designed to minimise glare to the trucks and vehicles manoeuvring around the site. The site will be illuminated from dusk till dawn.

7.0 BIG W Warehouse Project Application

This Project Application relates to the construction and operation of the BIG W warehouse building within the proposed warehousing and distribution facility located on part of the former Hoxton Park Aerodrome.

The proposed development includes the following works:

- Earthworks;
- Establishment of building pads;
- Building design and construction, including fit out;
- Specific operational and use details of the BIG W warehouse and distribution centre, including 24 hours, 7 days a week operation;
- Signage; and
- Parking.

The boundary of the works included in this application is provided in **Figure 27**.

This development in Hoxton Park will provide BIG W with a long-term efficient supply chain network to service stores across New South Wales and parts of Victoria.

The world class 89,000 square metre facility will house the latest, safest and most efficient supply chain technology and will deliver optimal service to approximately 70 stores in the first year of operation. The proposed layout of the BIG W facility is shown in **Figure 28** and in the architectural plans at **Appendix P**.

BIG W is a subsidiary of Woolworths Limited which currently operates two other major distribution centres in Australia; Monarto, South Australia and Warwick, Queensland.

This new development is an addition to the BIG W supply chain network which will alleviate capacity constraints in the two existing distribution centres, and help to enable the continued growth of the BIG W business.

It is anticipated that this distribution centre will generate in the order of 350 employment opportunities when the facility commences operations in the first calendar half of 2012 and 525 employees once peak operating capacity is reached. 300 of these jobs will be net additional jobs for NSW.

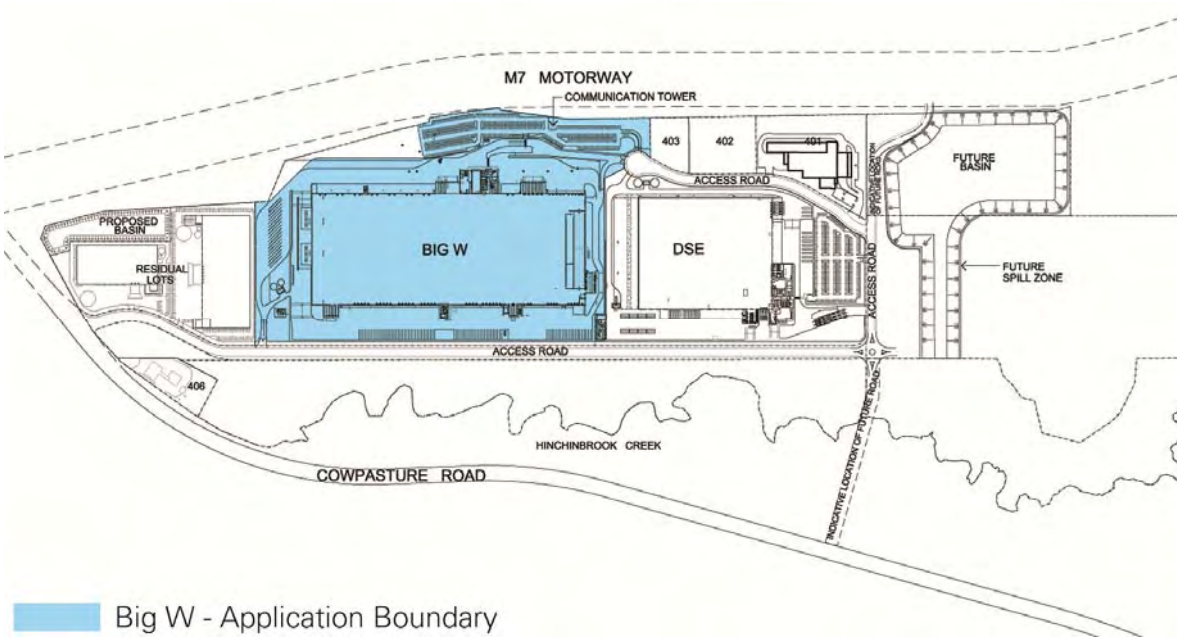

Figure 27 – Application boundary of BIG W Project Application

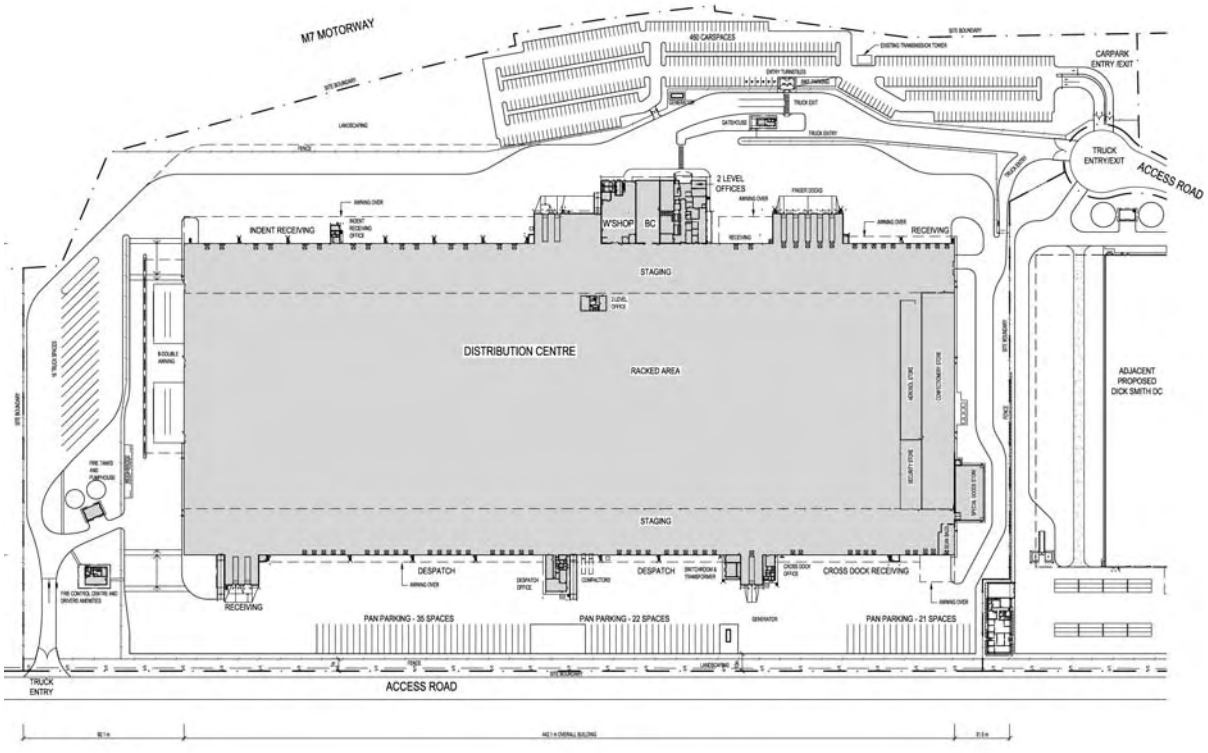

Figure 28 – Layout of proposed BIG W warehouse

Source: MNIA Architects

7.1 Excavation and Construction of Building Pad

As noted in Section 5.2, the site will be cut and filled so as to raise the building footprints above the 1 in 100year flood level. In terms of the BIG W building, the proposed pad levels will be established at or around RL39.34.

The CEMP (refer to **Appendix M**) identifies further details regarding the excavation and construction of the building pad. This is discussed in more detail at Section 8.19.

7.2 Detailed Design, Construction and Fit out of Warehouse and Distribution Facility

The building envelope for the BIG W warehouse and distribution facility is 442 metres long and 180 metres wide with a maximum height of 13.7 metres.

The one storey office building extends out of the north-western side of the warehouse building, with a building envelope of 442 metres long and 180 metres wide. Architectural plans are provided within **Appendix P**. **Figures 29** to **32** show the elevations of the proposed building.

The warehouse building will be constructed out of colorbond wall cladding and precast concrete. Detailing, such as fascia cladding will be used over the awnings and on the façade of the office building adjacent to the warehouse building. The warehouse building will also include numerous roller shutters on western and eastern facades.

The warehouse building will have a pitched roof, constructed out of metal roof sheeting and colorbond capping.

The BIG W PA also includes the construction of the separate gatehouse, and fire control centre and drivers amenities buildings associated with the warehouse and distribution facility. These ancillary buildings will be constructed out of similar materials to the warehouse building, with colorbond cladding and precast concrete panels.

This PA also includes the fit out of the warehouse and separate buildings, including the racking and storage bays, staging area and sorting areas within the warehouse, as well as the offices, workspaces, lunchroom and amenities.

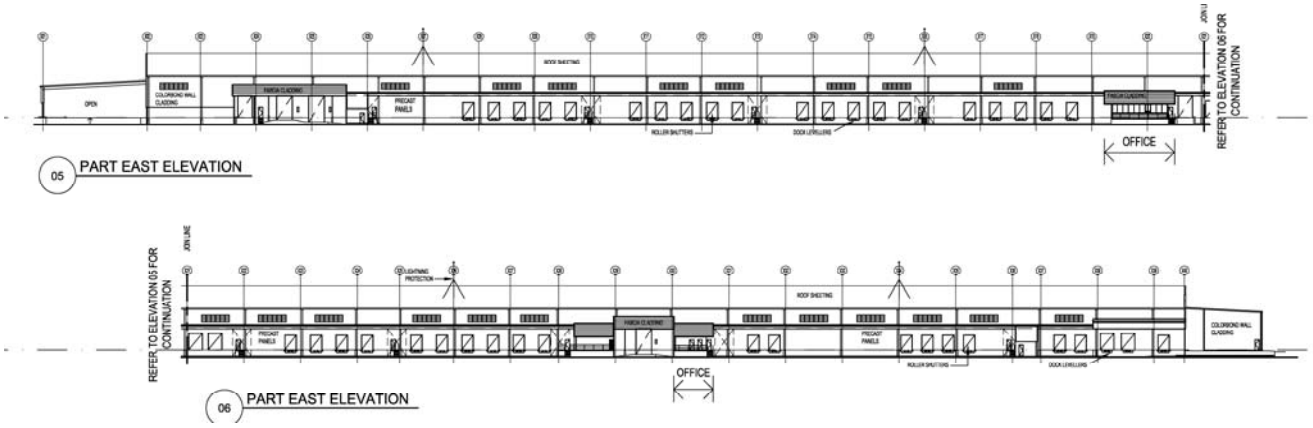

Figure 29 – Eastern elevation of the BIG W warehouse

Source: MNIA Architects

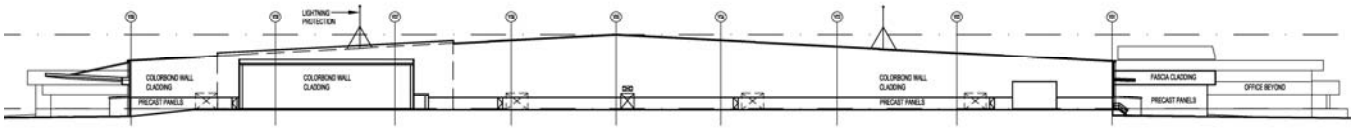

Figure 30 – Northern elevation of the BIG W warehouse

Source: MNIA Architects

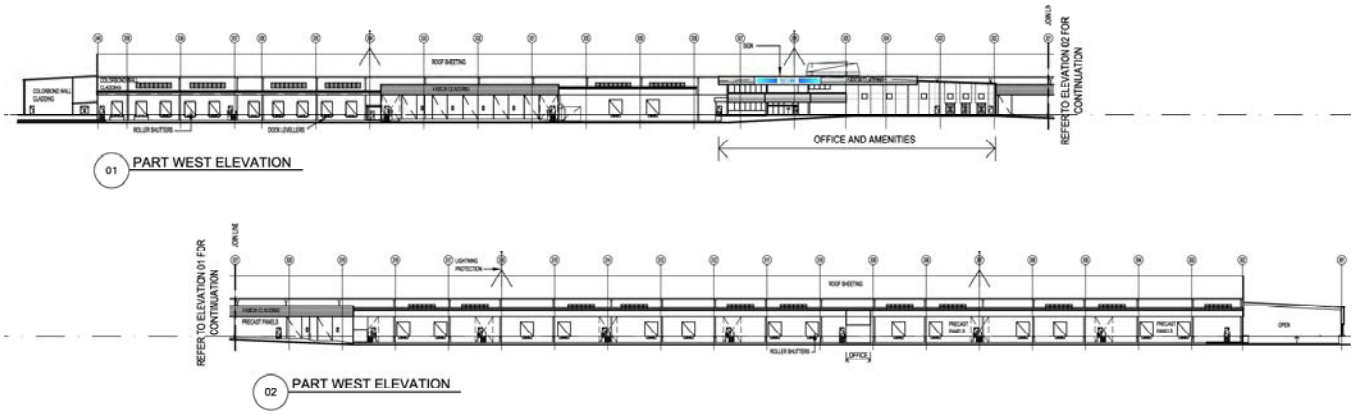

Figure 31 – Western elevation of the BIG W warehouse

Source: MNIA Architects

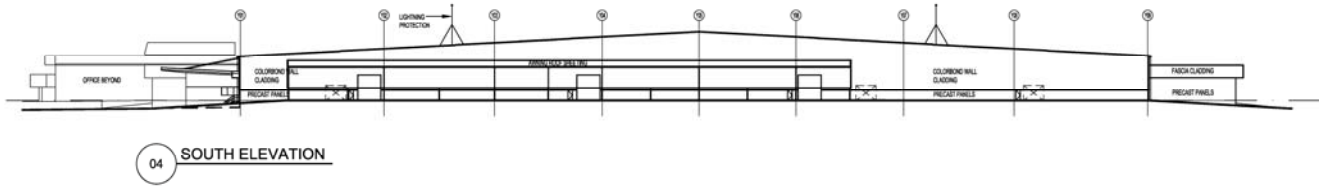

Figure 32 – Southern elevation of the BIG W warehouse

Source: MNIA Architects

7.3 Access and On-site Parking

Truck access to the BIG W warehouse facility will be provided off the new north/south road. Trucks will enter the site from the south east corner. Those delivering goods will be directed to the western side of the warehouse to the receiving area and those collecting goods will be directed to the eastern side of the warehouse to the despatch area. Trucks will leave the site at the truck exit located in the north west corner of the site. A secondary truck entrance is also provided off the cul-de-sac at the north western corner of the site.

Cars will enter the BIG W staff car parking area from the cul-de-sac on the western side of the site. 460 spaces are proposed for the BIG W staff. These parking areas will be landscaped with mass ground cover parking and trees between the rows of car parking.

7.4 Hours of Operation / Staffing

The BIG W warehouse building is proposed to be in operation 24 hours, 7 days a week. During peak periods the number of staff on site at any one time indicatively noted as follows:

- Day Shift (7am - 3pm): In the order of 225 employees (Combination of Fulltime, Part time and Casual)
- Afternoon Shift (3pm - 11pm): In the order of 175 employees (Combination of Fulltime, Part time and Casual)
- Night Shift (11pm - 7am): In the order of 125 employees (Combination of Fulltime, Part time and Casual)

7.5 Waste Management

A Waste Management Plan has been produced by Woolworth Limited for the BIG W Distribution Centre (refer to **Appendix Q**). The majority of the waste produced in the BIG W warehouse will be cardboard, plastic and general non-recyclable waste.

Compactor bins are to be located at the rear of the building, next to the despatch office, and industrial bins located close to the kitchen area. A bunded area for drainage disposal of scrubber/sweepers outputs will be located in the maintenance area.

7.6 Signage and Lighting

Signage

The building identification signage proposed for the BIG W warehouse building is shown at **Figure 33** and within **Appendix P**. The signage includes one large horizontal wall mounted sign to be located on the western façade of the building, located above the main entrance to the office building. The large horizontal sign will be 15 metres long x 1.5 metres high.

The wall signs will be projected approximately 600mm from the wall, with frames 200mm thick, lettering projecting 150mm further from the signs and brackets projecting the signs a further 200-250mm.

In addition to the proposed wall signs, the following free standing signs are proposed:

- A large tower sign adjacent to the south-east entrance to the site, 7 metres high and 3 metres wide, and
- Two totem signs at the car park entry/exit, 3 metres high and 1.2 metres wide. The signs will have a paint finish curved aluminium base with business identification and directional signage on panels above. The signage panels will be white, with individual internally illuminated blue letters.

All of the proposed signage is for building identification purposes and will be internally illuminated between dusk and dawn.

