

**BUSHFIRE PROTECTION ASSESSMENT
FOR THE CONSTRUCTION OF THE
PROPOSED DHL SUPPLY CHAIN
WAREHOUSE**

**ON LOT 11/12 IN THE SUBDIVISION OF
LOT 100 in DP 1268340**

**No. 813 WALLGROVE ROAD,
HORSLEY PARK**



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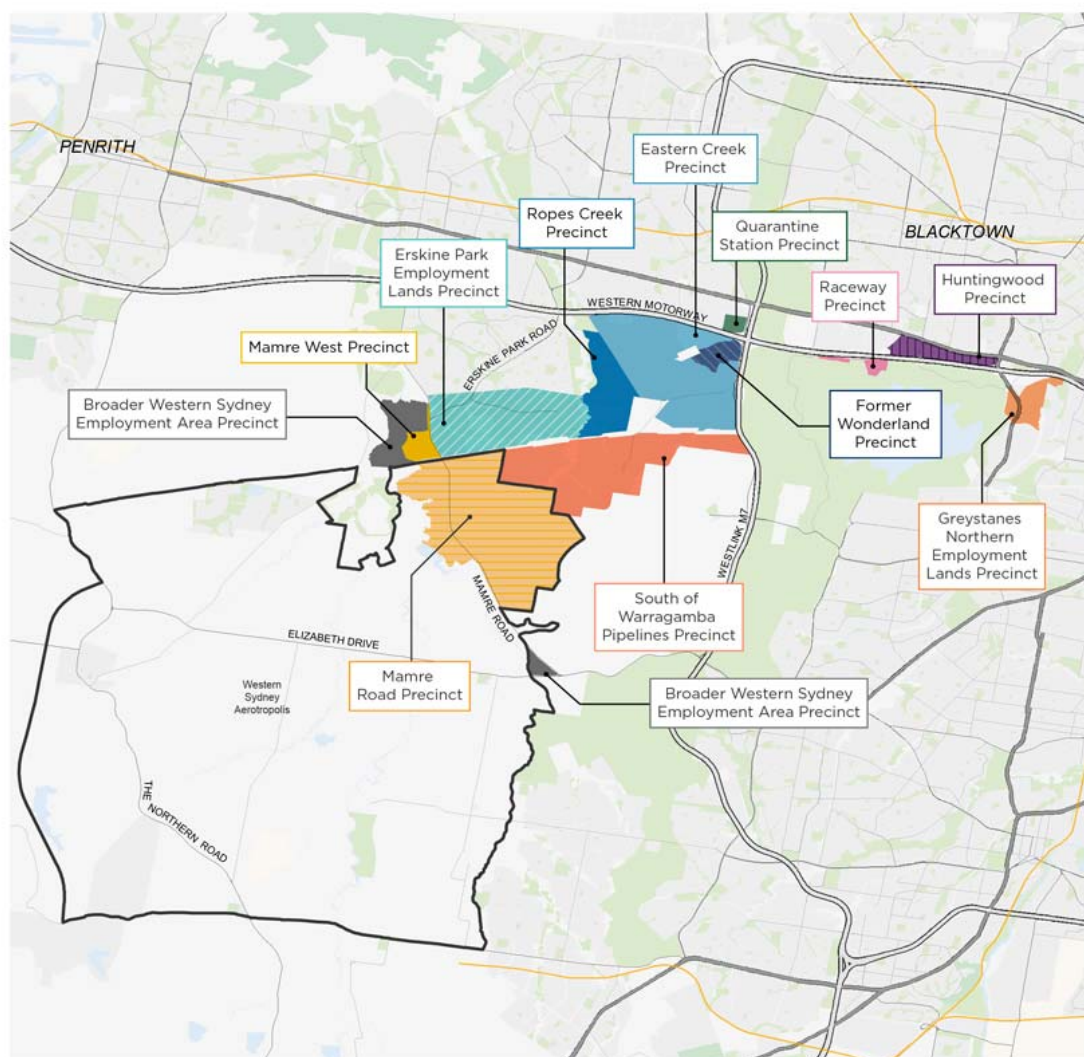
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EXECUTIVE SUMMARY

Australian Bushfire Protection Planners Pty Limited has been commissioned by DHL to prepare a report to provide advice on the bushfire protection measures required for the construction of the proposed DHL Supply Chain Warehouse on Lot 11/12 crated in the subdivision of Lot 100 in DP 1268340 No. 813 Wallgrove Road, Horsley Park.

The site is zoned for IN1 – General Industrial uses as defined within the State Environmental Planning Policy (Western Sydney Employment Area) 2009 (SEPP WSEA) – South of Warragamba Pipelines Precinct.

Figure 1 – SEPP WSEA Employment Lands Precinct



Australian Bushfire Protection Planners Pty Limited, at the request of Gazcorp, undertook the bushfire consultancy to inform the Planning Proposal for the rezoning of a portion of the land within the Western Sydney Employment Area (WSEA) for industrial purposes. The Site is approximately 52.2ha in size and located at No. 813 - 913 Wallgrove Road, Horsley Park (the Site).



Figure 1 – Extract from the Development Consent showing the approved Concept Plan for the Gazcorp Industrial Estate