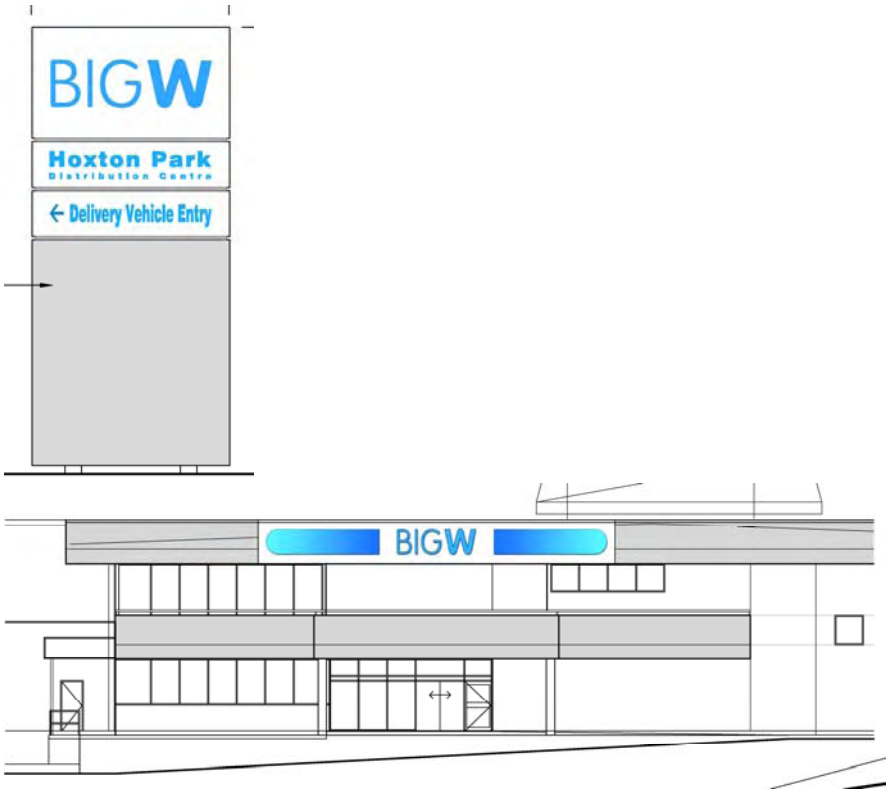

Figure 33 – Two of the proposed BIG W signs

Source: MNIA Architects

Lighting

Lighting on the site has been designed to comply with ANZ Standard 1158.3.1 2005. As detailed in the lighting report prepared by Shelmerdine & Partners (refer **Appendix O**), the illuminated signs proposed are illuminated by LED light sources and the estimated brightness of the sign face measured in candela per metre squared is 150-300cd/m^2.

External lighting will be provided in four main areas:

- Truck dock areas (pedestrians and trucks mix);
- Truck only movement areas (no pedestrians);
- Staff/visitor car park bay areas (pedestrian and vehicles mix); and
- Car entry/exit areas (no pedestrians).

The light fittings proposed for the site are generally metal halide pole mounted of building mounted luminaires complete with symmetrical of asymmetrical beams and designed to minimise glare to the trucks and vehicles manoeuvring around the site.

The site will be illuminated from dusk till dawn.

8.0 Environmental Assessment

This section of the report assesses and responds to the environmental impacts of the Project, including site wide cumulative impacts and site specific impacts for each Project Application. It addresses the matters for consideration set out in the Director-General's Environmental Assessment Requirements (DGRs).

The draft Statement of Commitments at **Chapter 9** complements the findings of this section.

8.1 Director General's Requirements

The Director General's Requirements (DGRs) for the project were issued in March 2010 2010 (refer **Appendix A**). **Table 3** provides a summary of the individual matters listed in the DGRs and identifies where each of these requirements has been addressed in this report and the accompanying technical studies.

Table 3 - Director General's Environmental Assessment Requirements

Director General's Requirements	Location
General Requirements	
Executive Summary	Page ii
Site Analysis	Chapter 2 and Appendix B
Description of the proposed development	Chapters 4, 5, 6 & 7
Risk Assessment	Section 8.22
Assessment of key issues & potential impacts	Chapter 8
Draft Statement of Commitments	Chapter 9
Architectural plans	Appendices B, L and P
Statement of Validity	Page i
Quantity Surveyor's Certificate	Appendix AA
Conclusion and justification of suitability of the site for proposal	Chapter 10
Key Issues	
Design / Visual, including:	
▪ Consistency with Liverpool Local Environmental Plan or Development Control Plan	Section 8.2 and Appendix F
▪ Measures implemented to:	
- Minimise visual impact of high bay and articulate bulk and scale of large warehouse	Sections 8.3 and Appendix R
- Ensure entrance of Cowpasture road provides a suitable gateway	Section 8.3 and Appendix J
- Ensure that the project presents a well-designed and visually pleasing "face" to both the M7 Motorway and the proposed residential area to the north	Section 8.3
- Minimise water and energy use	Section 8.17 and Appendix Y
▪ Detailed strategy for the whole site:	
- Landscaping	Section 5.7 and Appendix J
- Lighting	Sections 6.7 and 7.6 and Appendix O

Director General's Requirements	Location
- Signage	Sections 6.7 and 7.6 and Appendices L & P
▪ Proposed design controls for the development of the remainder of the site	Sections 4.5 and 8.2
Infrastructure – demonstrate that suitable arrangements are in place or will be put in place, to provide necessary local and regional infrastructure for the project	Chapter 5 and Appendix I
Soil and Water	
▪ Detailed modelling of the potential flooding impacts of the project, with suitable sensitivity analysis	Appendix G
▪ An assessment of the potential impacts of the project on:	
- The quality and quantity of water resources in the areas; and	Section 8.5 and Appendix I
- The riparian values of Hinchinbrook Creek	As above
▪ A detailed description of the proposed water management system on site, including the proposed erosion and sediment controls (during construction) and the proposed stormwater management system for the site	Sections 8.5 and 8.19 and Appendices I and M
▪ Soil salinity and contamination	Sections 8.7 and 8.8 and Appendices T and U
Transport, including: ▪ Robust predictions of the traffic volumes likely to be generated during construction and operation	Section 8.6 and Appendix S
▪ An assessment of the predicted traffic impacts on the capacity, efficiency and safety of the surrounding road network, including modelling of key intersections.	Section 8.6 and Appendix S
Noise – including construction, operational and traffic	Sections 8.15 and 8.19 and Appendices M and X
Other Issues	
▪ Biodiversity	Section 8.14 and Appendix C
▪ Heritage - Aboriginal - Non-Aboriginal	 Section 8.13 and Appendix D Section 8.11 and Appendix W
▪ Air Quality	Section 8.19 and Appendix M
▪ Waste	Sections 8.18 and 8.19 and Appendices M, N and Q
Consultation	Section 1.5

8.2 Compliance with EPIs

As identified within the Tables of Compliance at **Appendix F**, the proposal is generally consistent with the provisions of the Liverpool Local Environmental Plan 2008 and Liverpool Development Control Plan 2008. In particular the proposed development:

- Provides a suitable road layout and number of parking spaces in accordance with SEPP (Infrastructure) 2007;
- Will include signage of an appropriate size and location in accordance with SEPP 64;
- Can be made suitable for the proposed use in accordance with SEPP 55;
- Does not compromise any protected Koala habitat in accordance with SEPP 44;
- Provides suitable management measures for storage of hazardous goods on site in accordance with SEPP 33;
- Will not have any adverse effects on the adjacent Hinchinbrook Creek Corridor in accordance with SEPP 19;
- Provides the following in accordance with Liverpool LEP 2008:
  - Lot sizes;
  - Flora and fauna mitigative measures;
  - Bushfire protection measures;
  - Appropriate land use; and
- Provides the following in accordance with the Liverpool DCP 2008:
  - Major north/south and east/west link roads;
  - East/west off-road cycle path;
  - Heritage interpretive elements;
  - Appropriate signage;
  - Landscaping;
  - Setbacks; and
  - Waste management.

However, the proposal does involve some variations to the land use zoning and maximum permissible height clauses contained within Liverpool LEP 2008. These are discussed below.

8.2.1 Variation to LEP Land Use Permissibility

Variation to E3 zone

The land zoned E3 Environmental Management, to the east of the site, is proposed to be used for the new access roadway and a small portion of car / truck parking (see **Figure 34**) associated with the BIG W and Mirvac Residual warehouse buildings. Roads are a permissible use in the E3 Environmental Management zone but parking is prohibited. The objectives of the E3 zone are the following:

- *To protect, manage and restore areas with special ecological, scientific, cultural or aesthetic values.*
- *To provide for a limited range of development that does not have an adverse effect on those values.*
- *To enable the recreational enjoyment or scientific study of the natural environment.*

In terms of the Hoxton Park site, the E3 zone has been nominated for flooding purposes.

Under Section 75O(3) of the EP&A Act, the Minister has the ability to approve a Concept Plan application notwithstanding that it may involve a prohibited use under another Environmental Planning Instrument. It is noted that the relevant part of the site does comprise Environmentally Significant Land as defined under the Major Projects SEPP.

The use of the E3 zoned land for the purposes of a car park associated with the warehouse buildings is considered acceptable for the following reasons:

- The majority of the small portion of land zoned E3 Environmental Management will be used for an access road which is permissible in the zone, the partial use of this zone for parking will not generate any different environmental effects compared to that of the road;
- The use of the land facilitates truck manoeuvrability on the site;
- The proposed use is not inconsistent with the objectives of the E3 zone as it does not prevent the regeneration of the bushland or generate any adverse flooding impacts on the Hinchinbrook Creek Corridor; and
- Further, the use of the land for parking purposes will not have any impact on the recreational enjoyment of the riparian corridor.

With the above in mind it is considered that the minor variation to the zoning control is warranted and compliance with the zoning control is unreasonable and unnecessary in this instance.

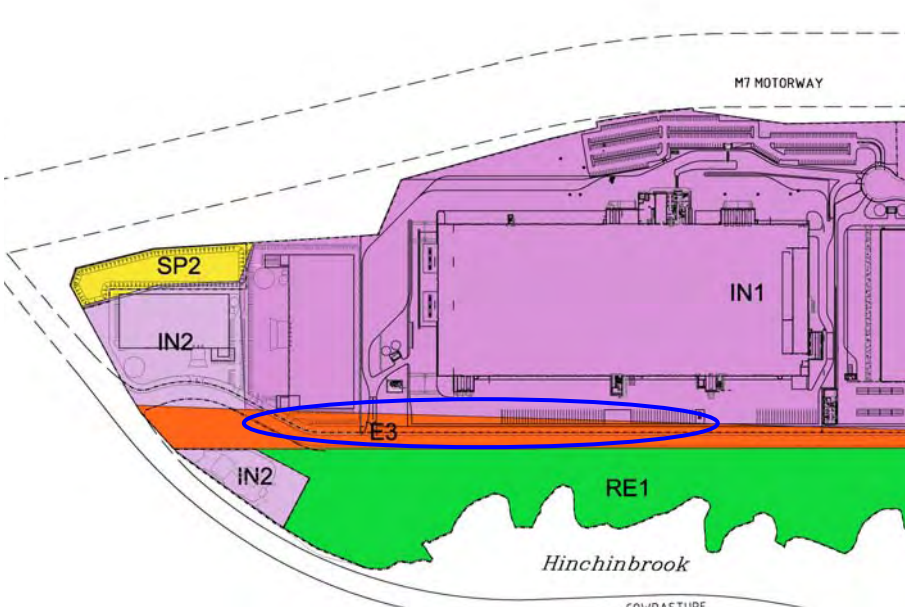

Figure 34 – Area of parking in the E3 zone

Source: Mirvac Projects Pty Limited

8.2.2 Variation to LEP Maximum Height Control

The Stage 2 component of the Dick Smith Warehouse facility will rise to a height of 37m. As shown in **Figure 35**, the Stage 2 component is located predominantly in the 30m height zone, with a minor portion in the 15m height zone. It therefore involves a variation between 7 and 22 metres.

The proposed height variation is considered acceptable in this instance for the following reasons:

- The proposed highbay does not generate any adverse environmental impacts on any residential property due to the significant separation between the two land uses;
- The visual impact has been found to be acceptable (See Section 8.16 of this report and **Appendix R**);
- The proposed highbay is similar in height to the Blum building which is being constructed on Lot 401 of the industrial estate which rises in height to 30m and is located wholly within the 15m height zone;
- The proposed building will appear similar to other warehouse developments adjacent to the M7 corridor; and
- The proposed development remains consistent with the objectives of the maximum height control in that it will be of a high quality built form, will not result in an adverse reduction of sunlight to any building or public space and provide an appropriate height transition within the Len Waters Estate.

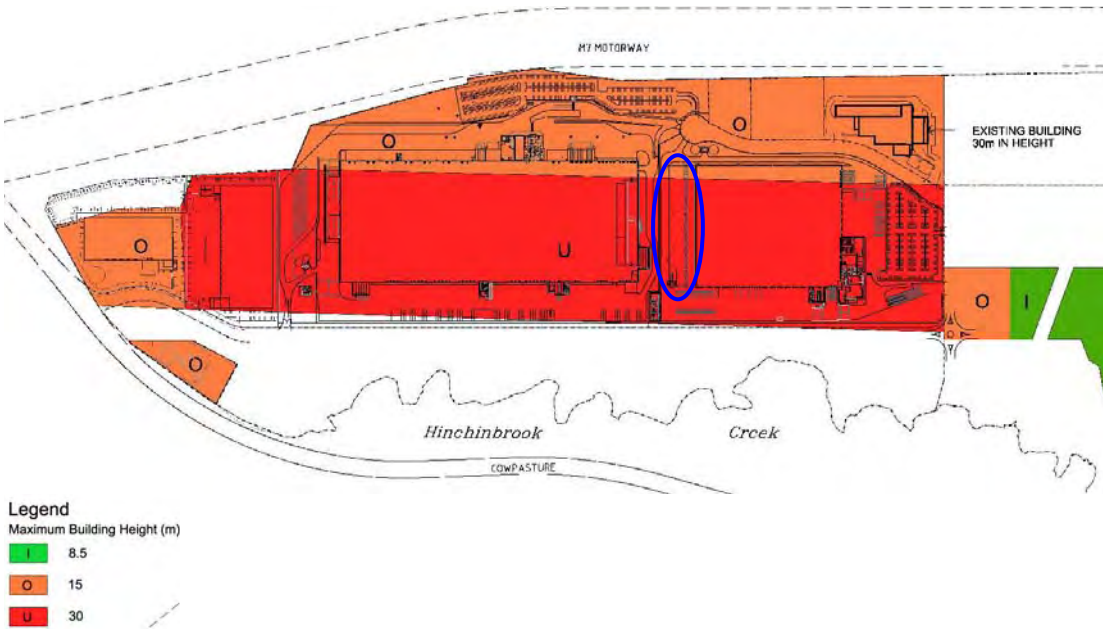

Figure 35 – Overlay of the existing height controls and proposal

Source: Mirvac Projects Pty Limited

8.3 Design

The warehouse buildings have been designed with the consideration that they will be visible from the M7 Motorway and from a few high points in nearby areas.

So as to ensure that they have a positive visual impact, the buildings include the following design measures:

- A selection of different cladding profiles so as to break up and articulate the scale of the warehouse buildings. This is further enhanced by the selection of differing cladding profiles displaying a range of cladding textures.
- Use of varying cladding colours – higher elements of the building, in particular the Dick Smith Highbay will be finished in a light grey colour so as to minimise the contrast of the high element of the building with sky and reduce its visual impact.
- Inclusion of additional embellishment items such as contrast trim, stripes or "swirls" in the cladding providing further articulation of the building;
- Introduction of windows, lighting and other decorative elements with large facades so as to provide visual interest; and
- Use of considered signage where applicable.

The proposed development, with its mass planting elements along Cowpasture Road, considered signage strategy and generous setbacks of the proposed industrial buildings on the Residual Lot will provide a suitable gateway to the Industrial Estate

8.4 Social and Economic Issues

The proposed warehouse and distribution centre will have a positive social and economic contribution to the NSW and local economy as outlined below.

The project involves a capital investment value of $181,945,000 to the NSW Economy.

The BIG W and Dick Smith warehouses will introduce approximately 935 jobs (including 300 net additional jobs) into the Liverpool LGA and the NSW economy. This is a significant contribution towards the subregional strategy target of 35,000 new jobs in the Liverpool LGA. The proposal will also generate 1,400 direct construction jobs and 5,800 indirect during the 18month construction period.

The new jobs are also being created in close proximity of the South West Growth Centre, which is an area of Sydney which heralds significant opportunities for the provision of employment in Western Sydney

Future development of the residual areas on the site will also result in further job generation in the local area in the future.

The consolidation of jobs from the existing Villawood and Chullora Dick Smith warehouses will fully capitalise on the site's close proximity to the M7 Motorway, and therefore the Sydney Orbital Network.

8.5 Stormwater and Flooding Assessment

In preparing the Stormwater Management Plan for the site, Parsons Brinkerhoff Australia Pty Limited (PB) had the benefit of reviewing a previous Stormwater Management Study that was prepared by PB in 2006.

PB undertook a MUSIC model assessment of the proposed development to determine existing pollutant loads and those expected as a result of the proposed development. The results of the MUSIC model (refer **Appendix I**) demonstrate that the basins and vegetated buffer zones provide a very high level of treatment, well above the qualitative objectives outside in *WSUD Technical Guidelines for Western Sydney* (May 2004). Some subcatchments, whilst employing the latest technology in Gross Pollutant Traps, will not have the vegetation that is ultimately required for the removal of dissolved nutrient loads and as such may not achieve the treatment targets for the project. Notwithstanding this, PB note that Hinchinbrook Creek ultimately receives all stormwater flow from the site, and the local outfall locations are sufficiently close, such that consideration of the treatment train performance on a total site basis is a reasonable approach.

ADW Johnson has prepared a Floodplain Impact Assessment (Appendix G) which provides an assessment of the impacts of the proposed development has on the regional flooding behaviour of Hinchinbrook Creek. The flooding assessment is based on the TUFLOW model that was prepared by URS as part of the rezoning process for the former Hoxton Park Aerodrome. This model was updated to include the new Cowpasture Road levels and drainage structure.

Three scenarios were modelled:

- The existing baseline condition, without any aspects of the proposed development introduced;
- The proposed development (Simulation 1), including the new north-south access road which will be raised to a level above the 1:100 ARI flooding level; and
- The proposed development with additional minor floodplain training works (Simulation 2) which would supplement the works already undertaken by the RTA.

When compared to the baseline situation, the floodplain assessment of the proposed development (Simulation 1) showed that the proposed filling on the periphery of the Hinchinbrook Creek floodplain will alter the hydraulic behaviour of the area. The effect on the floor behaviour (depth and velocity) is shown in **Figures 36 & 37** respectively. In summary, the changes will result in minor decreases in flow depth at the Culvert 1 entry (identified in **Figure 38**) and localised increases in flood levels downstream of the Hinchinbrook Creek bridge on Cowpasture Road. ADW Johnson note that where the increases occur, the flood free status of residential dwellings will not be adversely affected as the minimum freeboard from the flood level post development to the existing floor levels for dwellings on Ward Road is greater than 2m.

The proposal will also have an effect on the maximum flow velocities, however ADW Johnson not that these increases are small and the overall maximum velocity encountered for all of the structures is reduced.

ADW John also compared the results between Simulation 1 and Simulation 2. The changes introduced into the model associated with the additional channel training works altered the behaviour of the bridge and high flow culverts however the change in performance was very minor and this scenario was not pursued further.

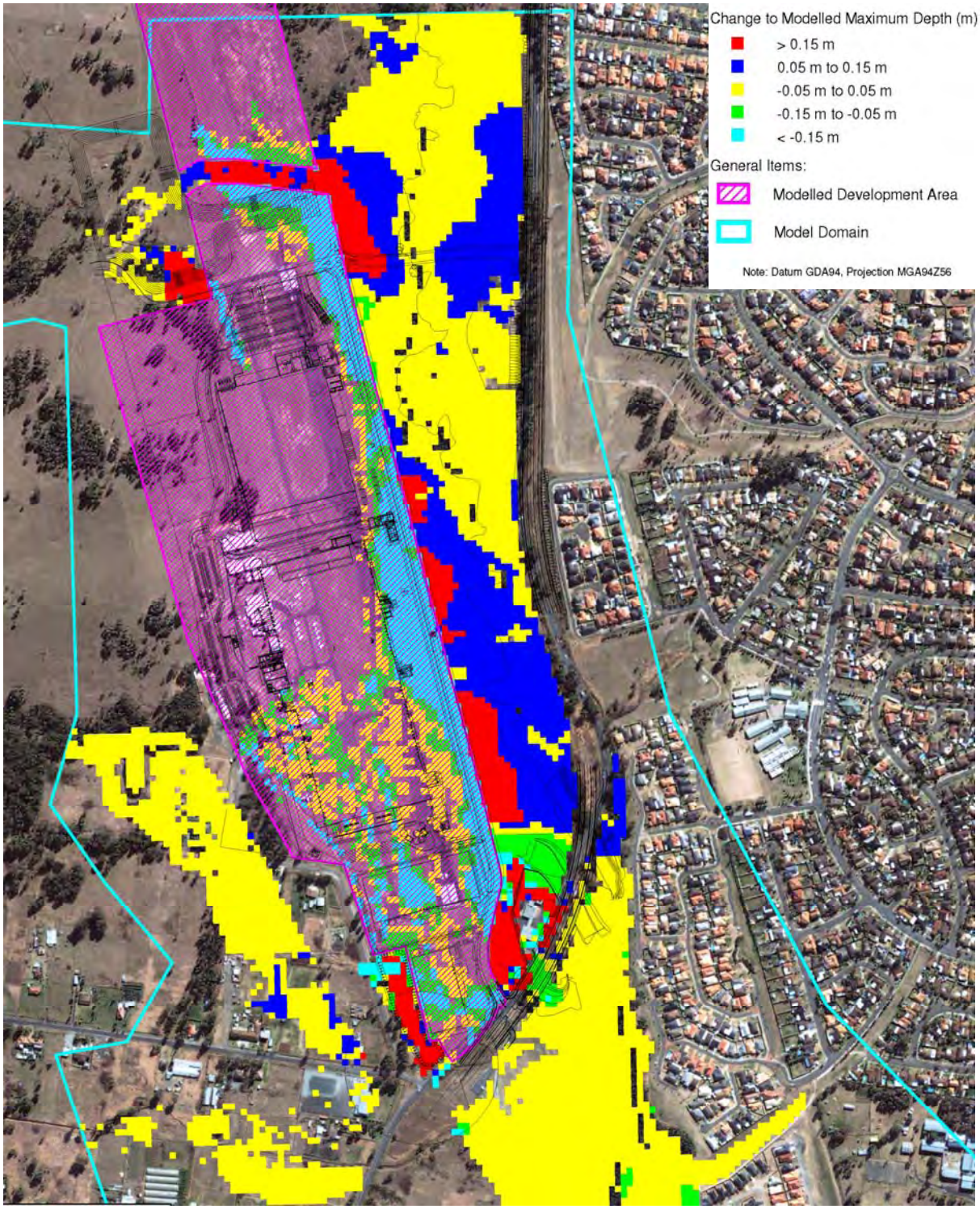

Figure 36 – Change in Flood Depth 100 Year ARI Flood

Source: ADW Johnson

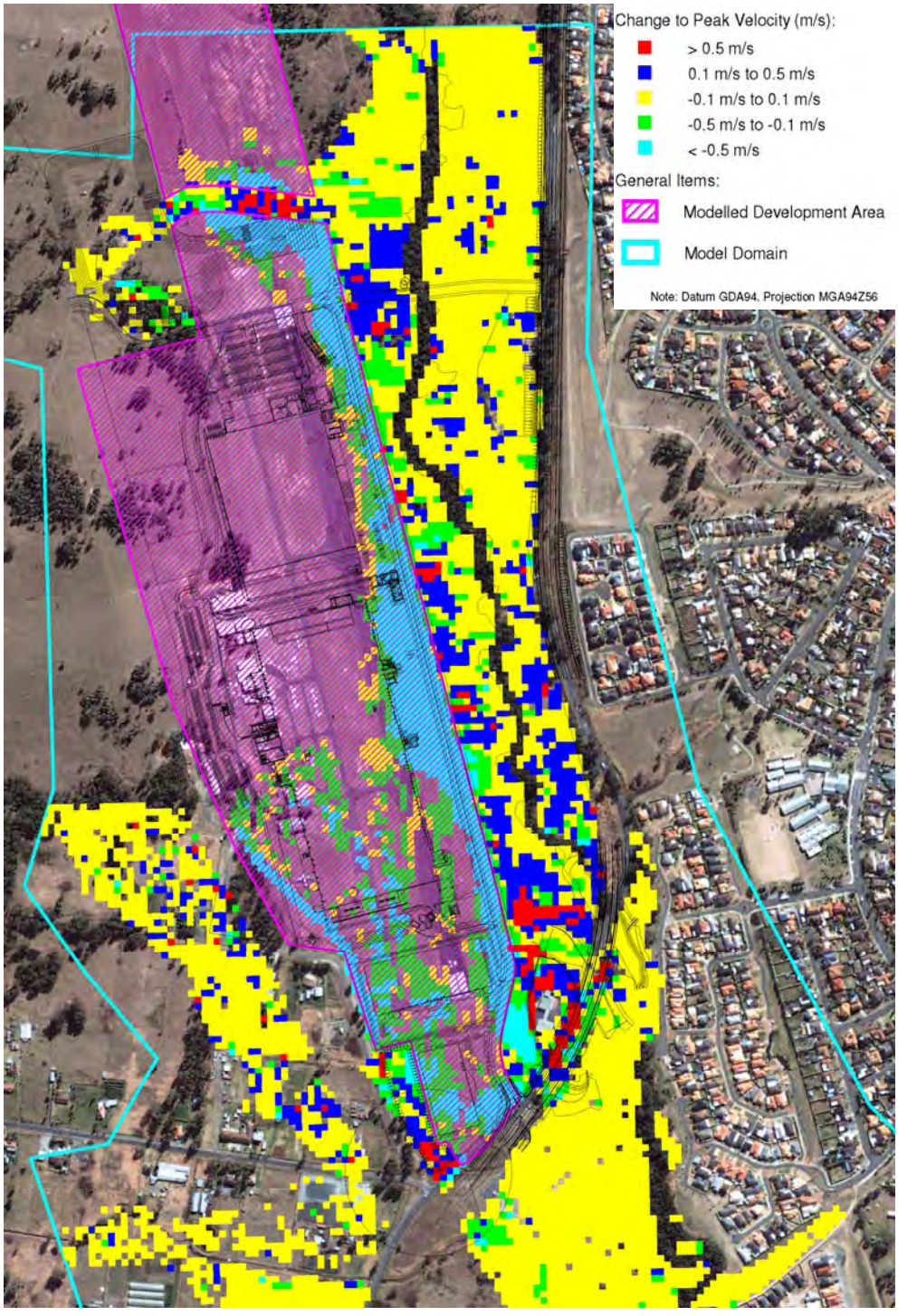

Figure 37 – Change in Flood Velocity 100 Year ARI Flood

Source: ADW Johnson

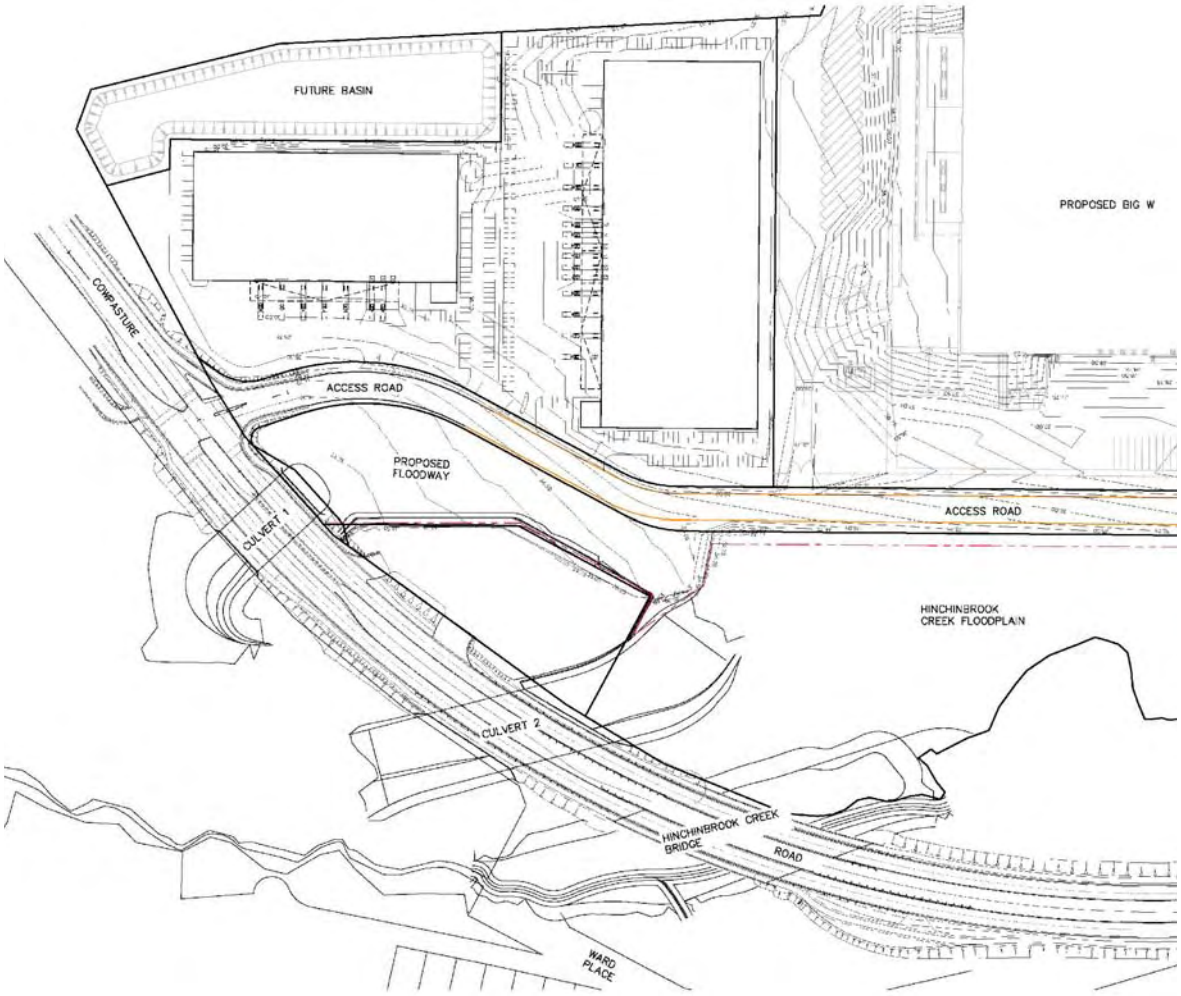

Figure 38 – Identification of major hydraulic structures

Source: ADW Johnson

8.6 Traffic and Transport

Colston Budd Hunt & Kafes Pty Limited (CBHK) prepared a report on the operational traffic implications of the proposed warehouse and distribution facility, refer to **Appendix S**. The Report found that the proposed road network will be able to cater for the traffic generation of the development.

In preparing their report, CBHK had the benefit of reviewing the Traffic Assessment prepared by SKM for the rezoning of the former Aerodrome of which extracts are appended to the CBHK report.

Traffic Generation

SKM's traffic assessments prepared in 2006 and 2007 assumed a traffic generation rate of 15 trips per developed hectare per hour during the morning and afternoon peak periods for industrial land uses.

For the industrial component of the development, including lots 401 – 403, this translates to a traffic generation of the proposed industrial development of around 686 vehicles per hour two-way during the morning and afternoon peak periods. While, for all components of the former Hoxton Park Airport redevelopment, including the proposed residential development to the north, the traffic generation rate was estimated to be 1,044 vehicles per hour two-way during the morning and around 1,652 vehicles in the afternoon peak periods.

Using the above trip generation rates, SKM found that the intersection of Cowpasture Road (incorporating the upgrading works which are now being completed by the RTA) and the M7 and the new site access point would operate at satisfactory levels of service during peak periods in 2016.

Based on the above traffic generation of 15 trips per development hectare, the two distribution warehouse and residual Mirvac warehouses, which will occupy 35.6ha, will generate 535 vehicular trips per hour two-way during peak periods.

However, SKM's assumption provides that the development of the site is for industrial type development and not warehouse and distribution type facilities which are currently proposed. As such, CBHK has based their assessment on a similar Woolworths distribution centre at Minchinbury which has an actual traffic generation rate of 0.3 trips per 100m^2 GFA. It is also noted that the RTA Gudielines, which are based on extensive surveys, provide a rate of 0.5 trips per hour per 100m^2 for warehouses. Using these more likely trip generation rate, the proposed development is likely to have a trip generation in the vicinity of 530 vehicles per hour two-way during peak periods.

In light of the above, CBHK consider that the surrounding road network and signalised access points onto Cowpasture Road will operate at similar levels of service during peak periods to that previously assessed with full development at 2016.

Parking

The Liverpool DCP outlines that parking should be provided at the following rates:

- One space per 35m^2 of office LFA;
- One space per 75m^2 of factory/warehouse LFA or one space per two employees, whichever is the greater.

In addition to the above the RTA's "Guide to Traffic Generating Development" suggests a rate of one space per 300m^2 GFA which is equivalent to one space per 225m^2 of GLA for warehouses.

The proposed development provides the following onsite parking:

- BIG W – 460 spaces (1 per 193m^2 GFA)
- Dick Smith – 330 spaces (1 per 152m^2 GFA)
- Mirvac Residual Lot – 201spaces (1 per 111m^2 GFA)

As the above rates are between those required by Council and suggested by the RTA, CBHK considers that they are appropriate for the site. The proposed number of spaces will meet the operational needs of Woolworths and the proposed shift arrangements.

The proposed parking areas are laid out in a simple and clear manner with car parking dimensions of 2.4 metres wide by 5.4 metres long.

Internal Road Design

The proposed new access roads will be provided in accordance with the Australian Standard for Commercial Vehicle Facilities (AS2890.2-2002) and Austroads Road Design. As a result, the roads will be suitable for articulated service vehicles and B-Doubles as well as buses and the like. Swept path analyses are included in CBHK's report at **Appendix S**.

CBHK analysed the proposed internal layout of the development using the SIDRA computer program and found that the proposed internal intersection will operate between A and B service levels which is a good level of intersection operation.

The proposal will provide the major north/south and east west links nominated within Liverpool DCP 1998. However the development does not provide the road which was to be known as 'Runway Street'. This is because the primary reason for providing 'Runway Street' was for access to smaller industrial lots. As the development of the site no longer involves the construction of smaller industrial lots the smaller internal roads are no longer required for access.