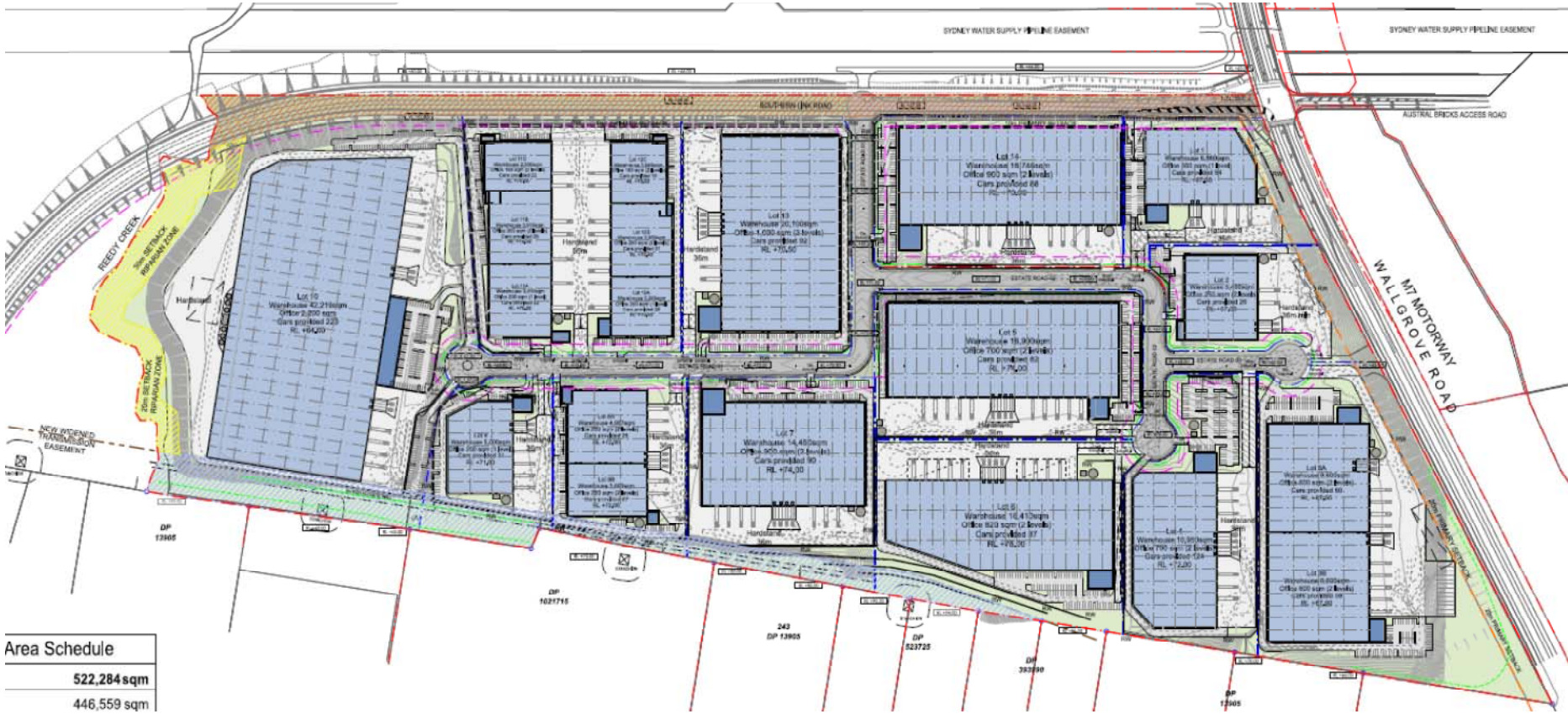


The site plan illustrates the proposed layout of 1000 lots at the intersection of Southern Link Road and Walgrove Road. The plan includes the following details:

- Lot Areas and Setbacks:**
 - Lot 10: Site Area 89,755 sqm
 - Lot 11/12: Site Area 43,664 sqm
 - Lot 13: Site Area 35,069 sqm
 - Lot 14: Site Area 32,426 sqm
 - Lot 1: Site Area 18,763 sqm
 - Lot 2: Site Area 17,133 sqm
 - Lot 5: Site Area 34,453 sqm
 - Lot 9: Site Area 12,556 sqm
 - Lot 8: Site Area 17,169 sqm
 - Lot 7: Site Area 26,291 sqm
 - Lot 6: Site Area 35,585 sqm
 - Lot 4: Site Area 27,848 sqm
 - Lot 3: Site Area 54,406 sqm
- Setbacks and Zones:**
 - 10m Primary Setback
 - 20m Suburban Expansion Zone
 - 20m Primary Setback
- Infrastructure and Easements:**
 - Widened Transmission Easement
 - Transmission Easement
 - Motorway
- Other Features:**
 - Ready Creek
 - SOUTHERN LINK ROAD
 - WALGROVE ROAD



Figure 3 – Extract from the Development Consent showing the approved Modification to the Subdivision Plan for the Gazcorp Industrial Estate



The Planning Proposal sought approval under Section 83B of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for concept proposals for the overall development of the Site, as well as development approval for the Stage 1 works.

Development Consent was issued by the Independent Planning Commission of the 11th November 2019 for the stage Development Application for the Gazcorp Industrial Estate comprising a Concept Proposal with:

- 211,550 square metre (m²) of gross floor area (GFA) comprised of 198,300 m² of warehouse/industrial uses and 13,250 m² of ancillary office floor space;
- 16 development lots with a total of 14 building envelopes; and
- conceptual lot layout, site levels, road layout, urban design controls, conceptual landscape designs and infrastructure arrangements.

A Stage 1 Development Application including:

- clearing of vegetation and construction of bulk earthworks;
- construction of internal estate roads, water, sewer, telecommunications and gas infrastructure;
- construction of stormwater management devices;
- installation of estate landscaping; and
- construction and operation of a 45,225 m² warehouse and distribution building, including 3,006 m² of ancillary office space; and
- intersection works in Wallgrove Road.

Part B of the Consent – Conditions to be met in future Development Applications contained the following bushfire related conditions:

BUSHFIRE PROTECTION

- B9. Future development applications for industrial/warehouse buildings must demonstrate compliance with the relevant provisions of the latest version of Planning for Bush Fire Protection (PBP) and the asset protection zones recommended in the *Bushfire Protection Assessment for the Proposed Gazcorp Industrial Estate*, prepared by Australian Bushfire Protection Planners Pty Ltd, dated April 2013.
- B10. Future development applications for industrial/warehouse buildings must demonstrate compliance with AS 3959-2009 *Bushfire Construction Standard* as recommended in the *Bushfire Protection Assessment for the Proposed Gazcorp Industrial Estate*, prepared by Australian Bushfire Protection Planners Pty Ltd, dated April 2013.
- B11. Future development applications must demonstrate compliance with the following sections of RFS's *Planning for Bushfire Protection 2006*:
 - (a) section 4.2.7 for internal road access;
 - (b) section 4.2.7 for water, electricity and gas; and
 - (c) appendix 5 for landscaping.
- B12. Future development applications must include an Emergency/Evacuation Plan prepared in accordance with *A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan* (NSW Rural Fire Service, December 2014).

Australian Bushfire Protection Planners Pty Limited prepared the report to inform the planning for the Gazcorp Industrial Estate on Lot 5 in DP24094, No. 813 – 913 Wallgrove Road, Horsley Park of those matters which were necessary to be implemented to address the requirements of the Director General's Requirements [DGRs].

The report contained the following Bushfire Management Strategies:

6.1 Strategy 1 – Defendable Space Requirements

The development of the Site will remove the mapped bushfire prone vegetation, except for the vegetation within the riparian corridor to Reedy Creek.

Table 2 below provides information on the minimum Defendable Space requirements to mitigate the chance of flame contact on the building on proposed Lot 10 which is the only building exposed to a bushfire hazard:

Table 2. Minimum Defendable Space to the proposed building on Lot 10

Aspect	Predominant Vegetation Formation Class [Table A2.1 Planning for Bushfire Protection 2006]	Effective Slope of Land for 100 metres from building	Minimum width of Defendable Space [Flame Zone width]	Available width of Defendable Space to proposed building
West of north-western corner of the building on Lot 10 in Stage 1	Woodland & Forest reclassified to low hazard 'rainforest' due to narrow width of vegetated corridor	< 2 degrees downslope to the north	10 metre setback for rainforest vegetation	Defendable Space of more than 10m between the north-western corner of the building and the vegetation within the riparian corridor to Reedy Creek.
West of south-western corner of the building on Lot 10 in Stage 1	Woodland & Forest reclassified to low hazard 'rainforest' due to narrow width of vegetated corridor	< 2 degrees downslope to the north	10 metre setback for rainforest vegetation	Defendable Space of more than 10m between the south-western corner of the building and the vegetation within the riparian corridor to Reedy Creek.

6.2 Strategy 2 – Defendable Space [landscape] management requirements

Management of the defendable spaces/landscaped areas within the development site shall comply with the following:

- Maintain a clear area of low cut lawn or pavement adjacent to the building;
- Keep areas under shrubs and trees raked and clear of combustible fuels;
- Utilise non-flammable materials such as Scoria, pebbles and recycled crushed bricks as ground cover to landscaped gardens in close proximity to building;

- 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];

6.3 Strategy 3 – Water Supplies for Firefighting Operations:

The fire-fighting water supply to the proposed building shall comply with the Building Code of Australia [BCA] and Australian Standard A.S. 2419.1 – 2005.

6.4 Strategy 4 - Construction Measures to Buildings:

The northern, western and southern walls of the proposed building on Lot 10 shall be constructed to comply with BAL 40, pursuant to A.S. 3959 – 2009 – *'Construction of Buildings in Bushfire Prone Areas'*.

In addition to the specifications of BAL 40, any louvres or vents located within these walls shall be fitted to ember protection mesh comprising corrosion resistant steel or bronze mesh with a maximum aperture of 2mm.

Roller doors shall be fitted with ember protection to the head. Ventilation openings [slats] in roller doors are not permitted.

External seals to precast panels shall be non-combustible.

6.5 Strategy 5 – Emergency Management:

A site specific evacuation plan shall be prepared for each of the buildings erected within the Industrial Estate.

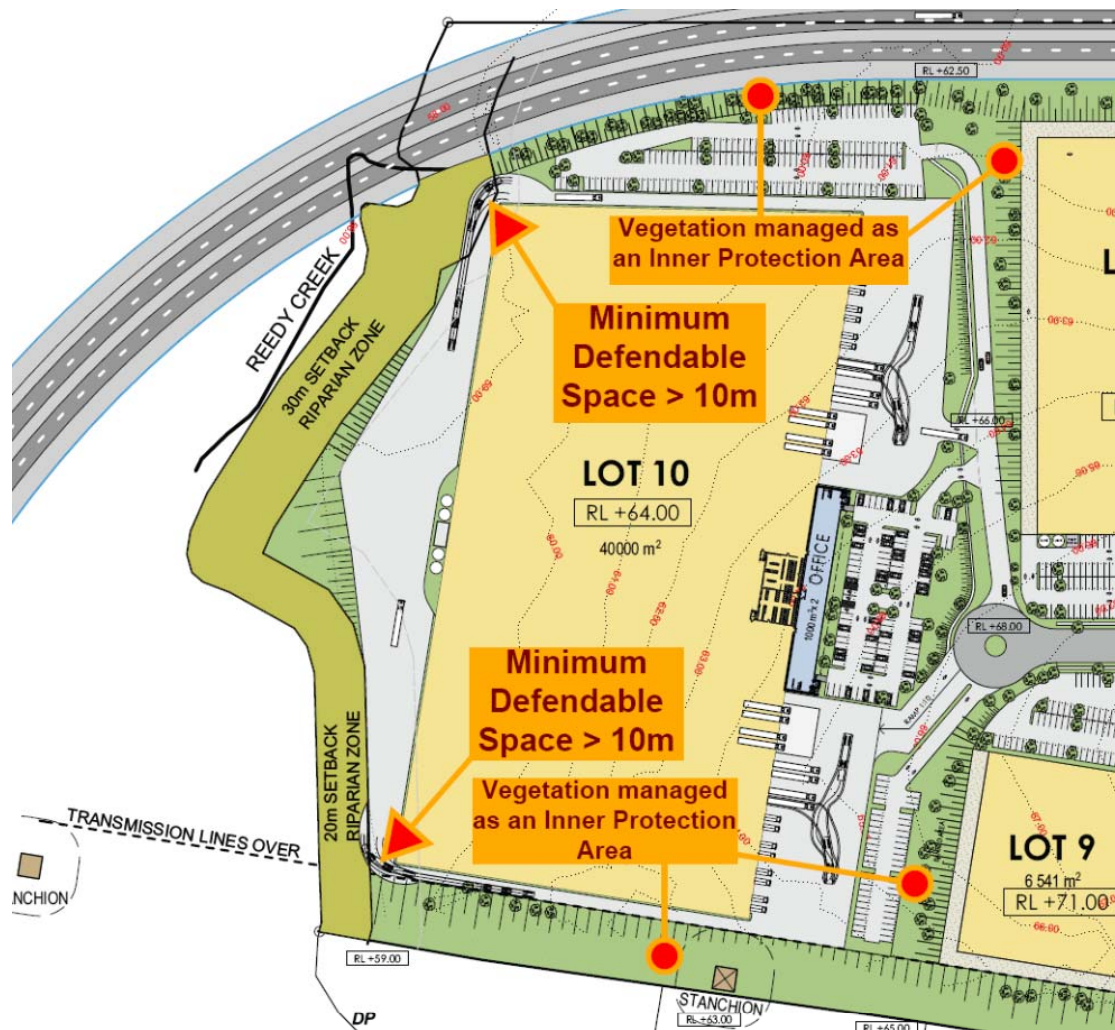
The Evacuation Plan shall address the requirements of A.S. 3745-2002 – *'Emergency Control Organisation and Procedures for Buildings, Structures and Workplaces'*.

The bushfire report prepared for the Planning Proposal and Stage 1 SSDA identified that the bushfire prone vegetation within the IN1 zoned land would be removed as part of the future industrial development.

Based on the fact that the bushfire prone vegetation on the industrial estate would be removed the bushfire report examined the Asset Protection Zone (Defendable Space Zones) required for the future industrial complex constructed on proposed Lot 10 (Stage 1) as this lot was deemed to be the only lot likely to be exposed to a bushfire risk from the vegetation in the Reedy Creek riparian corridor, to the west of Lot 10 (Stage 1).

Table 2 in the report identified that the required width of Defendable Space (to prevent flame contact on the building) was 10 metres – based on the riparian corridor vegetation being classified as 'rainforest' (due to the width of the vegetation being less than 50 metres) and the gradient of the land across the riparian corridor was less than 2 degrees downslope. Figure 4 (below) provides a copy of the Defendable Space Plan from the ABPP report prepared for the Planning Proposal.

Figure 4 – Extract from the Planning Proposal report showing the Defendable Space requirements for the SSDA Stage 1 building on proposed Lot 10.



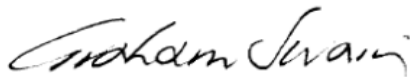
The DHL Supply Chain Warehouse occupies Lot 11/12, located to the east of Lot 10 (the approved Stage 1 of the SSDA) and therefore not exposed to the risk of a bushfire in the riparian corridor to Reedy Creek.

However, the bushfire report prepared for the Planning Proposal and SSDA provided recommendations based on the construction of the proposed Southern Link Road between the northern boundary of the site and the Warragamba Pipeline. This new road has not been constructed to the north of Lot 11/12, therefore introducing a hazard to the northern aspect of the proposed DHL Supply Chain complex on Lot 11/12.