The secondary purpose of 'Runway Street' was for heritage interpretative reasons. However as noted in Section 8.10, the deletion of this road from the site will not have any adverse heritage impacts, as the former use of the site will be interpreted by other means, and the new north/south access road will follow a similar alignment to that of the original run-way.

Public Transport

The location of existing bus routes in close proximity to the site are shown in **Figure 39**. In accordance with Liverpool's DCP, provision has been made for internal access buses in the site so as to allow for the extension of existing services to the site in the future once there is adequate demand.

In order to encourage travel modes other than the private vehicle, it is proposed to adopt a travel demand approach by way of a work place travel plan. The future tenants of the buildings will be required to prepare a Work Place Travel Plan which will be distributed to staff during orientation procedures and will include the following:

- Encourage public transport usage by employees through the provision of information, maps and timetables,
- Provide appropriate pedestrian facilities which improve accessibility to employment services from surrounding residential development and / or transport modes,
- Raise awareness of the health benefits of walking; and
- Encourage cycling by providing safe and secure bicycle parking, including the provision of lockers and change facilities.

A commitment regarding the creation of work travel plans is made at **Chapter 9** of this report.

Pedestrian and Cycle Environment

A dedicated cycle path is provided on the new east / west road as required by Liverpool DCP 2008. The cycle path is 2.5m and will eventually connect into the broader cycleway network. In addition to this cycle parking is provided on each of the lots for staff.

A footpath is provided along one side of all of the internal roads. Along the main north/south road the footpath will be 1.5m wide, while along the other proposed roads the footpath will be 1.2m. The provision of footpaths on one side of the road is considered adequate given that the internal roads will not form primary pedestrian links in the area and that paths with higher amenity are proposed in the corridor of Hinchinbrook Creek.

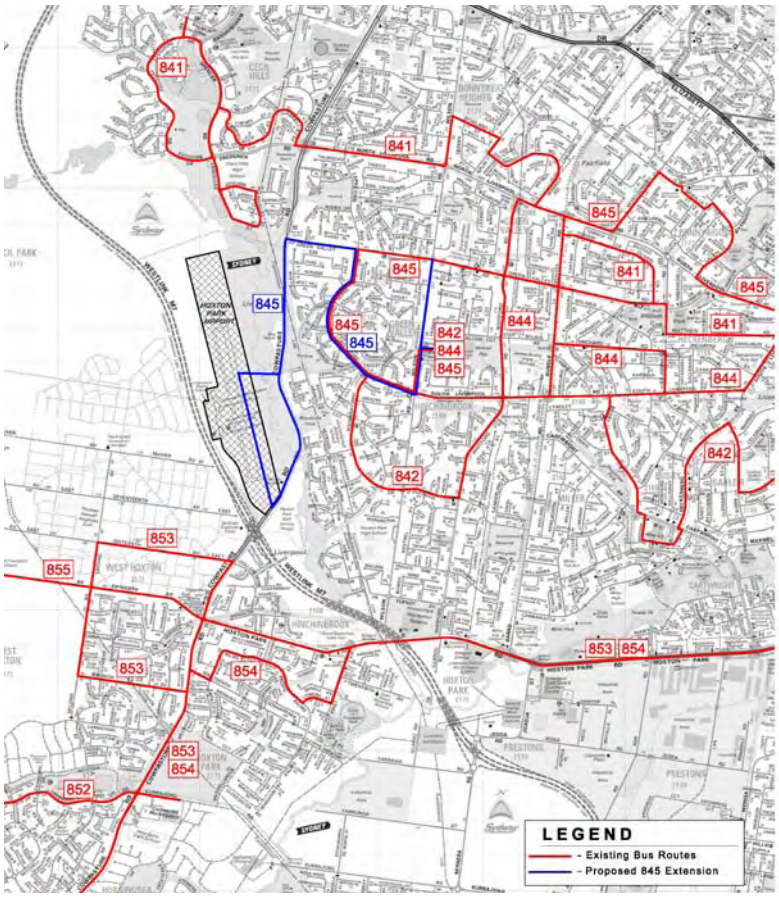

Figure 39 – Existing bus routes

Source: CBHK

Construction Traffic Management

It is noted that a separate approval has been issued for the import of fill on the site and that many of the truck movements associated with these works will have been undertaken prior to the commencement of works the subject of this application.

In light of the above truck movements will not be excessive as the import of materials will be minimal when compared to other similar developments. The estimated peak construction truck movements will include:

- Import of road base — 40-50 truck movements/day
- Concrete truck during concrete placement — 40-50 truck movements/day
- Light vehicle traffic (cars, small trucks) — 100 movements/day
- **Total movement** — **150 movements/day**

Over a 10 hour/day period, this would equate to 15 vehicles per hour which would not burden the current flow of traffic along Cowpasture Road.

The following traffic management measures will be undertaken to limit the impact of construction traffic on the surrounding areas:

- During the first two stages of construction, i.e. material stockpiling and subdivision, bulk earthworks and road construction, all construction traffic will access the site via Aviator Avenue;

- Following the construction of the new eastern access way and the commission of the new intersection, all traffic will be diverted to the new access road and Aviator Avenue decommissioned;
- All non-critical deliveries will be scheduled out of peak periods;
- Relevant statutory signage shall be erected defining the vehicle entry and exit points at all stages of construction;
- Relevant signage will be displayed setting appropriate speed limits on site and during the road construction; and
- Notice will be provided to all surrounding landowners, through the construction process, as to any special circumstances that may arise.

8.7 Contamination

Douglas Partners Pty Limited (DP) were commissioned to undertake a Targeted Phase 2 Contamination Assessment (Phase 2 Assessment) of the site (refer to **Appendix T**). In preparing their assessment, DP had the benefit of reviewing a Phase 1 Environmental Site Assessment (Phase 1 Assessment), prepared by Parsons Brinckerhoff (PB), which was prepared for the rezoning of the former Hoxton Park Aerodrome.

Historical Use, Ground Conditions and Potential Receptors

The site history review included a review of previous investigations prepared for the former Hoxton Park Aerodrome (including the PB investigation), with information also sourced from aerial photographs, historical title deeds, Liverpool City Council records, WorkCover records and information supplied by the client. The historical review revealed the following:

- The site was used for airport and aviation related businesses from 1951 to present, with the site largely unchanged since the 1980s;
- The site had several owners between 1893 and 1974 including graziers, farmers, sawmill owners and other private land owners. By 2002 the entire site was owned by the Commonwealth of Australia;
- WorkCover records indicated that there were 6 storage depots at the site; and
- An Underground Storage Tank (UST) was present at the site at the time of the PB report (which was installed in 1998). The UST was later removed and validated in 2009).

Based on the previous investigations and past site use (airport), it is generally considered there is low to moderate potential for contamination on the site, with the major source of contamination the following:

- Previous Avgas USTs that were located at the site;
- Previous diesel, engine oil, waste oil and transmission oil above ground storage tanks;
- Fuel spillage from aircraft;
- Possible lead based paints in buildings and hangers and runway construction materials;
- Corrosion of metal building and possible asbestos containing materials;
- Paint storage;
- Other issues related to the general use of the site as an airport;
- Use of pesticides to control weeds; and
- The northern landfills [note: these are located to the north of the runway and beyond the boundary of the proposed development site].

Method of Investigation

Although there is no guidance provided for sites larger than five hectares, the general guide used by site auditors is a sampling density of 11 locations per hectare. For the former Hoxton Park Aerodrome, this would mean 440 test holes would be required. Thirty-nine (39) test bores were drilled across the site. Despite the lower density of test bores, the number of bores drilled across the site is considered acceptable as:

- the sites for the 39 bores focused in the identified areas of concern (mainly focused on the main activity area of the airport, e.g. control tower, maintenance and refuelling facilities) but also included other areas of concern;
- the site has been subject to a number of previous assessments, the results of which have been made available with appropriately defined areas/issues of environmental concern;
- the proposed development is for less sensitive uses, i.e. commercial/industrial uses; and
- the investigation findings and analytical results were consistent across the site.

Results of site investigation

DP determined, through their analysis of previous assessments and their own sampling, that:

- there is low to moderate potential for contamination on the site due to the previous use as an airport, and specifically the above and under ground storage tanks, fuel spillage, construction materials (e.g. lead based paints, asbestos);
- the results of the soil samples indicate acceptable levels of heavy metals, TPH, BTEX, PAH, OCP, PCB and phenols for the proposed commercial/industrial use;
- although there were no signs of asbestos in the test bores, the potential presence of isolated fragments cannot be ruled out. However, the potential health impacts due to asbestos contamination associated with the site is assessed to be low;
- DP did not observe any sources of odour during the investigation, there were no discernible signs of landfill gas concentrations, and any odour caused by the Hinchinbrook Creek or the M7 Motorway would be minor and short term; and
- groundwater results were also typically low or below the laboratory detection limits. Whilst there were some elevated heavy phenols and PAH results were detected no signs of petroleum hydrocarbon or fuel related contamination were noted.

Conclusions and Recommendations

On the basis of the current investigation findings, whilst noting the “low sensitivity” of the proposed industrial land use, no issues of unacceptable environmental concern that warrant remediation action were noted, and the site is considered compatible with the proposed development and may proceed from a contamination standpoint.

In this regard DP recommends that the construction works should proceed under a Construction Environmental Management Plan (CEMP) to be prepared by an environmental consultant and implemented. The plan will provide details on the following best practices from a due diligence standpoint:

- Requirements and procedures to be adopted prior to and during demolition works to ensure that the works are conducted in a safe and appropriate manner in accordance with the legislative requirements, and that any hazardous material (such as asbestos) will be removed in a controlled manner by a qualified and appropriately licensed contractor without contamination the substrate – Note that demolition consent has been granted and will be undertaken by others;
- As a good due diligence practice, following demolition and removal of the existing site structures/infrastructure and prior to the commencement of construction works, ie. when the site become more accessible, the site should be inspected/checked by a qualified environmental consultant to verify the current investigation findings. The inspection/check should focus on previously concealed areas or areas of possible concern, such as the former building footprints, and also on areas of potential concern, eg. hangers and areas of former fuel tanks.
- Development of "Unexpected Finds Protocols" to provide clear guidance to site works for the management of unexpected findings during the site development process.

Based on the available information, in the unlikely event that unexpected contamination issues are uncovered during the post-demolition site validation, these can be handled, assessed and managed in accordance with the Unexpected Finds Protocols and relevant provisions of the CEMP.

Commitments regarding the preparation of a CEMP and the carrying out of post demolition validation are included at **Chapter 9**.

8.8 Salinity

As a result of the above soil investigations, Douglas Partners were commissioned to prepare advice regarding the management of salinity issues on the site (**Appendix U**).

Douglas Partners note that the existing ground levels are to be raised by up to 2.5m with imported fill material and that the proposed concrete ground slabs will be founded at shallow depths in the fill. Cutting will be required in some areas, including the locations of the proposed detention basins.

With the above in mind, Douglas Partners suggest that the salinity management measures should focus on investigating the fill material, both at the source (prior to import) and on completion of the bulk earthworks. Management strategies will be prepared prior to the bulk earthworks commencing so as to reduce the risk of salinity resulting from those works.

Following the completion of the bulk earthworks, a salinity investigation will be undertaken which will be carried out in accordance with the guidelines for "Site Investigations for Urban Salinity" (DLWC 2002, now DPI). The report outlining the results of the investigations will incorporate a Salinity Management Plan.

A commitment regarding the above investigations and management measures is included in **Chapter 9** of this report.

8.9 Geotechnical Investigation

In order to determine appropriate construction methodologies and design of the proposed warehousing and distribution facilities, Douglas Partners were asked to undertake a preliminary geotechnical investigation (**Appendix V**). Note this was completed in addition to previous studies undertaken by URS Australia Pty Ltd in May 2005.

Ten boreholes were drilled across the site to depths between 7.1m and 8.8m. The results of the test boreholes were the following:

- Filling - grey and brown silty clay and shale filling was encountered up to depths between 0.3 m and 0.9 m.
- Silty Clay - Stiff to very stiff brown silty clay to depths between 3.5 m to 7.0m
- Gravelly Clay - very stiff brown gravelly clay in Bores GW2A, GW3A, GW4A, GW6, GW7, GW8, 20, 21 and 22 to depths between 6.8 m to 8.4 m;
- Siltstone - extremely low to very low strength shale/siltstone. In most bores, there was an increase in strength with depth with the siltstone becoming medium or high strength at depths of between 7.1 m and 9.6 m. In three bores, (Bores GW2A, GW4A and 21) the recovered cores did not indicate any significant uniform increase in rock strength with depth over the 2 m length of core.

The above testing indicates that:

- In the areas of cutting, the material should be easily removed by conventional earthmoving equipment;
- As a result of filling, the surface profile will comprise stiff silty clay or compacted filling over stiff silty clay;
- Provided that the filling is compacted as recommended by Douglas Partners, the filling and natural clays will provide an appropriate bearing layer for conventional strip and pad footings.

A commitment has been made at **Chapter 9** of this report which states that the proposed earthworks will be carried out in accordance with the geotechnical recommendations of Douglas Partners.

8.10 Infrastructure and Utilities

ADW Johnson was engaged to provide advice regarding the installation of infrastructure and services on the site. Their report is at **Appendix I** and concludes that the existing services to the site can be augmented to service the proposed development.

Water Supply

Sydney Water has indicated that future supply to the proposed development will be gained from an upgrade to 250mm and 150mm diameter water mains from the north and south (respectively) of the site.

Sydney Water has advised that the development will be supplied with recycled water from the future Hoxton Park Recycled Water Supply Scheme.

A feasibility application has recently been lodged with Sydney Water seeking the Department's preliminary Notice of Requirements for the upgrade of water infrastructure (both potable and recycled). Olsen Infrastructure has been commissioned to complete designs according to this notice, once received.

Sewerage Services

Sydney Water is currently upgrading the reticulated sewer as part of the required works in relation to the three lot subdivision to the north-west of the site. No further adjustments to the sewer are required.

Electrical Services

Integral Energy has advised that, through the appointed service coordinator Connect Infrastructure, electricity supply will be made available to this site via new high voltage mains to be installed. A formal application and proposed method of supply for the connection for electricity to the proposed development is currently being prepared to submit to Integral Energy for their approval / comments.

Communication Services

Telecommunication facilities are currently provided to the site, as a result of infrastructure upgrades previously provided in relation to the three lot subdivision to the north-west of the proposed development. A separate application has recently been made to Telstra Smart Community in relation to the proposed development. The requirements and location of communication service infrastructure will be documented as part of detailed civil drawings for the future roadways.

Gas Services

Service provider, Jemena, has advised that reticulated gas will be available to the development via an extension from the main located in Middleton Grange.

8.11 Non-Indigenous Heritage

During the rezoning of the former Hoxton Park Aerodrome several Heritage Impact Statements / assessments were prepared for the site including:

- Hoxton Park Heritage Impact Statement – Godden Mackay Logan (May 2002);
- Hoxton Park Airport, Preliminary Archaeological Investigations – AMBS Consulting (July 2001);
- Aboriginal Heritage Values – Heritage Concepts(March 2006);
- Hoxton Park Interpretation Plan and Strategy - Tropman & Tropman Architects (September 2006); and
- Hoxton Park Airport Heritage Management Strategy - Tropman & Tropman Architects (September 2005).

The above assessments identified that the former Hoxton Park Aerodrome is locally significant for its associations with the RAAF and defence planning during World War II. Constructed in 1942-43, it was built to be used as a dispersal airfield and satellite airport to Bankstown Airport complete with gravelled taxiways leading to "hides" on the western, eastern and southern sides of the airport. However these hides are no longer part of the airport site. The former Hoxton Park Aerodrome was used by local aviators for almost 60 years up until its recent closure in 2008.

None of the above assessments found that the heritage significance of the Airport would preclude its redevelopment for industrial purposes.

It is noted that part of the former Hoxton Park Aerodrome which is to be used for warehouse and industrial purposes has recently been renamed the 'Len *Waters Estate*'. Len Waters was the first Aboriginal fighter pilot to serve in the Royal Australian Air Force during World War II.

The site was assessed against the criteria and guidelines contained in the NSW Heritage Manual Update *Assessing Heritage Significance* proposed by the NSW Heritage Office.

The site meets three of the seven heritage assessment criteria:

(a) An item is important in the course, or pattern of NSW's cultural or natural history (or the cultural or natural history of the local area).

Hoxton Park Aerodrome is historically important for its direct association with defence plans during the Second World War. The airport was constructed as part of a group of airfields to be used as aircraft dispersal fields in the event of Japanese air attack on the Sydney area.

(d) An item has strong or special association with a particular community or cultural group in NSW (or the local area) for a social, cultural or spiritual reason.

Hoxton Park Aerodrome is important to the local aviation community.

(e) An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area).

The land to the east of the site, Hinchinbrook Corridor, contains remnants of Cumberland Plain Woodland. Aboriginal occupation is evident in this area to the east of the site.

The remnants of the former gravelled taxiways and hides are important archaeological components of the airport, however much of the hides and taxiways are not longer located within the site. **Figure 40** provides a site plan showing the location of features of cultural value on the site.