This report has been prepared to address this hazard and the bushfire consent conditions contained in the SSD 5248 Development Consent to support a State Significant Development Application (SSDA) under Division 4.7 of the Environmental Planning and Assessment Act 1979 (EP&A Act) for the construction and operations of the DHL Supply Chain Warehouse and associated infrastructure.

The report provides recommendations on the provision of Asset Protection Zones [Defendable Spaces] and bushfire construction standards to the DHL building, the adequacy of fire-fighting access and water supplies, the management of the Asset Protection Zones [Defendable Spaces] and evacuation protocols necessary to address the bushfire risk to the proposed development and to address the aim and objectives of *Planning for Bushfire Protection 2019*.

The report has found that the requirements of *Planning for Bushfire Protection 2019* have been met and the bushfire consent conditions contained in the SSD 5248 Development Consent have been satisfactorily addressed.



Graham Swain
Managing Director,
Australian Bushfire Protection Planners Pty Limited.

Fire Protection Association Australia Member No 48781

TABLE OF CONTENTS

EXECUTIVE SUMMARY.....	3
TABLE OF CONTENTS.....	12
SECTION 1.....	13
INTRODUCTION.....	13
1.1 AIM OF THIS ASSESSMENT.....	13
1.2 STATUTORY REQUIREMENTS.....	13
1.2.1 LEGISLATION.....	13
1.2.2 PLANNING POLICIES.....	13
1.3 DOCUMENTATION REVIEWED.....	14
1.4 SITE INSPECTION.....	14
1.5 DEVELOPMENT PROPOSAL.....	15
SECTION 2.....	16
DESCRIPTION OF DEVELOPMENT SITE.....	16
2.1 LOCATION & DESCRIPTION.....	16
2.2 ADJOINING LAND USE.....	16
2.3 TOPOGRAPHY.....	17
2.4 VEGETATION COMMUNITIES ON THE LAND WITHIN THE DEVELOPMENT SITE.....	18
2.5 BUSHFIRE VEGETATION COMMUNITIES ADJOINING THE LAND WITHIN THE DEVELOPMENT SITE.....	18
2.6 SIGNIFICANT ENVIRONMENTAL FEATURES ON THE LAND WITHIN THE DEVELOPMENT SITE.....	18
2.7 KNOWN THREATENED SPECIES, POPULATIONS, ENDANGERED ECOLOGICAL COMMUNITIES OR CRITICAL HABITAT ON THE LAND WITHIN THE DEVELOPMENT SITE.....	18
2.8 DETAILS OF ABORIGINAL/EUROPEAN HERITAGE WITHIN THE DEVELOPMENT SITE.....	18
2.9 MANAGEMENT OF THE DEFENDABLE SPACES [ASSET PROTECTION ZONES] TO THE DEVELOPMENT.....	18
SECTION 3.....	19
BUSHFIRE HAZARD ASSESSMENT.....	19
3.1 CERTIFIED BUSHFIRE PRONE LAND MAP.....	19
SECTION 4.....	20
BUSHFIRE PROTECTION ASSESSMENT.....	20
4.1 INTRODUCTION.....	20
4.2 THE PROVISION OF DEFENDABLE SPACE/S [ASSET PROTECTION ZONES].....	21
4.3 CONSTRUCTION MEASURES TO THE DATA CENTRE BUILDING.....	22
4.4 ACCESS STANDARDS FOR FIREFIGHTING OPERATIONS.....	23
4.5 WATER SUPPLIES FOR FIREFIGHTING OPERATIONS.....	24
4.6 EMERGENCY MANAGEMENT FOR FIRE PROTECTION / EVACUATION.....	24
4.7 BUSHFIRE HAZARD MANAGEMENT.....	24
SECTION 5.....	25
BUSHFIRE MANAGEMENT STRATEGIES.....	25
STRATEGY 1 – DEFENDABLE SPACE:.....	25
STRATEGY 2 – LANDSCAPE MANAGEMENT:.....	25
STRATEGY 3 – BUSHFIRE CONSTRUCTION STANDARDS:.....	25
STRATEGY 4 – EVACUATION PLAN:.....	26
SECTION 6.....	27
CONCLUSION.....	27
REFERENCES:.....	29

SECTION 1

INTRODUCTION

1.1 Aim of this Assessment.

The aim of this Bushfire Protection Assessment is to address the requirements of Development Consent Conditions B9, B10, B11 and B12 of the Development Consent issued on the 11th November 2019 under SSD 5248.

1.2 Statutory Requirements.

This assessment has been prepared having regard to the following legislative and planning requirements:

1.2.1 Legislation.

(a) *Environmental Planning and Assessment Act (EPA Act)*

Planning and development within NSW is regulated by the *Environmental Planning & Assessment Act, 1979* (EPA Act).

In relation to bushfire planning for development in bushfire prone areas in NSW Section 4.14 requires the consent authority, prior to issuing consent for the development, to determine whether the development complies with '*Planning for Bushfire Protection 2019*'.

(b) *Rural Fires Act 1997*

The objectives of the *Rural Fires Act* are to provide:

- The prevention, mitigation and suppression of fires;
- Coordination of bushfire fighting and prevention;
- Protection of people and property from fires; and
- Protection of the environment.

In relation to the management of bushfire fuels on public and private lands within NSW Sections 63(1) and 63(2) require public authorities and owners / occupiers of land to take all practicable steps to prevent the occurrence of bushfires on, and to minimize the danger of the spread of bushfires.

1.2.2 Planning Policies.

Planning for Bushfire Protection – 2019. (NSW Rural Fire Service)

This document provides guidance on the planning and development control processes in relation to bushfire protection measures for rural residential and residential subdivision, "*Special Fire Protection*" and Class 5 – 8 and 10 buildings in bushfire prone areas [Industrial buildings are Class 7 as defined by the Building Code of Australia].

These measures include the provision of defensible space requirements and access/water supply provisions to Class 5 – 8 & 10 developments in bushfire prone areas.

Provision for the assessment of construction standards to buildings and management / maintenance of the Asset Protection Zones/defensible space to buildings is also provided.

1.3 Documentation Reviewed.

The following documents were reviewed in the preparation of this assessment:

- Architectural documents for the proposed DHL Supply Chain Warehouse prepared by Watson Young;
- Fairfield Council Certified Bushfire Prone Land Map;
- Bushfire Protection Assessment Report for the Gazcorp Planning Proposal prepared by ABPP – Reference B131980 - 23.04.2013;
- Director General's Requirements [DGRs] for the preparation of the Environmental Assessment for the Planning Proposal [SSD – 5248 dated 14.5.2012];
- SSD5248 Development Consent dated 11th November 2019 issued by the Independent Planning Commission;
- *Planning for Bushfire Protection 2019* prepared by the NSW Rural Fire Service;
- Australian Standard A.S. 3959 – 2018 – '*Construction of Buildings in Bushfire Prone Areas*'

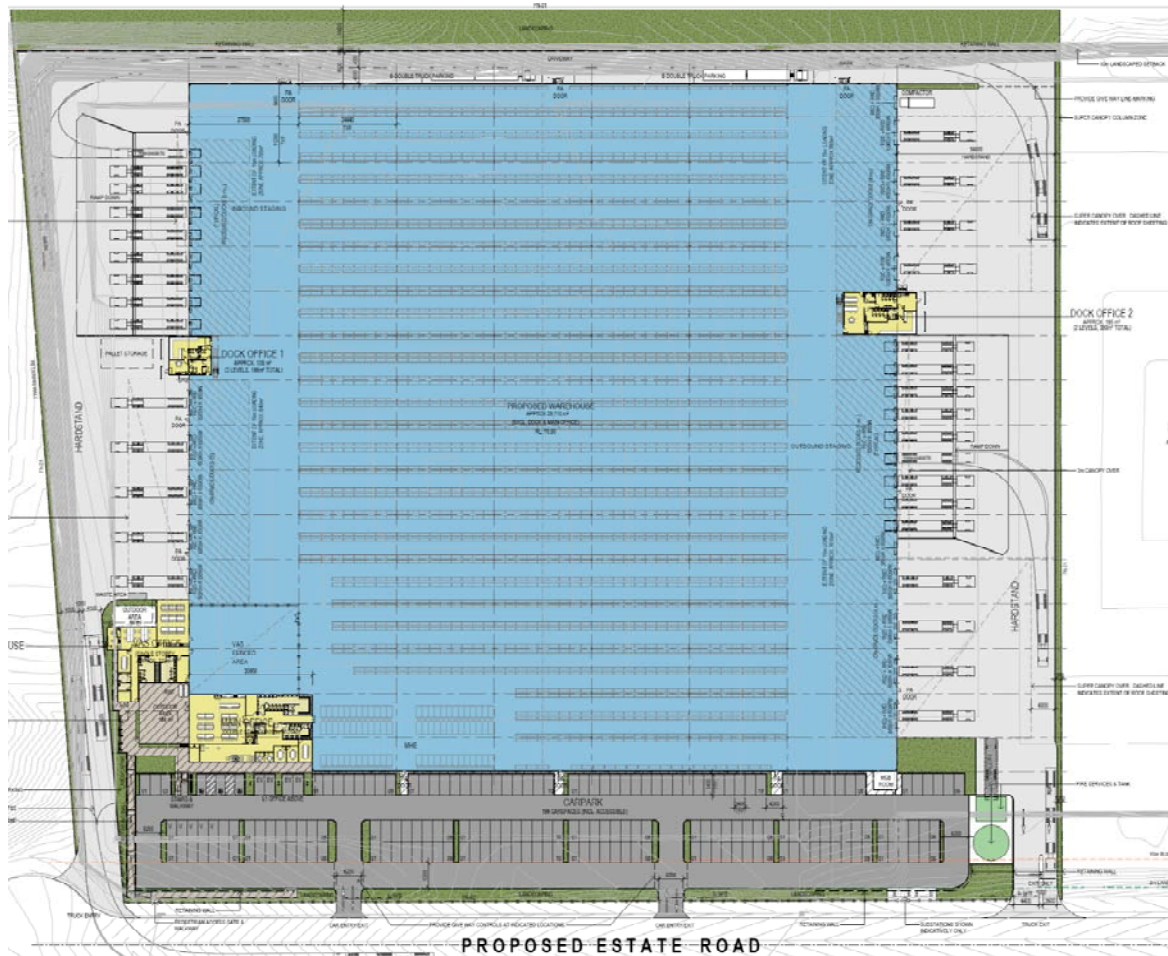
1.4 Site Inspection.

Graham Swain of **Australian Bushfire Protection Planners Pty Limited** inspected the development site on the 5th of April 2013 to assess the topography, gradients of the land within and external to the site and vegetation classification within and adjoining the development property, existing bushfire mitigation measures and a visual assessment of bushfire threat.

The land adjoining the development site was also inspected to determine the surrounding land use / land management practices and extent of bushfire prone vegetation.

This report has been prepared to support a State Significant Development Application (SSDA) under Division 4.7 of the Environmental Planning and Assessment Act 1979 (EP&A Act) for the construction and operations of the proposed DHL Supply Chain Warehouse and associated infrastructure on Lot 11/12 created in the subdivision of Lot 100 in DP 1268340, No. 813 Wallgrove Road, Horsley Park.

Figure 5 – Site Plan of proposed Warehouse Complex.



SECTION 2

DESCRIPTION OF DEVELOPMENT SITE

2.1 Location & Description.

The DHL Supply Chain site is known as Lot 11/12 created in the subdivision of Lot 100 in DP 1268340, No. 813 Wallgrove Road, Horsley Park.

Lot 11/12 is rectangular in shape with an area of 5.671 hectares of undeveloped land located to the north of the cul-de-sac at the western end of the proposed estate road. The northern boundary of the lot adjoins the southern boundary of the future road corridor. The Warragamba Pipeline occupies the land to the north of the future road corridor.

The site is largely cleared of its natural vegetation and was previously used for cattle and horse grazing.

Figure 6 – Aerial Photograph showing the location of Development Site.



2.2 Adjoining Land Use.

The site is adjoined to the west, east and south by vacant land within the future industrial estate.

The land to the north contains vacant land within the future Southern Link Road and the Warragamba Pipeline Easement. Industrial development occupies the land to the north of the pipeline easement.

2.3 Topography.

Appendix A1.5 of *Planning for Bushfire Protection 2019* states that slopes should be assessed and the gradient of the land should be determined which will most significantly influence the fire behaviour on the site.

➤ ***Within the Development Site.***

The land within the development site falls to the northwest towards Reedy Creek.

➤ ***Beyond the Development Site.***

(a) North.

The topography of the land to the north of the site, within the pipeline corridor and beyond is level.

(b) East.

The topography of the land to the east of the site rises to the east across the adjoining lots.

(c) South.

The land to the south of the site rises to the southeast.

(d) West.

The topography of the land to the west of the site falls across the adjoining lot to Reedy Creek, rising at < 5 degrees across the adjacent brickworks land, from the Reedy Creek corridor.

Figure 7 – Topographic Map.



2.4 Vegetation Communities on the land within the Development Site.

Vegetation is classified using Figure A1.2 of *Planning for Bushfire Protection 2019*, which classifies vegetation types into the following groups:

- (a) *Rainforest;*
- (b) *Wet Sclerophyll Forest;*
- (c) *Dry Sclerophyll Forest;*
- (d) *Woodland;*
- (e) *Tall Heath;*
- (f) *Short Heath; and*
- (g) *Grassland.*

The vegetation within the development site and on the adjoining land to the east, west and south is grassland with scattered trees. This vegetation will be removed as part of the development of the industrial estate.

2.5 Bushfire Vegetation Communities adjoining the land within the Development Site.

The vegetation within the flood plain to Reedy Creek consists of regenerating River Flat Eucalypt Forest.

The vegetation within the future road corridor to the north and northwest of the site consists of a narrow band of River Flat Eucalypt Forest.

2.6 Significant Environmental Features on the land within the Development Site.

The DHL development site does not contain any significant environmental features.