Despite the above local significance, the site was not listed as a heritage item within any statutory planning instrument nor is it located within a conservation area.

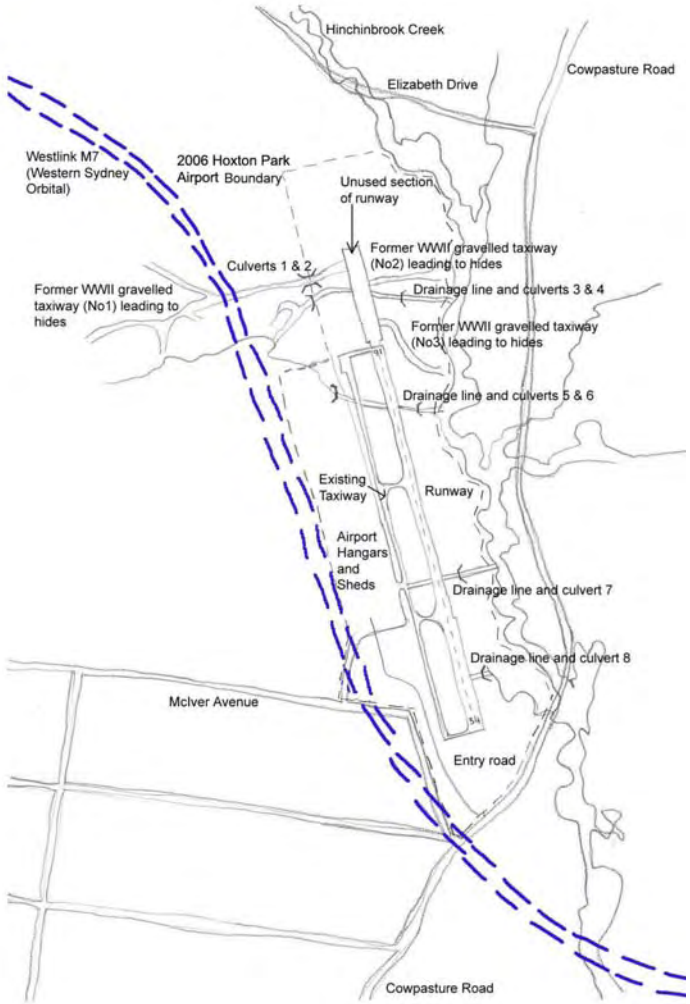

Figure 40 – Site plan showing features of cultural value

Source: Tropman & Tropman Architects

Interpretation Plan and Strategy

Notwithstanding the above, an Interpretation Plan and Implementation Strategy was prepared by Tropman & Tropman Architects for the former Hoxton Park Aerodrome in January 2010, refer to **Appendix W**. The Strategy identifies the appropriate themes and messages to be communicated to the public. The key historical themes nominated for the site are described in **Table 6**.

Table 4 - Historical themes of the Former Hoxton Park Aerodrome

Historical Theme	Message
Environment	▪ Geology ▪ Flora ▪ Fauna
Aboriginal Cultures	▪ Groups ▪ Use of the area
Events	▪ Construction of the airport in case of Japanese attack during WWII ▪ Intended use as a dispersal airfield – a number of which were built throughout NSW

Historical Theme	Message
Industry	▪ Aviation/aeronautical industry formerly located on the site
Technology	▪ The technology of camouflage – taxiways, hides ▪ Heritage engineering items on the site and airfield safety paraphernalia
Transport	▪ Hoxton Park Airport has been used as an airport for most of its life ▪ After WWII Hoxton Park Airport was leased to the Hardy Rubber Company for use as a tyre test track. Plans were made to convert it into a speedway but lobbying by aviation bodies saw it revert back to use as an airport.
Defence	▪ Airport developed by the Royal Australian Air Force (RAAF) in 1942-43 in light of fears of a Japanese attack. (Note: By the time this airfield was operational, the WWII Pacific warfront had been pushed north and was being managed from Queensland). ▪ RAAF pilots trained at Hoxton Park as part of the Empire Air Training Scheme

Source: Tropman & Tropman Architects

The recommendations of Tropman & Tropman Architect's strategy include:

- Wherever the site encroaches upon areas or features of cultural value, appropriate interpretation media should be employed to interpret these features to the public;
- Any new development, including buildings and roadways, is to be aligned to the former runway at the degrees of 160, 340 (1634, the airport's call sign). Note: Tropman & Tropman Architects acknowledge the proposed for the road and buildings are aligned to the former runway and that the proposed development is the most efficient use of the site;
- The southern entry off Cowpasture Road should include an acknowledgement or introductory identifier signifying entry of the former airport. This would probably include reference to the occupation of the site by the Department of Defence. Tropman & Tropman suggest this identify would be an aero-type sculpture;
- Road construction and treatment should include adapted airport safety technology and paraphernalia;
- The new industrial boulevard should be named to acknowledge the site's principal historic theme;
- If possible, landscaping of boulevard should be either natural or exotic species reflecting the site's past vegetation or historic themes. Lawn/mown grasses would be appropriate treatment along the eastern edge and this could include outdoor seating and tables with "signage" about the place;

- The WWII Defence Department's use of the site for aircraft dispersal and camouflage should be symbolised through media such as sculpture and signage;
- Interpretation signage should be easily distinguished from directional signage within the site;
- Interpretation signage may take the form of free-standing signage, plaques in the footpath of labels;
- Interpretation media should be suited to the location in which they are placed; and
- The interpretation implementation and maintenance process should be reviewed regularly.

A commitment has been made in **Chapter 9** which outlines that the above interpretative elements will be implemented within 3 months of the final occupation of the buildings. It is noted however, that many of the recommendations will be in place prior to this including the positioning of the new north/south access road, the planting of grass along the eastern edge of the north/south road and signage.

The report also provides recommendations in relation to the works associated with the northern detention basin and the bridge across Hinchinbrook Creek. These will be addressed as part of the relevant applications in the future.

8.12 Indigenous Heritage

Mary Dallas Consulting Archaeologists (MDCA) prepared an Aboriginal Archaeological Assessment in relation to the proposed development on the former Hoxton Park Aerodrome site (Refer **Appendix D**). This report is subsequent to numerous previous Aboriginal Heritage Assessments specific to the former Hoxton Park Aerodrome, as well as other studies undertaken on adjacent lands (along M7 Corridor and Cowpasture Road). These studies include:

- Hoxton Park Airport, Preliminary Archaeological Investigations – AMBS Consulting (July 2001); and
- Aboriginal Heritage Values – Heritage Concepts (March 2006).

The above studies identified a number of previously recorded Aboriginal sites within the immediate vicinity of the development, including three sites which were / are located on the former Hoxton Park Aerodrome which consist/ed of two open campsites (45-5-0774 and 45-5-0786) and one isolated artefact (45-5-2474).

The location of the above items are identified in **Figure 41**.

MDCA undertook a field inspection of the site to relocate previously recorded Aboriginal archaeological evidence within the study area and make observations to support a more detailed assessment of subsurface archaeological potential. The field survey did not result in the location of any previously unrecorded Aboriginal archaeological material.

Figure 41 – Location of recorded archaeological evidence

Source: MDCA

In regards to the previously recorded archaeological evidence, MDCA provided the following comments:

- 45-5-0774 – item located within the land to be dedicated to Liverpool City Council for public recreation. Requires consideration in Council's Vegetation Management Plan;
- 45-5-0786 – major historical disturbance, generally no potential except low potential along original creek line; and
- 45-5-2474 – destroyed during M7 Motorway construction.

Consultation with Local Aboriginal Communities

The following groups have been involved in previous archaeological studies undertaken on the site:

- Gandangara Local Aboriginal Land Council (GLALC);
- Darug Tribal Aboriginal Corporation (DTAC); and
- Darug Custodians Aboriginal Corporation (DCAC).

As part of the current study, MDCA advised the above groups of the proposed development and invited then to participate in an archaeological survey of the study area. In addition to the above groups, the newly formed organisation was involved Darug Aboriginal Cultural Heritage Assessments.

In addition to the above, public and direct notification was undertaken in full compliance with the DECCW interim guidelines for community consultation.

Following the field investigations (undertaken on 26 November 2009) an onsite discussion was held about possible management of the known and potential Aboriginal heritage of the study area. The assessment and management summary was endorsed by the relevant groups and is summarised below.

Impact Assessment

Within the main former airport site where the distribution facilities are proposed to be built, there is no subsurface archaeological potential due to the high level of disturbance that has occurred during past use of the site as an aerodrome and the documented very low density artefact scatter does not warrant further investigation.

The current drainage design indicates that Site 45-5-0774 will not be impacted as a result of the proposed development. However as the detailed design of the drainage infrastructure will be under taken post approval, MDCA recommend that if impacts are required, collection and recording of the artefacts at this locality be undertaken. Such impacts are also likely to extend to adjacent undisturbed areas within the assessed area of subsurface archaeological potential (along Hinchinbrook Creek) and would therefore require archaeological test excavation.

With regard to Site 45-5-0786 this will form part of the northern detention basin and will be the subject of a future application and the recommendations made by MDCA will be incorporated into the relevant documentation for that application.

Recommendations

MDCA has recommended the following actions to manage the above Aboriginal archaeological resources which are likely to be impacted by the proposed development (refer to **Figure 42** for management strategy). The recommendations have been grouped with respect to the different aspects of the development for ease of assessment.

Proposed warehouse and distribution facilities and stage 1 infrastructure works: MDCA are of the opinion that no further management measures are required in the area the subject of the three project applications with the exception of potential upgrades to the existing drainage inlets which are located along the western edge of the Hinchinbrook Creek Corridor.

- If impacts of site 45-5-0774 are proposed in relation to drainage works in this area, the Mirvac Group, through the registered Aboriginal stakeholder groups are to collect the stone artefacts comprising the site at this location.
- If drainage is required in adjacent undisturbed areas undertake archaeological test excavations to determine archaeological potential.

- Update relevant records of any impacted registered sites. These records will note what he registered Aboriginal stakeholder groups agreed to with respect to long term storage of any collect artefacts.

The recommendation for collection is consistent with other sites in the local area which have previously been the subject of collection and/or archaeological salvage.

Future Applications
The report prepared by MDCA also provides an assessment for works which are proposed to be undertaken in future stages (i.e. construction of the northern detention basin and the bridge over Hinchinbrook Creek). The recommendations made in relation to these works will be dealt with as part of those future applications. A commitment to this effect is made at **Chapter 9** of this report.

Figure 42 – Proposed management of Aboriginal sites and areas of archaeological potential

Source: MDCA

8.13 Biodiversity, Flora and Fauna

GHD Pty Limited was commissioned to prepare an ecological assessment of the proposed development. Their report is included at **Appendix C** and discussed below.

It is noted that the GHD report looks at the following three components of the overall development of the site:

- The proposed industrial development which is the subject of the three PAs for the two Woolworths warehouse buildings and the Stage 1 Infrastructure Buildings;
- The construction of the northern detention basin; and

- The new bridge over Hinchinbrook Creek.

Whilst the latter two elements (northern detention basin and bridge of Hinchinbrook Creek) will be the subject of separate applications, an initial ecological assessment is provided in GHD's report at **Appendix C** so as to help inform the interested parties of their ecological value. However for the purposes of this assessment, only those aspects relevant to the Industrial development is discussed in this section of the report. A commitment has been made at Chapter 9 in relation to the further ecological assessment of the detention basin and bridge in future applications.

In preparing their assessment, GHD had the benefit of reviewing earlier ecological assessments and environmental plans which were prepared for the rezoning of the site. These included:

- Biosis Research (2006) Flora and Fauna Assessment of the Stage 1 subdivision, Hoxton Park Airport, July 2006;
- GHD (2007) Vegetation Management Plan (VMP) for Hoxton Park Airport, November 2007; and
- GHD Offset Strategy Hoxton Park Airport, November 2007.

Field Surveys

Field surveys and assessment were undertaken by GHD to build upon the existing biodiversity information available for the site and the immediate surrounds. These included:

- An initial two day, one night survey on 16th – 17th December 2009, sampling the proposed locations for the sediment pond and access road; and
- A supplementary three day, two night survey on 19th – 21st January 2010 sampling the proposed employment land development, access road and aquatic habitats and overall biodiversity values.

It is noted that the field studies undertaken covered the whole of the concept plan boundary as well as areas relating to parts of the former aerodrome which will be the subject to separate applications in the future. In light of this, the summary provided below provides information relevant to the Concept Plan and Project Applications (described as the 'development zone'). The recommendations relevant to the northern detention basin and future crossing over Hinchinbrook Creek will be considered in the future applications for the construction of those elements.

The vegetation within the concept plan area has been extensively modified by historic clearing and ongoing activities. However, the site does contain a small patch of Cumberland Plain Woodland (CPW) within the footprint of the proposed northern detention basin and small remnants and scattered paddock trees (Alluvial Woodland) representative of this community are located within the proposed employment zone. CPW is listed as a Endangered Ecological Community under the Threatened Species Act (TSC Act) and as a Critically Endangered Ecological Community under the Environmental Protection and Biodiversity Conservation Act (EPBC Act).

With regard to the above vegetation, GHD noted the following:

- The small patches of Alluvial woodland are located within the un-mown land within the former aerodrome. These patches are less diverse and feature more severe weed infestation; and
- The majority of grassland within the former aerodrome is heavily modified, regularly mown and dominated by exotic species.

The locations of the above vegetation are shown in **Figure 43**.

Fauna

During the field surveys, GHD identified 3 mammals, 56 birds, 5 reptiles and 4 frogs, (all native) across the entire study area. Five of these were identified as Threatened Species which are listed as being Vulnerable under the TSC Act:

- The Grey-headed Flying Fox (Pteropus poliocephalus);
- Eastern Falsistrelle (Falsistrellus tasmaniensis);
- Eastern Bent-wing Bat (Miniopterus schreibersii oceanensis);
- Large Footed Myotis (Myotis macropus); and
- Greater Broad-nosed Bat (Scoteanax ruepelli).

There were a further five exotic mammals and three exotic birds recorded. A full list of species identified is included in GHD's report at **Appendix C**. **Figure 43** identifies where the fauna were found on the site. As can be seen in the image, the majority of animals identified were located outside of the concept plan area.

Although not identified during the field surveys, GHD consider that it is highly likely that the Cumberland Land Snail occurs in the CPW at the site, based on habitat assessments and recent record in the locality.

Fauna Habitats

In assessing the habitat within the concept plan area, GHD noted the following:

- The wood land patches around the site are relatively small and surrounded by extensive cleared areas. They are probably too small and fragmented to support local populations of threatened woodland bird species and are more likely to support more mobile and adaptable woodland species.
- The part of the site to be developed contains relatively few pre-European age trees and limited numbers of hollow bearing habitat trees and stags. Trees outside the development footprint were not counted, however GHD consider that due to the age and structure of the riparian strip it is likely to contain good numbers of tree hollows and the overall broader study area is likely to contain sufficient numbers of tree hollows to support local populations.
- Aquatic habitats within the development footprint are all artificial drainage features and have little conservation value.

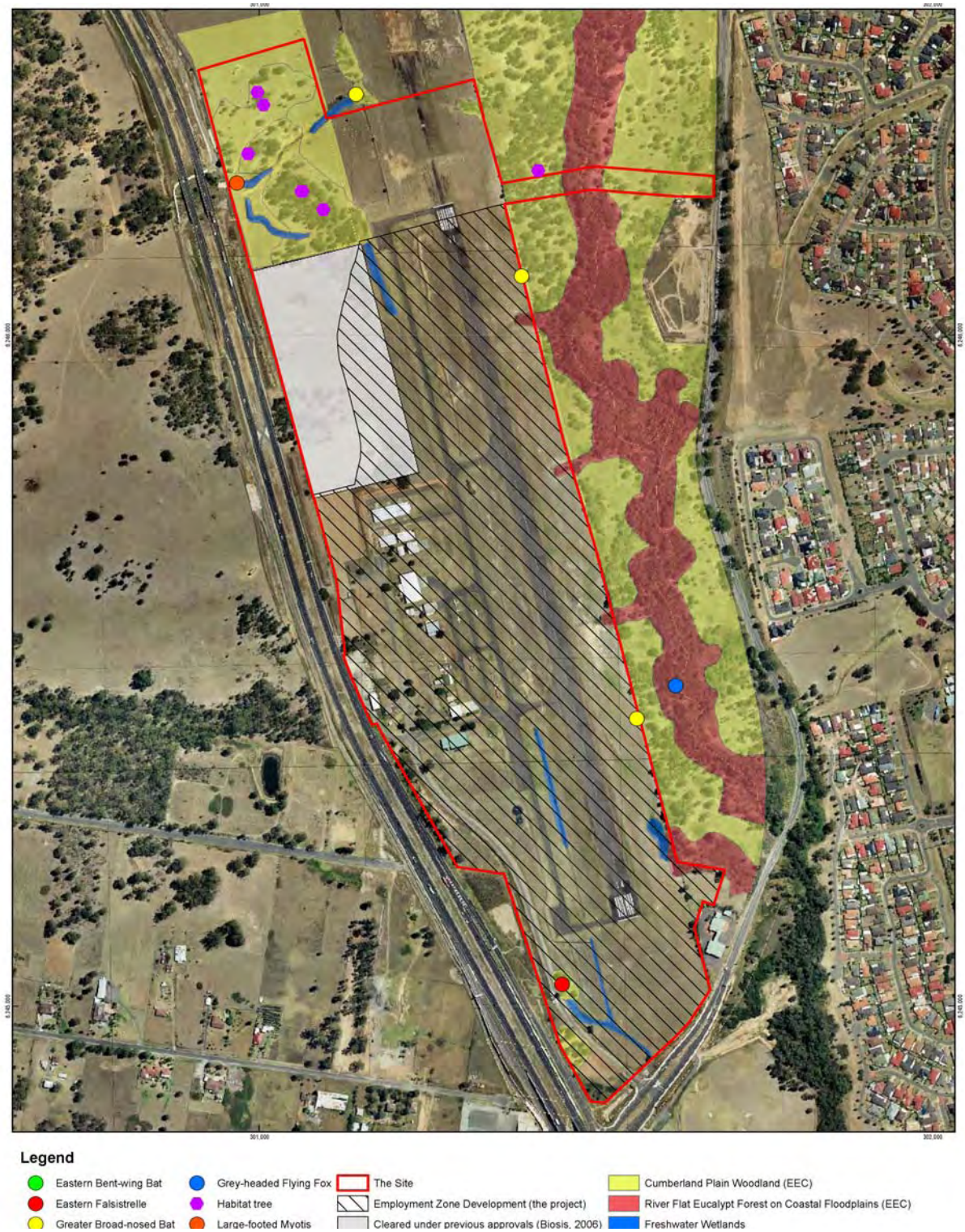

Figure 43 – Location of flora and fauna

Source: GHD Pty Limited

Impact Assessment of the Warehouse and Distribution Facilities and Stage 1 Infrastructure

Construction of the proposed warehousing and distribution facilities will require the removal of three small patches of Shale Plains Woodland vegetation, totalling 1.475ha in area. As noted above, these patches are isolated, small and degraded and as such their removal is not likely to result in a significant impact on the EEC. Notwithstanding this, offsets have been agreed as part of the VPA applying to the site (detailed in Section 4.10).

Construction for the project will result in the removal understorey plants that are within the surface disturbance area at the time of the operations. However this clearing will remove non-threatened native plants and noxious and environmental weeds and the majority of this area is disturbed, cleared, subject to severe weed infestation and has little habitat value for native plants.

The proposed development will remove limited areas of habitat resources within the construction footprint (< 2 ha) occurring as small, isolated patches. Based on these considerations Biosis considered that the proposed development is likely to have a nil or negligible impact on threatened fauna species. Accordingly, no further assessment was carried out for threatened fauna under the EPBC and TSC Acts and is not considered necessary.

Fauna movement to the west is already limited by the M7 and to the south by Cowpasture Road. The development will contribute to this barrier however it is noted that the vegetation to be removed has little value for fauna species as the habitat to be removed is a 'dead end' terminating in the former airport site.

The Hinchinbrook Creek riparian corridor is significant at a local and regional scale, connecting woodland and forest to the south of the site with other remnant vegetation to the north. The existing riparian corridor is 50-100m wide and provides foraging, shelter and travelling habitat. This area of intact vegetation is likely to be sufficient to maintain ecological functions such as pollination of plants, seed fall from mature trees, maintenance of soil mycorrhizal associations and movement of the majority of fauna that contribute to the community. The project would have a very minor effect on the integrity of this habitat corridor.

As noted above, the aquatic habitats within the development footprint are artificial and of limited conservation value.

Recommendations

GHD consider that the impacts of the proposed warehouse and distribution facilities and the stage 1 infrastructure are consistent with that already assessed in the above reports and the extent, condition and conservation significance of native vegetation and habitats at the site is equivalent to that described in the Biosis assessment and subsequent GHD site surveys in the preparation of the VMP for the site.

With this in mind, GHD consider that no additional surveys, modifications to the development design, mitigation or offsets are required to accompany the Project Application for the proposed warehouse and distribution facilities or stage 1 infrastructure. Further, GHD note:

"The majority of the development area falls within land which is extensively modified by historical disturbance. Impacts on native flora and fauna are substantially less than would be associated with an undisturbed 'green field' site. Remnant vegetation and habitats that will be removed occur as isolated patches within the development footprint. These patches could not be practically avoided without substantial changes to the proposed development. The conservation

significance of the vegetation and habitats to be removed would not justify such a change to the project scope."

Further to the above, the clearing of the site has already been assessed and is permitted in accordance with the VPA applying to the site. The Offset strategy agreed for the site (to be implemented through the VPA) is shown in **Figure 44** and includes:

- Conservation of existing remnant vegetation outside the RFI Zone;
- Rehabilitation of 4.06 ha existing vegetation; and
- Revegetation activities based on a compensation ratio of 1:2.85.

In order to further mitigate against potential impacts of the proposed development, GHD recommend that a Construction Environmental Management Plan be prepared which includes the following mitigation measures:

- Soil and surface water management;
- Dust management;
- Fauna management;
- Groundcover Clearance Protocol;
- Site Management; and
- Weed and Pest Management.

In line with GHD's recommendations, the CEMP at **Appendix M** includes the above measures.

Figure 44 – Offset strategy

Source: GHD

8.14 Bushfire Risk Assessment

Hinchinbrook Creek is identified as Category 1 Bushfire Prone Land and as such the proposed site includes the buffer zone to this land. In light of this, the Australian Bushfire Protection Planners Pty Limited (ABPP) was commissioned to prepare a Bushfire Protection Assessment, refer to **Appendix E**, to identify the bushfire protection measures required for the proposed development.

Assessment

Planning for Bushfire Protection 2006 does not provide deemed to satisfy solutions for Class 5 – 10 buildings constructed in bushfire prone areas but states that where the aim and objectives of the document are not met, then the construction requirements for bushfire protection will need to be considered on a case by case basis.

Notwithstanding that the guidelines do not strictly apply, ABPP have used the guidelines to inform their assessment of the proposal. **Table 7** summarises their assessment of the width of defendable space requirements based on the widths required to provide a separation distance which is sufficient to minimise flame contact with the building/s and to provide a fire-fighting platform wide enough to permit the safe extinguishment of a bushfire, after the fire front has passed. As can be seen in the table, the proposed development provides suitable widths.

In order to maintain these setback zones, ABPP recommends the following: Management of the Defendable Spaces within the development shall comply with the following:

- Maintain a clear area of low cut lawn or pavement adjacent to the buildings;
- Utilise non-flammable materials such as Scoria, pebbles and recycled crushed bricks as ground cover to landscaped gardens in close proximity to building;
- Keep areas under shrubs and trees raked and clear of combustible fuels;
- Trees and shrubs should be maintained in such a manner that tree canopies are separated by 2 metres and understorey vegetation is not continuous [retained as clumps].

The landscape plans for the site have been prepared in accordance with the above recommendations of ABPP. The future management of the landscaped gardens and the vegetation within the stormwater management ponds and spill zone will remain the responsibility of the property owner. A Positive Covenant, created under the provisions of the *Conveyancing Act 1919*, shall be placed on the title of the land to ensure compliance with the management prescriptions detailed within the Bushfire Protection Assessment. A commitment to this effect is included at **Chapter 9** of this report.

The new buildings will not be exposed to radiant heat levels which will necessitate the evacuation of the buildings during bushfire events in the woodland vegetation in the Hinchinbrook Creek Corridor with a calculated maximum radiant heat rating on the Dick Smith Office Building being less and 11.00kW/m^2. However, due to the potential for floating embers, ABPP have made the following recommendations for the treatment of the proposed buildings:

- Any operable windows shall be fitted with aluminium/stainless steel mesh flyscreens with a maximum aperture of 2mm;
- Access doors [PA and Vehicle] shall be fitted with seals that seal the bottom, stiles and head of the door against the opening/frame to prevent the entry of embers into the building. Particular attention shall be paid to the gap at the head of the door curtain, where mohair type seals can be used;

- Any external vents, grilles and ventilation louvres shall have stainless steel mesh with a maximum aperture of 2mm square fitted to prevent entry of embers into the building or be fitted with a louvre system which can be closed in order to maintain a maximum aperture or gap of no more than 2mm; and
- Roof ventilators shall be fitted with stainless steel flymesh (2mm aperture) to prevent the entry of embers into the building or be fitted with a louvre system which can be closed in order to maintain a maximum aperture or gap of no more than 2mm.

A commitment has been made at **Chapter 9** which will ensure that the proposed buildings will be designed in accordance with the above recommendations.

Table 5 - Determination of defendable space to the proposed distribution and warehouse complexes

Aspect	Vegetation within 140m of development	Predominant Vegetation Formation Class *[Table A2.1 Planning for Bushfire Protection 2006]*	Effective Slope of Land for 100 metres from building	Flame Zone Width determined by calculation	Available width of Defendable Space to proposed building
North of DS DC complex	Alluvial Woodland	Woodland	< 2 degrees fall to the north into tributary to Hinchinbrook Creek	12 metres flame length for Woodland vegetation on 2^0 downward slope to north	Defendable Space of more than 140 metres to Office of DS DC building
East of BIG W & DS plus Warehouse on proposed Lot 2	Cumberland Plain Woodland within Hinchinbrook Creek corridor & mass planting to the west of the existing Service Station	Woodland	< 2 degrees down slope across riparian corridor/flood plain to creek	12 metres flame length for Woodland vegetation on 2^0 downslope to the east	Minimum 30 metres to the east of the proposed Transport Building – 55 metres to DS DC Office – 70 – 90 metres to Distribution Centre buildings; 45 metres to future warehouse on residual lot
South of Warehouse on proposed Lot 1	Grassland	Nil Classification	Level	Nil – no bushfire threat	Defendable Space more than 100 metres wide
West of BIG W & DS plus Warehouse on residual lot	M7 Motorway + Industrial Development on Lots 401 - 403	Nil Classification	Level	Nil – no bushfire threat	Defendable Space more than 100 metres wide

Source: Australian Bushfire Protection Planners Pty Limited

8.15 Noise Assessment

Renzo Tonin & Associates (NSW) Pty Limited (Renzo Tonin) was commissioned to undertake a noise assessment of the construction, operational and road traffic impacts of the proposed warehouse and distribution facilities. Their report is included at **Appendix X** and summarised below.

Noise Criteria and Guidelines

In order to determine the potential noise impacts Renzo Tonin first determined what the existing background and ambient noise levels at the nearest noise receiver location are. Noise measurements were taken in the four locations shown in **Figure 45** which are:

- L1 - 8 Nichol Place, Hinchinbrook;
- L2 - 4 Wardang Road, Hinchinbrook;
- L3 - Hoxton Park Aerodrome (northern section where residential development will occur in the future); and
- L4 - 34 Truscott Avenue, Middleton Grange.

However, due to the current upgrade works occurring along Cowpasture Road, and the reduced speed restrictions that are in place, the noise levels recorded at Locations L1 and L2 are not considered to be representative of the typical environment at those receiver locations.

As such, Renzo Tonin has referred to noise level measurements which were undertaken by Day Design Pty Limited for the original rezoning proposal of the Hoxton Park Aerodrome which were taken between 18th September and 25th September 2006. In particular, the readings obtained from 31 Keppel Circuit, Hinchinbrook have been referenced.

The noise criteria established by Renzo Tonin, in accordance with the NSW DECCW Industrial Noise Policy are summarised in **Table 8**.

Figure 45 – Noise receiver locations

Source: Renzo Tonin & Associates Pty Limited

Table 6 – Operational noise criteria for assessment

Location	Intrusiveness Criteria $L_{Aeq,15min}$			Amenity Criteria $L_{Aeq,period}$			DECCW's Sleep Disturbance Noise
	Day	Evening	Night	Day	Evening	Night	Criteria $L_{1,1\ minute}$ dB(A)
Hinchinbrook	47	48	44	55	45	40	54
Hoxton Park Aerodrome	46	46	44	55	45	40	54
Middleton Grange	52	48	43	55	45	40	53

Source: Renzo Tonin & Associates Pty Limited

Renzo Tonin has also had the benefit of reviewing the detailed design acoustic assessment report which was prepared by Heggies for the Cowpasture Road upgrade and whilst not presented in detail, Renzo Tonin has taken into consideration the future environment of Cowpasture Road and the noise impacts that this will have on specific receiver locations. For this report the Hinchinbrook receiver was located at 31A Rottnest Avenue.

When considering the future traffic movements along Cowpasture Road the predicted day time noise level for 2016, as presented in the Heggies Report, is $L_{Aeq\ 15hour}$ 68dB(A) at the upper floor of 31A Rottnest Avenue with no noise mitigation measures in place. However with a 3m wall in place, Renzo Tonin consider that the resultant daytime $L_{Aeq\ 15hour}$ would be 63dB(A).

In terms of night time amenity goals and the consideration of the future traffic levels, Renzo Tonin have calculated the following:

- L_{eq} 44.5dB(A) – 2006
- L_{eq} 46dB(A) – 2016

The assessment below, considers the adjusted noise criteria associated with the upgrade of Cowpasture Road.

Operational Noise Impact Assessment

The proposed warehouse and distribution facilities will operate 24 hours a day, 7 days a week.

Renzo Tonin has identified the following source of potential noise during the operation of the warehouse facilities:

- Use of container handlers during the loading and unloading of trucks on site;
- General operations including use of small forklifts inside the buildings;
- Loading and unloading of trucks on site;
- Heavy vehicle movements on site; and
- Heavy vehicle traffic generation on the local road network.

Noise levels from Renzo Tonin's database were used to determine the sound power levels of the items above.

The results from Renzo Tonin's assessment determined that during neutral weather conditions the proposal will comply with the intrusiveness and amenity goals in all locations.

During adverse meteorological conditions, the proposal is also found to comply with the exception of the receiver location at Rottnest Avenue, where an exceedance of 1dB(A) is expected. Renzo Tonin consider this exceedance to be negligible and unlikely to have any significant impact on the amenity of these residents.

Renzo Tonin notes however that the background level may also change during adverse meteorological conditions. As the background noise level at the nearest residential areas is controlled predominantly by distant road traffic from either the M7 or Cowpasture Road, it is likely that the resultant noise from these sources would also increase (along with site noise) under adverse meteorological conditions.

Renzo Tonin's assessment of the amenity goals showed that a marginal exceedance of 2dB(A) is predicted in the areas of Middleton Grange and Hinchinbrook south. With respect to Rottnest Avenue, Hinchinbrook location the noise level predictions reveal a 0.5dB(A) exceedance of the adjusted year 2006 amenity noise criteria but would comply by 1dB(A) in the year 2016. Renzo Tonin consider the exceedances of up to 2dB(A) of the amenity criteria to be negligible on the basis of the conservative assumptions that they have taken for the assessment.

With regard to the assessment of sleep disturbance, the proposal would comply at all locations when considering L_{AMax} source noise levels.

As fixed plant and mechanical equipment are yet to be selected, a commitment has been made at **Chapter 9** which establishes that this equipment will be designed, installed and treated with acoustic mitigative measures where required so as to comply with the noise criteria established for the project. In addition to this, all operators of the container handlers will be trained to understand correct operations of container handling so as to reduce the potential for generation of noise.

Construction Noise Impact Assessment

The duration of the proposed construction of both warehouse and distribution facilities is expected to be approximately 18 months with the following hours of construction:

- Monday to Friday – 7am to 6pm;
- Saturday – 7am to 4pm; and
- Sundays and Public Holidays – No works.

The proposed works involve bulk earth works, building structure works, internal fitout and landscaping works which will involve the use of machines such as bulldozers, jackhammers, cranes, concrete truck as and pumps, air compressors and the like.

In undertaking their assessment of the proposed construction works, Renzo Tonin has established the following noise criteria (**Table 9**), in accordance with DECCW's document *Interim Construction Noise Guideline* (ICNG).

The noise predictions made by Renzo Tonin, also shown in **Table 9**, indicate that during the standard hours of operation, construction activities generally comply with the guideline requirements before premises are considered 'noise affected' even when there are numerous items of plant are operating concurrently.

Where works are to be undertaken outside of normal construction hours, Renzo Tonin recommend that equipment activities above L_{aeq} 110dB(A) are minimised or be acoustically treated so as to minimise noise emissions from the site and therefore reduce the exceedance of the noise criteria for 'noise affected'. A commitment to this effect is made at **Chapter 9**. Noise mitigative measures have also been incorporated in the CEMP (**Appendix M**).

With the above mitigation measures in place it is considered that the noise impacts generated by undertaking of works outside of the normal standard construction hours will be outweighed by the benefit of having a shorter construction period.

Table 7 – Construction noise criteria and predictions, dB(A)

Location	During recommended hours		Outside recommended hours	Prediction	
	Noise Affected	Highly Affected	(7am – 8am and 1pm – 4pm Saturday)	Individual equipment	with all plant being used
Hinchinbrook	52	75	47	31-48	54
Middleton Grange	57	75	52	32-49	55

Source: Renzo Tonin & Associates Pty Limited

Road Noise Impact Assessment

Road noise emissions have been assessed against the *NSW Environmental for Road Traffic Noise* (ECTRN, Environmental Protection Authority 1999).