2.7 Known Threatened Species, Populations, Endangered Ecological Communities or Critical Habitat on the land within the Development Site.

There are no known threatened species, populations, endangered ecological communities or critical habitat within the development site.

2.8 Details of Aboriginal/European Heritage within the Development Site.

There are no known Aboriginal sites, relics or European heritage within the development site.

2.9 Management of the Defendable Spaces [Asset Protection Zones] to the Development.

The management of the Asset Protection Zone/Defendable Space within the development site shall remain the responsibility of the owner/occupier of the land.

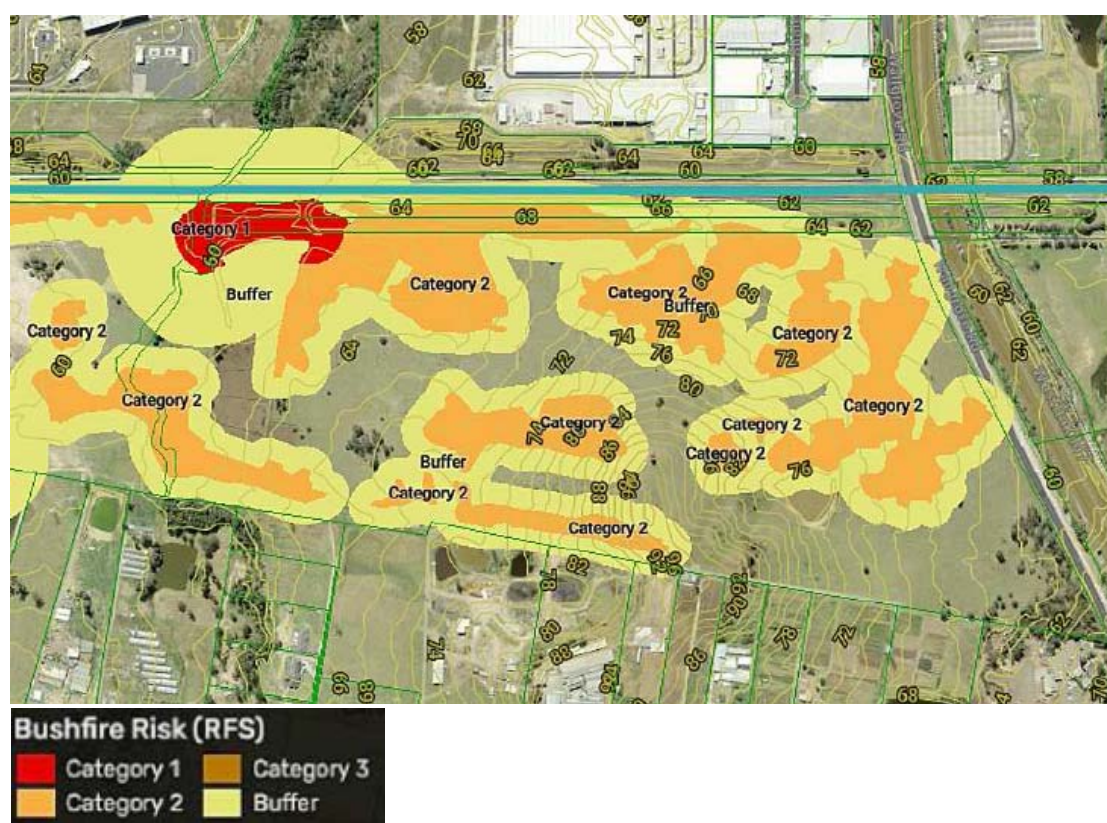
SECTION 3

BUSHFIRE HAZARD ASSESSMENT

3.1 Certified Bushfire Prone Land Map.

Section 10.3 of the *Environmental Planning & Assessment Act 1979* requires councils, where a Bushfire Risk Management Plan applies, to prepare a Bushfire Prone Land Map in consultation with the Commissioner of the NSW Rural Fire Service. The Commissioner will designate lands to be Bushfire Prone within an area and, when satisfied that the lands have been recorded on a map, will certify the map as a Bushfire Prone Land Map for the purposes of this or any other Act.

Figure 8 – Extract from the Fairfield Bushfire Prone Land Map.



The Fairfield BFPLM map records the site as containing pockets of Category 2 Bushfire Prone Vegetation.

The earthworks undertaken as part of the subdivision of the land and the development of each of the lots within the estate will remove the bushfire prone vegetation from within the estate leaving the vegetation within the riparian corridor to Reedy Creek and within the future road corridor to the north of the estate as the only bushfire hazard to the future industrial complexes.

SECTION 4

BUSHFIRE PROTECTION ASSESSMENT

4.1 Introduction.

The riparian corridor to Reedy Creek, to the west of the adjoining lot (Lot 10) contains Category 2 Bushfire Prone Vegetation. The road corridor to the north of the DHL site also contains Category 2 Bushfire Prone Vegetation with mapped Category 1 vegetation in the creek to the northwest of the adjoining Lot 10.

Therefore, the construction of the proposed DHL Warehouse is required to comply with the provisions of Section 4.14 of the *Environmental Planning & Assessment Act 1979*.

Section 4.14 of the *Environmental Planning and Assessment Act* requires that the development located in a bushfire prone area shall comply with the requirements of *Planning for Bushfire Protection 2019* with respect to the protection of persons, property and the environment from the danger that may arise from a bushfire.

The aim of *Planning for Bushfire Protection 2019* is to 'provide for the protection of human life and minimise impacts on property from the threat of bushfire while having due regard to development potential and protection of the environment'.

Bushfire protection can be achieved through a combination of strategies which are based on the following principles:

- (i) Control the types of development permissible in bushfire prone areas;
- (ii) Minimise the impact of radiant heat and direct flame contact by separating development from bushfire hazards;
- (iii) Minimise the vulnerability of buildings to ignition and fire spread from flames, radiant heat and embers;
- (iv) Enable appropriate access and egress for the public and fire-fighters;
- (v) Provide adequate water supplies for bushfire suppression and operations;
- (vi) Focus on property preparation, including emergency planning and property maintenance requirements; and

- (vii) Facilitate the maintenance of Asset Protection Zones (APZs), fire trails, access for fire-fighting and on site equipment for fire suppression.

Planning for Bushfire Protection 2019 provides the following objectives for Class 5 to 8 buildings:

- (i) *Provide safe access to/from the public road system for fire-fighters providing property protection during bushfire and for occupant egress for evacuation;*
- (ii) *Provide suitable emergency and evacuation (and relocation) arrangements for occupants of the development;*
- (iii) *Provide adequate services of water for protection of buildings during and after the passage of bushfire and to locate gas and electricity so as not to contribute to the risk of a fire to a building; and*
- (iv) *Provide for the storage of hazardous materials away from the hazard.*

'The general fire safety construction provisions of the NCC are taken as acceptable solutions, however construction requirements for bushfire protection will need to be considered on a case by case basis'.

Planning for Bushfire Protection 2019 does not provide specific deemed-to-satisfy protection measures for Class 5 to 8 buildings as defined by the Building Code of Australia. However, compliance with A.S.3959 - 2018 must be considered when meeting the aims and objectives of *Planning for Bushfire Protection 2019*.