The ECTRN establishes criteria for different types of roads and land uses. These are provided in **Table 10**. Renzo Tonin predicts that the traffic noise levels from truck movements will be 46dB(A), which is 10dB(A) less that the night time criteria. Renzo Tonin note that the resultant noise levels should not affect compliance with the oveall night time traffic noise criteria of L_{eq} 55dB(A).

Table 8 – ECTRN noise criteria

Road	Day (7am to 10 pm)	Night (10pm to 7am)
New north/south access road	60dB(A)	55dB(A)
Cowpasture Road	60dB(A)	55dB(A)

Source: Renzo Tonin & Associates Pty Limited

8.16 Visual Impact Assessment

AECOM was commissioned to prepare a Visual Impact Statement (VIS) for the proposed development, refer to **Appendix R**. In assessing the visual impact of the proposed development, AECOM identified a number of 'observer locations' relevant for the development and a range of criteria against which the relative importance of each observer location can be assessed. The 'observer locations' were:

- M7 Motorway (northbound);
- M7 Motorway (southbound);
- Cowpasture Road (eastbound);
- Ida Kennedy Park, Green Valley (within residential area to the east); and
- Parkbridge Estate, Middleton Grange (residential area to the west).

Findings/conclusions

The key findings from the M7 Motorway road observer locations of the VIS are:

- The proposed development will be similar to other industrial development as commonly seen within the locality;
- The main warehouses are not anticipated to be significantly visible from the M7 Motorway and Cowpasture Road locations upon maturing of the proposed landscape development;
- The existing and proposed High Bay Racking Sheds (HBRS) will be seen as sentinel-like landmark elements, substantially augmenting the visual composition of the local landscape setting. Given the large, flat nature of the floodplain within which the proposed development will be set and the industrial (although relatively lower) scale of the associated proposed warehouse development, AECOM are of the opinion that the landscape setting has the capacity to incorporate elements of this scale, form and material composition; and
- Given the 110 km/h Motorway speed limit, views to the site will be fleeting.

The key finding of the Cowpasture Road eastbound location is that the proposed development will be similar to other industrial development as commonly seen within the locality, but in this instance is set behind a well presented landscape frontage that will provide a moderate level of screening.

The key findings of the static observer locations (open space and residential areas) of the VIS are:

- For Ida Kennedy Park and the open space associated with Liverpool Reservoir:
  - These are located approximately 1 and 2.5 kilometres from the proposed development site. The level of detail associated with this viewing distance is low and very low respectively;
  - Much of the ground plane of the proposed development site is not readily visible from these locations, resulting in a significant level of screening to much of the proposed general warehouse development; and
  - All components of the proposed development other than the HBRS can be anticipated to be further substantially screened by the proposed general landscaping when mature.
- Parkbridge Estate is likely to have very limited views to the development site upon completion of housing construction within it, with the exception of the HBRS, which will constitute landmark elements when seen from the estate. AECOM are of the opinion that the landscape setting as seen from this observer location, has the capacity to incorporate elements of the scale form and material composition of the HBRS.

The proposed Dick Smith HBRS, in conjunction with the existing Blum HBRS to the north-west of the site, comprise landmark points of interest that will sit visually comfortably within the broad floodplain setting of the proposed development.

Recommendations

That in recognition of the landmark scale and form of the Dick Smith HBRS, AECOM recommend that architectural consideration be given to the detailing and materials choice of the HBRS, in order to provide a visually harmonious and complementary element to that of the existing HBRS to the north-west of the site.

As shown in **Figure 46**, the proposed high bay element of the Dick Smith building has been designed to be visually harmonious and complementary to the Blum HBRS. In particular the proposed HBRS:

- Will be of a light sky blue colour, thereby reducing the contrast and visibility of the building against the sky;
- A variety of finishes (both colour and texture) are proposed so as to reduce the visual bulk and scale of the building, and
- Decorate and feature elements are proposed such as contrast trim, stripes or "swirls" in the cladding, windows and signage.

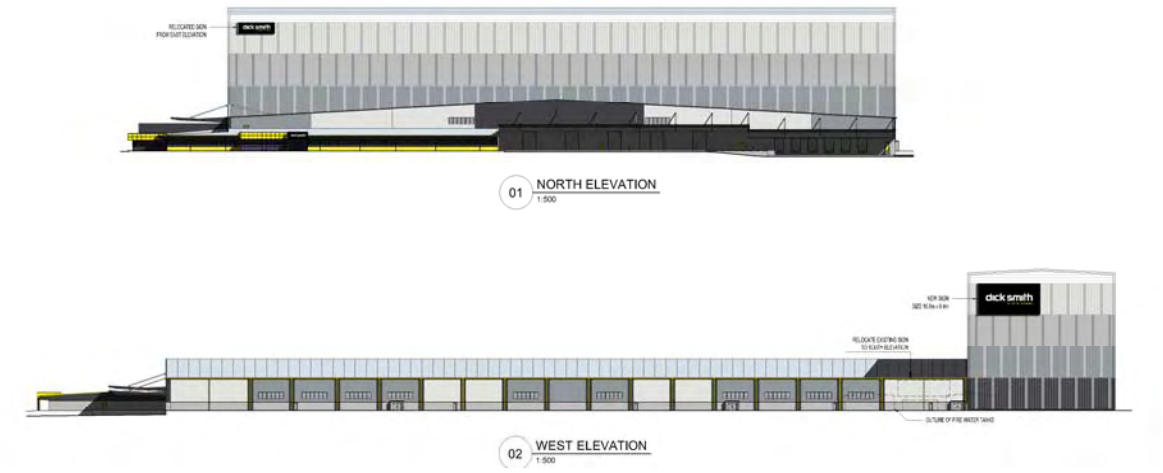

Figure 46 – Photomontage of the proposed Dick Smith High Bay
Source: Mirvac Projects Pty Ltd

8.17 Ecological Sustainable Development

The energy/fuel uses on the site will be (generally in descending order of magnitude):

- Mechanical ventilation of the storage areas;
- Air conditioning of the office areas;
- Internal and external lighting (carpark and security);
- Plug in equipment such as office equipment; and
- Fuel use for equipment to move goods.

Distribution Centres, while large in floor area, have only small areas with air conditioning and are not highly lit like an office building due to their primary use of storing goods. They do not have high internal loads like other industrial buildings of a similar size as the equipment density is very low and there is no manufacturing within the building. Consequently, their energy use per m^2 is very low compared to almost all other building types – residential, industrial, commercial etc.

Despite having a low baseline energy use, there are energy savings to be gained compared to both conventional practice and the current minimum standards in Section J of the BCA. These are outlined below.

The Sustainability Report, prepared by AECOM (**Appendix Y**), identifies a number of environmental strategies incorporated into the design of the warehouse and distribution facilities. The design takes a holistic approach to site and context issues such as ecology and transport and introduces additional measures for the buildings beyond current practice for buildings of this nature.

The measures introduced within the development include:

- A proportion of cut and fill requirements for the site may be sourced from Mirvac owned development located adjacent to the proposed site, effectively reducing the distance of travel and therefore CO_2 emissions;
- The incorporation of mechanically operable louvers in the warehouse areas, in order to provide natural ventilation when the ambient conditions are appropriate;
- The distribution centres will incorporate superior thermal performance in the building fabric in excess of the BCA Section J requirements;
- Energy efficient air conditioning equipment and fan selection with efficiencies superior to the minimum Section J requirement;
- Energy efficient lighting with a power density below the Part J6 maximum density and control systems to dim or turn off when not in use;
- Dimming control on warehouse lights to reduce light by at least 35% during low occupancy times when adequate daylight is provided;
- Secure bicycle parking facilities recommended for the site's tenants to reduce the reliance on the private vehicle;
- The extension of existing bus routes to directly access the site with local bus providers to provide an alternative transportation method will be investigated with local bus companies;
- The proposed development will consider more environmentally sustainable building material alternatives, where practicable;

- All timber products used at the site will be specified from certified sustainable harvested resources. No timber will be specified from rainforest or old growth forests; and
- To reduce water consumption, all tapware for the development is required to be 4 star WELS rated, toilets are to be a minimum 4 star WELS rated and urinals are to be minimum 5 star WELS rated.

Connection to the Sydney Water recycled system will provide a significant portion (if not all) of the non-potable demand for the site and that this supply will be more reliable than the use of on-site rainwater. Large scale recycled water systems have an advantage over rainwater tanks in that they are well designed and maintained by water utilities and their use of blackwater from a Sewage Treatment Plant means than there is a more constant supply available than an onsite rainwater tank system.

This development encompasses a range of sustainability strategies at the site and building level. Watercourse health is enhanced and logistical efforts are being made to reuse local cut for fill on the site. The buildings are designed to improve occupant comfort with improved fabric design, shading to windows and natural ventilation. High efficiency lighting, fans and other equipment will be specified. Potable water is reduced by taking advantage of the local recycled water scheme and efficient fixtures. Materials and finishes will be specified for low environmental impact and indoor occupant health and amenity.

8.18 Operational Waste Management

Waste Management Plans have been prepared by Woolworths Limited for the BIG W and Dick Smith warehouse buildings. The amount of waste to be produced, where the waste will be stored and the collection methods for the Dick Smith and BIG W warehouses are identified within **Tables 9** and **10** respectively.

The waste management procedures are identified in detail within the Waste Management Plans (refer to **Appendix N** and **Q**). The proposed waste management procedures strategies will ensure that waste will be minimised and recycled where possible.

Table 9 – Waste management in Dick Smith warehouse

Waste	Amount	Waste Storage	Collection
Cardboard	5,500kg/wk	Compacter located on the North side of the warehouse, near recessed despatched docks.	National waste management / recycling contractor.
Plastic	360kg/wk	Baled on site (recyclable) Non-recyclables to be disposed as general waste.	National waste management / recycling contractor.
General	2,200kg/wk	On site, in bins in designated areas.	Waste contractor.
Pallets	N/A	Located opposite receiving and despatch docks.	N/A
Waste/Reject Product	0.5m^3/wk	In waste storage and recycling areas, or in racks.	Returned to supplier or disposed of in accordance with Council regulations.
Liquid waste(from kitchen)	N/A	Grease traps to be maintained in accordance with Sydney Water Trade Waste Agreement.	Effluent to sewer.
Recyclable glass, aluminium and plastic containers	2.5m^3/wk	Separated at source for recycling by recycling contractor.	National waste management / recycling contractor.
Liquid waste (ablutions)	N/A	To sewerage system.	Sewerage system.
Liquid waste (from maintenance area wash down bay)	N/A	Drain maintained in accordance with Sydney Water Trade Agreement.	Effluent to sewer.
Green waste	N/A	Mulched vegetation to be used for landscaping where possible.	Dispose to green waste recycling centre.

Table 10 – Waste management in BIG W warehouse

Waste	Amount	Waste Storage	Collector
Cardboard	1,800kg/wk	Compacters located at the rear of the building, next to the despatch office.	National waste management / recycling contractor.
Plastic	3,600kg/wk	Baled on site (recyclable) Non-recyclables to be disposed as general waste.	National waste management / recycling contractor.
General	45m^3/wk	On site, in bins in designated areas.	Waste contractor.
Pallets	N/A	Located on the receiving dock.	Supplier for reuse.
Waste/Reject Product	1m^3/wk	In waste storage and recycling areas, or in racks.	Returned to supplier or disposed of in accordance with Council regulations.
Liquid waste(from kitchen)	N/A	Grease traps to be maintained in accordance with Sydney Water Trade Waste Agreement.	Effluent to sewer.
Recyclable glass, aluminium and plastic containers	5m^3/wk	Separated at source for recycling by recycling contractor.	National waste management / recycling contractor.
Liquid waste (ablutions)	N/A	To sewerage system.	Sewerage system.
Liquid waste (from maintenance area wash down bay)	N/A	Drain maintained in accordance with Sydney Water Trade Agreement.	Effluent to sewer.
Green waste	N/A	Mulched vegetation to be used for landscaping where possible.	Dispose to green waste recycling centre.

8.19 Construction Management

Impacts associated with the construction of the proposed warehousing and distribution facility will be carefully managed to minimise impacts on the adjacent Hinchinbrook Creek, residential amenity across Cowpasture Road or unnecessarily disruption to traffic on local roads, Cowpasture Road or the M7 Motorway. A Construction and Environmental Management Plan (CEMP) was prepared by Mirvac Constructions Pty Limited for the project, refer to **Appendix M**.

Construction will be limited to between 7am-6pm, Monday to Friday and 7am-4pm Saturdays. No work will be undertaken on Sundays or public holidays. As outlined in Section 8.14, noise mitigation measures are proposed so as to ensure that the proposed works do not generate any adverse impacts on existing development in the nearby area.

The CEMP identifies measures to be undertaken to monitor and mitigate air quality impacts, disposal of hazardous materials, erosion and sediment control, workplace risk and site management. The key mitigative measures are outlined below. Full mitigative details are provided within **Appendix M**. A discussion on construction traffic management has been made at Section 8.6 of this report.

Noise Management

In accordance with the recommendations of the Noise Impact assessment prepared by Renzo Tonin and Associates (**Appendix X**), a detailed study will be undertaken of each of the proposed activities, which will occur as part of the excavation and construction works, to evaluate all work to be performed during the excavation and construction phase of the proposed and forecast the potential impact of noise. The noise forecasts will be used to formulate and streamline effective regulation and mitigation measures. When required the noise will be mitigated through the use of alternate appliances / processes, silencing devices, material handling, regular noise checks and/or noise monitoring. The flow chart in **Figure 47** summaries how noise will be managed during construction:

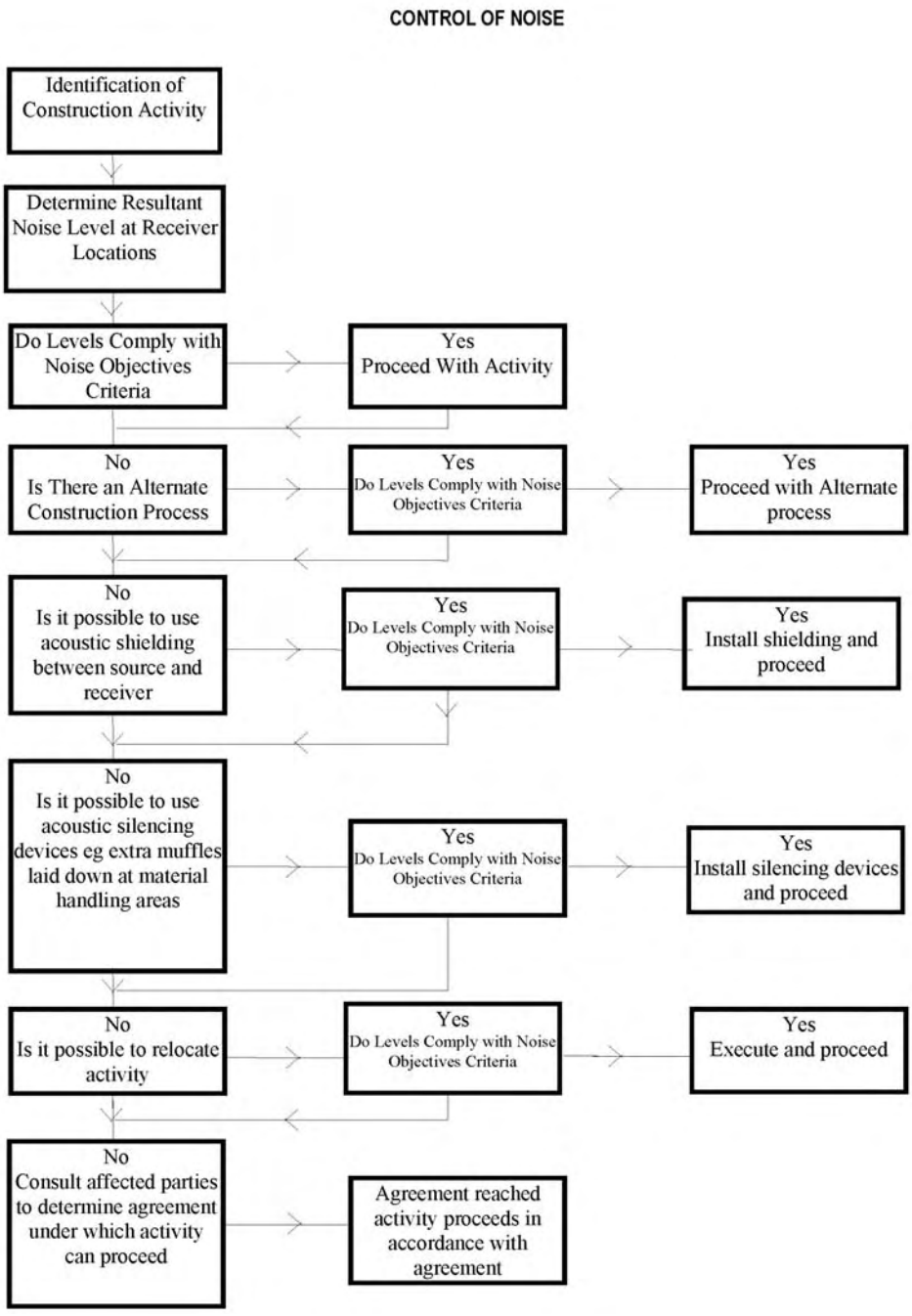

Figure 47 – Noise mitigation measures during construction

Source: Mirvac Constructions Pty Limited

Waste Management

A Waste Management Plan has been development and submitted by the waste contractor, Dial A Dump (Appendix 2 of the CEMP). Dial a Dump proposes off-site recycling in this instance. Waste will be taken from the site and sorted at a Recycling and Landfill facility. Waste types likely to be generate on the site include:

- General waste;
- Putrescible waste (lunch room waste from site personnel);
- Cardboard and white paper (amended plans and drawings);
- Bottles, cans and plastics; and
- Concrete, bricks, tiles, timber and gyprock.

Construction Staging

The CEMP (refer to **Appendix M**) refers to the key stages during construction, including:

- Earthworks, involving bulk excavation, trimming of sub-grades and installation of road base (5 months);
- Building Structure Works, involving steel portal frame, roof and wall profiled cladding including concrete walls and internal concrete slabs for the Dick Smith and BIG W warehouse buildings (8 months);
- Internal Finishes, involving electrical, mechanical, hydraulic and fire services, office construction and fit out of the Dick Smith and BIG W warehouse buildings (8 months);
- Woolworths Fitout, including materials handling, racking and conveyor system and the installation of operation equipment (10 months); and
- External Works, involving concreting and landscaping (6 months).

Erosion and Sediment Control

An Erosion and Sediment Control Plan (refer to the ADW Johnson Report at **Appendix I**) will be implemented during the construction of the project. The following general items will be incorporated into the construction management on the site:

- Temporary sediment basins are to be constructed on the site. Stormwater will be directed into the sediment basins;
- The staging of earthworks will such that the clearing and exposing of soils are undertaken immediately prior to construction where possible. With the areas of disturbance minimised the volume of 'dirty' surface water runoff is also minimised;
- All transports leaving the site will be checked to ensure all loads are covered and secure to prevent the possibility of material spilling onto the road and into the stormwater system. All trucks are to be covered prior to leaving the site (where applicable). All roads and pedestrian footways surrounding the site will be swept to remove any debris associated with the works on the site;
- Wash down of concrete trucks will not be permitted on the site where such wash down could enter Council gutters, pits or drains;
- Appropriate stabilised site access and/or shaker grids will be installed onto the site for the cleaning of trucks;
- Installation of temporary diversion drains and silt fences to divert flows to the temporary sedimentation basin(s);

- Install silt fencing to site fencing on the Eastern side of the Access Road (when practical):
  - Silt fences are designed to filter run-off (if any) leaving the site, trapping sediment and allowing filtered water to pass;
- Hay bales incorporating geo-fabric all to prevent sediment running off the site will surround all spoil material stored on the site where there is the chance of material washing into Council stormwater systems and
- The handling of soils will be minimised through direct replacement onto landscaped open space areas.

The erosion and sediment control measures will ensure that water quality and run off from the site is controlled and managed to meet the criteria set out by relevant authorities including DECC, EPA, Liverpool City Council and Sydney Water.

Air and Water Quality

The CEMP identifies a number of processes or causes of dust, including excavators, trucks, placement of concrete, graders and other vehicles. Air quality monitoring is to be maintained through various construction phases. Generally, the dust created by construction related activities will be more prominent in windy conditions and will be dealt with water suppression. Other measures for managing dust and air quality on site include:

- Water carts will be used throughout the construction phases to maintain a damp surface to areas likely to create dust;
- The construction site will be maintained and kept clean with the use of mechanical sweepers and covered waste bins to minimise airborne matter;
- In windy conditions the frequency of dust suppression such as watering could be increased appropriately;
- All materials transported to and from site in trucks will be appropriately covered to eliminate dust or airborne matter;
- Construction activities that result in dust being mobilised by winds will be avoided until such time as either winds subside or effective safeguards can arrest the airborne movement of dust;
- No burning of any material is allowed on site;
- Earthworks are to be controlled and areas capped as early as practically possible to minimise dusts;
- Appropriate speed limits have been set for all construction traffic to limit the generation of dust;
- Completed surfaces are to be kept clean and the use of road sweepers are to be implemented to maintain access roads and approaches to site; and
- Controlled site access to be maintained with truck/vehicle wash down facilities available at all exit points to ensure no mud is carried out into public areas which may later dry out and create dust.

As discussed above, water quality will be managed through erosion and sediment control measures (see Erosion and Sediment Control) which will ensure that water quality and runoff from the site is controlled and managed to meet the criteria set out by relevant authorities. In particular, the measures identified above aim at reducing the runoff and water quality impacts of the Hinchinbrook Riparian Creek to the east of the site.

Flora and Fauna Management

A Fauna Management Plan, Groundcover Clearance Protocol and Weed and Pest Management Plan (refer to CEMP at **Appendix M**) will be implemented during construction of the project. The following measures will be undertaken by an Environmental Management Representative:

- Provide a pre-clearance survey prior to clearing of any native vegetation within the proposed extraction area, including for example:
  - Searches for birds, nests and roosts;
  - Active searches for micro bats, including checking under exfoliating bark; and
  - Identification and marking of habitat trees during the pre-clearing surveys and provision of recommendation reports.
- Provide a pre-clearing survey addressing the following items:
  - A survey for Cumberland Land Snails and if any individuals are found relocate them, along with relevant shelter substrate, to the nearest area of intact habitat outside the disturbance footprint; and
  - To identify large woody debris with habitat value (excluding exotic weed material) that warrant relocation.
- A number of measures will be considered to manage environmental weeds during construction for example:
  - The location of stockpiles of fill or vegetation not to be placed in areas of adjoining remnant vegetation but instead within existing cleared areas;
  - To limit the spread of weeds into adjoining remnant vegetation the surface disturbance footprint existing fencing around the Hinchinbrook Creek riparian corridor should be maintained and construction activities completely excluded from this area;
  - Incorporate control measures in the design of the proposed works to limit the spread of weed propagules downstream of the site;
  - Progressive rehabilitation of disturbed vegetation to limit the potential for colonisation by weeds; and
  - Perform ongoing monitoring of weed infestation on and adjoining the site.

8.20 BCA Assessment

Phillip Chun and Associates have reviewed both the BIG W warehouse and the Dick Smith Warehouse for compliance with the Building Code of Australia. The assessment reports are provided at **Appendix Z** and conclude that both buildings will require alternative solutions so as to satisfy the requirements of the BCA, but that the fundamental design is capable of meeting the requirements of BCA 2009 with the inclusion of fire engineering.

8.21 Site Suitability

The site is considered to be suitable for the proposed development for the following reasons:

- Of a suitable size to accommodate the proposed development;
- Highly accessible to the regional road network;
- Is located in an area where a high proportion of new jobs are required;
- Is relatively flat;
- Is located a significant distance away from residential development;

- Is appropriately zoned for the proposed warehouse use;
- Is located in an area where services are already provided or are scheduled to be delivered in the near future; and
- Is consistent with State Government Strategy in terms of providing employment generating uses.

8.22 Environmental Risk Assessment

Approach

The Environmental Risk Assessment at **Table 12** for the site has been adapted from Australian Standard AS4369:1999 Risk Management and environmental risk tools developed by other organisations (summarised at **Table 11**). The Environmental Risk Assessment establishes a residual risk by reviewing the 'significance of environmental impacts' and the 'ability to manage those impacts'.

The significance of environmental impacts is assigned a value between 1 and 5 based on:

- The receiving environment;
- The level of understanding of the type and extent of impacts; and
- The likely community response to the environmental consequence of the project;

The manageability of environmental impact is assigned a value between 1 and 5 based on:

- the complexity of mitigation measures;
- the known level of performance of the safeguards proposed; and
- the opportunity for adaptive management.

The sum of the values assigned provides an indicative ranking of potential residual impacts after the mitigation measures are implemented.

Table 11 – Environmental rating risk matrix

Significance of Impact	Manageability of Impact				
	5 Complex	4 Substantial	3 Elementary	2 Standard	1 Simple
1 - Low	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)	3 (Low)	2 (Low)
2 - Minor	7 (High/Medium)	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)	3 (Low)
3 - Moderate	8 (High/Medium)	7 (High/Medium)	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)
4 - High	9 (High)	8 (High/Medium)	7 (High/Medium)	6 (Medium)	5 (Low/Medium)
5 - Extreme	10 (High)	9 (High)	8 (High/Medium)	7 (High/Medium)	6 (Medium)

Table 12 – Environmental risk matrix for project

Item	Phase	Potential Environmental Impact	Proposed Mitigation Measures	Risk Assessment		
				Significance of Impact	Manageability of Impact	Residual Impact
Noise	C + O	▪ Increase in noise levels during construction activities ▪ Increase in noise levels during as a result of 24 hour operation of the warehouses	▪ Installation of Noise Attenuation Measures where required ▪ Conduction of noise assessments prior to undertaking construction measures ▪ Compliance with assessment criteria	3	2	5 (low / medium)
Traffic	C + O	▪ Increased traffic on local roads	▪ Preparation of Work Place Travel Management Plans so as to reduce travel by private car; ▪ Provision of footpaths and dedicated cycleway on site so as to encourage more sustainable forms of travel	2	2	4 (low / medium)
Visual	O	▪ Visual impact of Dick Smith High Bay	▪ Considered design and choice of materials ▪ Installation of appropriate landscaping	3	2	5 (low / medium)
Heritage	C + O	▪ Location of Aboriginal Relics in nearby area ▪ Heritage significance of the site	▪ Implementation of an archaeology management strategy ▪ Implementation of a Heritage Interpretation Strategy	1	2	3 (low)
Biodiversity	C + O	▪ Loss of CPW on site	▪ Implementation of an agreed off-set strategy ▪ Implementation of an Environmental Construction Management Plan	4	3	7 (high / medium)
Contamination	C	▪ Exposure of contamination or hazardous materials during construction	▪ Implementation of an Environmental Management Plan, including an unexpected finds protocol	1	2	3 (low)
Water Quality	C + O	▪ Deterioration in water quality in Hinchinbrook Creek	▪ Implementation of a Stormwater Management Plan ▪ Implementation of a soil and water management plan	1	2	3 (low)
Waste	C + O	▪ Generation of waste	▪ Implementation of business specific Waste Management Plans	1	1	2 (low)
Flooding	O	▪ Potential flooding of site during 1 in 100 year storm events ▪ Adverse impacts on Hinchinbrook Creek riparian corridor	▪ Implementation of Stormwater Management Strategy ▪ Construction of stormwater detention basins	4	3	7 (high / medium)
Sustainability	C + O	▪ Potential increase in emissions ▪ Increase in use of potable water	▪ Implementation of a sustainable construction methods and materials ▪ Installation of energy and water saving features in the design and construction of the building	1	1	2 (low)

Key: C – Construction, O: Operation

9.0 Project Draft Statement of Commitments

In accordance with the Director-General's Environmental Assessment Requirements, the proponent is required to include a Draft Statement of Commitments in respect of environmental management and mitigation measures on the site. **Table 13** outlines the commitments made by Mirvac Projects Pty Limited to manage and minimise potential impacts arising from the project.

Table 13 – Draft Concept Plan Statement of Commitments

Subject	No.	Commitments	Timing
Contamination	1.	A Construction Environmental Management Plan (CEMP) will be prepared by an environmental consultant and implemented. The plan will provide details on the following best practices in relation to the development of "Unexpected Finds Protocols" to provide clear guidance to site works for the management of unexpected findings during the site development process.	Prior to excavation / construction works
	2.	A post-demolition validation of the site will be conducted so as to confirm that items such as asbestos, additional USTs or signs of chemical contamination are not present on the site.	Post demolition and prior to excavation / construction works
Work Place Travel Plans	3.	Work Place Travel Plans will be prepared for each business on the site and issued to staff.	During staff orientation procedures.
Bushfire Protection	4.	A Positive Covenant, created under the provisions of the *Conveyancing Act 1919*, will be placed on the title of the land which will require compliance with the management prescriptions detailed in the Bushfire Report.	Prior to issue of a final occupation certificate
	5.	The proposed buildings will be designed and constructed in accordance with the recommendations of the Bushfire Consultant. Details of protection measures will be provided on construction drawings.	Prior to issue of a Construction Certificate.
Non-Indigenous Heritage Interpretation	6.	The recommendations in the Heritage Interpretation Plan and Strategy, will be implemented and will include the following: ▪ Interpretation signage which is easily distinguishable from directional signage; ▪ Name the new roads aviation specific names (subject to approval of relevant authority); ▪ Use of signage and other media which	Within 3 months of final occupation.

Subject	No.	Commitments	Timing
		symbolise the WWII use of the site; ▪ Alignment and landscaping of new north/south access road.	
	7.	Interpretative measures to be implemented in the areas occupied by the northern detention basin and B1 zone will be provided with the detailed project applications for those areas.	Submitted with applications for those parts of the site.
Construction Management	8.	The Construction and Environmental Management Plan will be updated to reflect the requirements of any approval or change in scope of the project.	Following issue of approval and prior to issue of a CC.
	9.	All construction undertaken on the site will comply with the CEMP.	During construction.
Aboriginal heritage	10.	▪ If impacts of site 45-5-0774 are proposed in relation to drainage works in this area, the Mirvac Group, through the registered Aboriginal stakeholder groups collect the stone artefacts comprising the site at this location; ▪ Aboriginal Archaeological records shall be updated if the above artefacts are removed.	Prior to and during construction works.
	11.	Recommendations made in relation to the construction of the northern detention basin and bridge over Hinchinbrook Creek will be addressed in future applications for those specific works.	During the preparation of a Project Application for the relevant scope of works.
Salinity	12.	A Salinity Investigation will be undertaken on the site. The investigation will be reported and include a Salinity Management Plan.	Following the completion of Bulk Earthworks.
Geotechnical	13.	The proposed earthworks will be undertaken in accordance with the geotechnical recommendations of Douglas Partners.	Prior to and during bulk earthworks.
Noise	14.	Fixed mechanical plant equipment will be selected and treated so as to comply with the established noise criteria for the project.	Prior to issue of a final occupation certificate.

Subject	No.	Commitments	Timing
	15.	Staff will be trained in relation to correct methods of container handling, prior to commencing work on site so as to reduce the potential for generation of adverse noise.	During staff orientation procedures.
	16.	During construction works, noise mitigation measures will be implemented where required so as to ensure that works are carried out in accordance with the recommendations of Renzo Tonin and Associates Pty Limited. During non-standard hours, works which involved equipment activities above L_{Aeq} 110dB(A) will be minimised or acoustically treated.	Through the duration of construction works.
Ecology	17.	The recommendations made by GHD in relation to the construction of the northern detention basin and bridge across Hinchinbrook Creek will be addressed as part of the detailed PAs for those works.	During the preparation of a Project Application for the relevant scope of works.
Energy Efficiency	18.	The proposed buildings will be constructed so as to be energy and water efficient as discussed in AECOM's ESD Report. The proponent commits to achieving a 15% reduction in greenhouse has emissions	Within 3 months of final occupation of each warehouse building.
SEPP 33	19.	A PHA assessment will be prepared for the BIG W Warehouse	To be submitted with the BIG W PA Preferred Project Report
Waste Management	20.	A Waste Management Plan will be prepared for the two Mirvac Residual lots when the detailed Project Application is prepared.	Part of Project Application for Mirvac Residual lots.

10.0 Conclusion

Concept Plan and Project Approval is sought for the construction of warehouse and distribution facilities at the Len Waters Estate (formerly Hoxton Park Aerodrome). In particular approval is sought for:

- General site layout;
- Construction and 24 hour, 7 day a week operation of a BIG W warehouse and distribution facility and associated parking;
- Staged construction and 24 hour, 7 day a week operation of a Dick Smith warehouse and distribution facility and associated parking;
- Establishment of building envelopes for two warehouses and associated parking on the southern residual lot; and
- Construction of associated infrastructure including:
  - Internal road network;
  - Southern detention basin;
  - Site landscaping; and
  - Related services.

Future applications will be lodged for the:

- Design, construction and operation of the two warehouse buildings on the residual lot;
- design and construction of the northern detention basin; and
- east west link (bridge) over Hinchinbrook Creek.

The preceding environmental assessment demonstrates that the matters for which approval is sought are generally consistent with relevant planning strategies and Environmental Planning Instruments applying to the site. It has also provided evidence that any potential environmental impacts generated by the development can be appropriately mitigated. The Draft Statement of Commitments has been prepared to inform the detailed design of the development and manage construction and on-going environmental impacts.

The proposal will result in the following public benefits:

- a $181,945,000 capital investment in the NSW economy;
- generation of approximately 935 jobs (300 net additional jobs) in Western Sydney which is an area nominated in the draft South West Subregional Strategy as requiring a significant number of new jobs;
- construction of world class facilities which will house the latest, safest and most efficient supply chain technology allowing delivery of optimal service to approximately 370 stores in NSW;
- construction of warehousing facilities which demonstrate high levels of sustainability in terms of design and operation;
- construction of new cycle and pedestrian linkages; and
- the orderly and economic use of a site that is well serviced by regional and local infrastructure.

In light of the above benefits, and in the absence of any significant environmental impacts, the Concept Plan and Project Applications are recommended for approval.