Section 4.2 of this report examines the development proposal in relation to the provision of a suitable “defendable space” between the bushfire hazard and the DHL Warehouse building on Lot 11/12.

The bushfire construction standards to the DHL Warehouse building is examined in Section 4.3 and the provision of access and water supplies for fire-fighting operations management of the defendable space [Asset Protection Zone] and evacuation planning are examined in Sections 4.4 – 4.9 of this report.

4.2 The provision of Defendable Space/s [Asset Protection Zones].

Defendable Spaces/Asset Protection Zones [APZs] have been assessed for the DHL Warehouse in accordance with *Planning for Bushfire Protection 2019* and Australian Standard A.S. 3959 – 2018 (using effective slope and predominant vegetation communities).

The assessment is based on the predominant vegetation on the adjoining land to the north and northwest (within the future road corridor) being a narrow band of River Flat Eucalypt Forest.

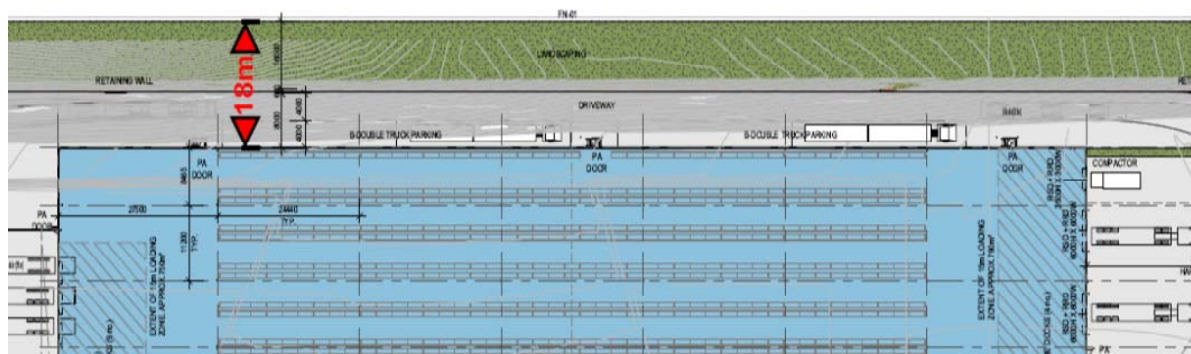
This vegetation has a width less than 50 metre and is therefore deemed to constitute low hazard vegetation and is classified as 'rainforest' for the purpose of determining bushfire protection measures to the development.

Note: The vegetation within Reedy Creek is located beyond the adjoining industrial lot and therefore does not present a hazard to the proposed DHL Warehouse complex on Lot 11/12.

The NSW Rural Fire Service's requirement for industrial buildings is to provide a setback from the bushfire prone vegetation which will minimise flame contact on a building.

Table A1.12.5 of *Planning for Bushfire Protection 2019* identifies that to prevent flame contact on the portion of the DHL Warehouse exposed to the hazard on the land to the north and northwest of the site the minimum width of the Defendable Space is 11 metres. The actual width of the Defendable Space to the north of the building is 18.00 metres, including the landscaped buffer zone located along the northern boundary of the site.

Figure 9 – Fire Protection (Defendable Space) Plan.



4.3 Construction Measures to the Data Centre Building.

Table 1 examines the bushfire construction standards required to be implemented to comply with A.S. 3959 – 2018 – 'Construction of Buildings in Bushfire Prone Areas'.

Table 1. Determination of Bushfire Construction Standards.

Aspect	Vegetation within 140m of development	Predominant Vegetation Formation Class	Effective Slope of Land	Width of Defendable Space provided to fixed assets	Bushfire Construction Standard – A.S. 3959 – 2018
North/North west	Narrow band of River Flat Forest	'Rainforest'	0-5 degrees downslope	Minimum 18.00 metres	BAL 29 to northern elevation

The BAL 29 construction standards shall apply to the full length of the northern elevation. BAL 19 construction standards shall apply to the remainder of the building.

Note:

The bushfire construction standards nominated shall apply if the vegetation remains within the future road corridor to the north of the site. If this vegetation is removed bushfire construction standards will not be required to the warehouse building.

The following additional measures also apply:

- Access doors [PA and Vehicle] to the building 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 given to the gap at the head of the curtain of the roller doors, where mohair type seals having a flammability rating of less than 5 shall be used;

- External timber doors shall be fitted with a stainless steel/Colorbond kick plate of 400mm high on the outside of the door;
- External glazed doors and windows shall comply with the requirements for glazing less than 400mm above finished ground level; paths / pavement and elevated roofs;
- Any external vents, grilles and ventilation louvres shall have stainless steel mesh with a maximum aperture of 2mm square fitted 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.

4.4 Access Standards for Firefighting Operations.

Appendix 3 “Access” of *Planning for Bushfire Protection 2019* provides specifications on the access provisions for fire-fighting operations within developments which are subject to bushfire attack.

Vehicular access to the proposed building will be provided via the new industrial estate road network.

The proposed internal access roads will be constructed to provide heavy rigid and articulated vehicle access to the proposed building. This internal road network will therefore provide suitable access for fire-fighting appliances similar to NSW Rural Fire Service Category 1 Tankers and Fire & Rescue NSW Composite and Aerial Appliances.

4.5 Water Supplies for Firefighting Operations.

The fire-fighting water supply to the proposed building shall comply with the Building Code of Australia [BCA] and Australian Standard A.S. 2419.1 – 2021.

Electricity and gas supplies will be laid underground and therefore address the performance standard of Chapter 4 of *Planning for Bushfire Protection 2019*.

4.6 Emergency Management for Fire Protection / Evacuation.

The DHL Warehouse is unlikely to be subject to a fire event that will create the need for the evacuation of the complex.

Due to the low bushfire risk there is no requirement for the preparation of a specific Bushfire Evacuation Plan or a Bushfire Management Plan for the complex.

However, the management of evacuation of the staff/visitors will need to be addressed in the preparation of a site specific Evacuation Plan for the facility.

The Evacuation Plan shall address the protocols for the timely relocation of staff/visitors in the event that an emergency occurs, both within the site or within the local area.

The Evacuation Plan shall comply with AS 3745:2010 *“Planning for Emergencies in Facilities”*.

A copy of the Evacuation Plan shall be provided to the Local Emergency Management Committee/Police, Fire & Rescue NSW and NSW Rural Fire Service.

4.7 Bushfire Hazard Management.

The intention of bushfire hazard management is to prevent flame contact with a structure, reduce radiant heat to below the ignition thresholds for various elements of a building, to minimize the potential for wind driven embers to cause ignition and to reduce the effects of smoke on occupants and fire-fighters.

The management of the Defendable Space within the site shall comply with the recommendations of Appendix 4 of *Planning for Bushfire Protection 2019* and *Standards for Asset Protection Zones*.

SECTION 5

BUSHFIRE MANAGEMENT STRATEGIES

Strategies to address the aim and objectives of *Planning for Bushfire Protection 2019* are as follows:

Strategy 1 – Defendable Space:

The Defendable Space shall be maintained as an Inner Protection Area (IPA) - Asset Protection Zone.

Strategy 2 – Landscape Management:

The design and maintenance of the landscaped gardens within the site shall comply with the prescriptions of an Inner Protection Area [IPA] pursuant to the specifications of Appendix 4 of *Planning for Bushfire Protection 2019* and the NSW Rural Fire Services document '*Specifications for Asset Protection Zones*'.

The management of the landscaped gardens [defendable space] shall be maintained under the terms of a positive covenant, pursuant to Section 88B of the *Conveyancing Act of 1909*, on the title of the land.

Strategy 3 – Bushfire Construction Standards:

The northern elevation of the building shall be constructed to comply with Section 3 and Section 7 (BAL 29) of A.S 3959 – 2018 – '*Construction of Buildings in Bushfire Prone Areas*'.

It is recommended that any part of the DHL Warehouse Building located within 100 metres of the bushfire hazard (except for the northern wall), being the vegetation within the future road corridor to the north of the site, shall be constructed to comply with Section 3 and Section 5 [BAL 12.5] of A.S 3959 – 2018 - '*Construction of Buildings in Bushfire Prone Areas*'.

The following additional construction standards shall be implemented to safeguard the buildings against possible burning ember attack:

- Access doors [PA and Vehicle] to the building 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 given to the gap at the head of the curtain of the roller doors, where mohair type seals having a flammability rating of less than 5 shall be used;

- External timber doors shall be fitted with a stainless steel/Colorbond kick plate of 400mm high on the outside of the door;

- External glazed doors and windows shall comply with the requirements for glazing less than 400mm above finished ground level; paths / pavement and elevated roofs;
- Any external vents, grilles and ventilation louvres shall have stainless steel mesh with a maximum aperture of 2mm square fitted 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.
- 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.

Strategy 4 – Evacuation Plan:

The management of evacuation of the staff/visitors will be addressed in the preparation of a site specific Evacuation Plan for the facility.

The Evacuation Plan shall address the protocols for the timely relocation of staff/visitors in the event that an emergency occurs, both within the site or within the local area.

A copy of the Evacuation Plan shall be provided to the Local Emergency Management Committee/Police, Fire & Rescue NSW and NSW Rural Fire Service.

The Evacuation Plan shall comply with AS 3745:2010 *“Planning for Emergencies in Facilities”*.

SECTION 6

CONCLUSION

A State Significant Development Application [SSDA] is being lodged for the construction of the proposed DHL Supply Chain Warehouse on Lot 11/12, created in the subdivision of Lot 100 in DP 1268340, No. 813 Wallgrove Road, Horsley Park.

The Development Consent for the Industrial Estate issued under SSD 5248 required the following bushfire related matters to be addressed:

Part B of the Consent – Conditions to be met in future Development Applications contained the following bushfire related conditions:

BUSHFIRE PROTECTION

- B9. Future development applications for industrial/warehouse buildings must demonstrate compliance with the relevant provisions of the latest version of Planning for Bush Fire Protection (PBP) and the asset protection zones recommended in the *Bushfire Protection Assessment for the Proposed Gazcorp Industrial Estate*, prepared by Australian Bushfire Protection Planners Pty Ltd, dated April 2013.
- B10. Future development applications for industrial/warehouse buildings must demonstrate compliance with AS 3959-2009 *Bushfire Construction Standard* as recommended in the *Bushfire Protection Assessment for the Proposed Gazcorp Industrial Estate*, prepared by Australian Bushfire Protection Planners Pty Ltd, dated April 2013.
- B11. Future development applications must demonstrate compliance with the following sections of RFS's *Planning for Bushfire Protection 2006*:
 - (a) section 4.2.7 for internal road access;
 - (b) section 4.2.7 for water, electricity and gas; and
 - (c) appendix 5 for landscaping.
- B12. Future development applications must include an Emergency/Evacuation Plan prepared in accordance with *A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan* (NSW Rural Fire Service, December 2014).

This report has reviewed the level of threat to the proposed DHL Warehouse and confirms that the width of the Defendable Space to the north of the building satisfies the requirement that the building will not be subject to flame contact.

Specific bushfire construction standards have been recommended to the northern elevation of the building (and remaining elevations not exposed to the bushfire hazard as required by the NSW RFS).

It is also noted that should the hazard within the future Southern Link Road be removed, prior to the construction of the DHL Warehouse commencing, the requirement to provide a Defendable Space to the north of the building and the construction of the building to satisfy bushfire construction standards will be removed.

This report has examined the requirements for:

- access and water supply provisions for fire-fighting operations;

- Management of the fire protection measures, including the defendable spaces; and
- Emergency management [evacuation] planning.

Table 2 summarises the extent to which the development conforms to the aim and objectives of *Planning for Bushfire Protection 2019*.

Table 2. Compliance with the aim and objectives of *Planning for Bushfire Protection 2019*.

Bushfire Protection Measure	Compliance with the aim and objectives of <i>Planning for Bushfire Protection 2019</i>.
Defendable Space setbacks/construction standards to future industrial buildings	The combination of a Defendable Space and construction standards to the building addresses the requirement that the occupants are afforded adequate protection from exposure to a bushfire and that the buildings will not be exposed to material ignition.
Access for fire-fighting operations	The proposed public access roads within the industrial estate and the proposed DHL Warehouse comply with the specifications of Appendix 3 of <i>Planning for Bushfire Protection 2019</i> and provide satisfactory emergency access for fire-fighting appliances.
Water supplies for fire fighting	Hydrant supply to be installed in accordance with AS 2419.1 – 2005.
Management of the fire protection measures, including the defendable spaces	The owner of the DHL Warehouse is responsible for the maintenance of the recommended fire protection measures. Positive Covenant to be recorded on title of the lot.
Emergency Management	The owner of the DHL Warehouse shall address protocols for the management of staff and site facilities during defined emergencies.

I confirm that the proposed development complies with the aim and objectives of *Planning for Bushfire Protection 2019* and the deemed to satisfy requirements of Section 8.3.10 of *Planning for Bushfire Protection 2019* – Buildings of Class 5 to 8 and Class 10 of the Building Code of Australia in respect to the provision of asset protection zones [defendable spaces], access and water/utilities for fire-fighting operations and addresses the Development Consent Conditions B9, B10, B11 & B12.



Graham Swain, Managing Director,
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REFERENCES:

- N.S.W Rural Fire Service – *Planning for Bushfire Protection 2019*;
- *Environmental Planning & Assessment Act – 1979*;
- *Rural Fires Act – 1997*;
- *Rural Fires Regulation 2013*;
- NSW Rural Fire Service – *Guideline for Bushfire Prone Land Mapping 2015*;
- *Bushfire Environmental Assessment Code 2019*;
- Building Code of Australia;
- Australian Standard A.S. 3959-2018 “*Construction of Buildings in Bushfire Prone Areas*”;
- *Fairfield Bushfire Prone Land Map*.