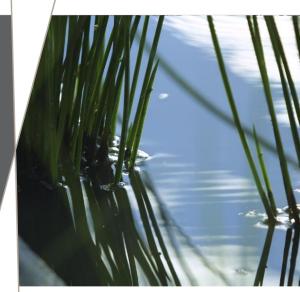
North East Business Park

LBEMP Sub-Plan 01

7903-59

Prepared for North East Business Park Pty Ltd

31 January 2014







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Table of Contents

1	Intro	oduction	1	
2	Des	cription of Approved Works	2	
3	MNE	4		
	3.1	Likelihood of Occurrence Assessment	4	
	3.2	MNES Risk Assessment	7	
4	LBE	MP Sub-Plan Specifications	10	
5	Env	ironmental Management Elements	11	
	5.1	Element 1: LBEMP Sub-Plan MNES Risk Assessment	11	
	5.2	Element 2: Fauna	11	
	5.3	Element 3: Flora	14	
	5.4	Element 4: Weeds and Pests	17	
	5.5	Element 5: Water Quality (Erosion and Sedimentation)	19	
6	Non	-compliance and Corrective Action Requirements	20	
7	Rec	ord Keeping and Review Procedures	21	
Ta	bles			
Tabl	e 2-1	Details of Approved Works Program and Site	2	
Tabl	e 3-1	Assessment of Likelihood of Occurrence of MNES	4	
Tabl	e 3-2	Likelihood Levels	7	
Tabl	e 3-3	Consequence Levels	7	
Tabl	e 3-4	Risk Matrix Criteria	8	
Tabl	e 3-5	Environmental Risk Assessment Register	9	

Figures

Figure 1 NEBP Development Footprint and Precincts Boundaries

Figure 2 NEBP LBEMP Sub-Plan 01 Locality

Appendices

Appendix A Vegetation Clearance Plan
Appendix B Corrective Action Request



Terminology

The term Developer refers to North East Business Park Pty Ltd or any successors in title to the land forming part of the NEBP estate and within which development activities are to occur. The Developer is to ensure that the terms of engagement of any Principal, Superintendent and Contractor are consistent with the requirements of this LBEMP Sub-Plan 01.

The term EPBC Act refers to the Environment Protection and Biodiversity Conservation Act 1999.

The term **NEBP** refers to North East Business Park.

The term **Developer** refers to the specific entity authorised under sections 130(1) and 133 of the EPBC Act to undertake the NEBP development in accordance with terms and conditions of the EPBC Act Approval granted to North East Business Park Pty Ltd on 18 December 2012. Authority to undertake the NEBP development cannot be transferred to a different entity without the consent of the Commonwealth Minister for the Environment.

The **Developer** is to ensure that the terms of engagement of any **Principal**, **Superintendent** and **Contractor** are consistent with the requirements of this LBEMP.

The term MBRC refers to the Moreton Bay Regional Council.

The term CDotE refers to the Commonwealth Department of the Environment.

The term **LBEMP** or **overarching LBEMP** refers to the North East Business Park Land Based Environmental Management Plan for Matters of National Environmental Significance V2 (Cardno 2014).

The term **DEHP** refers to the Queensland Department of Environment and Heritage Protection.

The term MNES refers to Matters of National Environmental Significance as defined by the EPBC Act.



1 Introduction

The Northeast Business Park (NEBP) is a multi-use business park that will integrate industry, commercial, marine development, residential, heritage and recreational greenspace precincts. The NEBP development is the subject of a Commonwealth approval under the provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Pursuant to the EPBC Approval (Ref: EPBC 2006/2912) the NEBP development is to be undertaken in accordance with the provisions of a Land Based Environmental Management Plan (LBEMP), approved by the Commonwealth Minister for the Environment, so as to ensure potential impacts to Matters of National Environmental Significance (MNES) are appropriately managed.

The NEBP LBEMP for MNES v1 (Cardno 2013):

- > has been prepared in accordance with Condition 9 of the EPBC Approval (Ref: EPBC 2006/2912) and has been submitted to the Commonwealth Minister for the Environment for approval; and
- > provides specifications for the preparation of LBEMP Sub-Plans for specific programs of approved works that are to be undertaken as part of the orderly and staged establishment of the NEBP development.

This LBEMP Sub-Plan 01 has been prepared in accordance with the specifications of the NEBP LBEMP for MNES v2 (Cardno 2014) and provides:

- > an overview of the location and nature of an approved program of works that is the subject of LBEMP Sub-Plan 01;
- > an assessment of the likelihood of occurrence of MNES within or adjacent to the works site;
- > an assessment of the risk that the works program represents to relevant MNES; and
- > environmental management specifications for those aspects of the works program that are associated with a Medium to Extreme risk of harm to one or more MNES.

The works program the subject of this LBEMP Sub-Plan 01 must not commence until this LBEMP Sub-Plan 01 is approved by the Commonwealth Minister of the Environment and the approved LBEMP Sub-Plan 01 must be implemented as required by Condition 9 of the EPBC Approval (Ref: EPBC 2006/2912).



2 Description of Approved Works

Details concerning the approved works program the subject of this LBEMP Sub-Plan 01 are provided in Table 2-1.

Table 2-1 Details of Approved Works Program and Site

Aspect	Description	Figure/Plan Reference		
Real Property Description of Approved Works Site	Lot 2 on SP169551	Figure 2		
NEBP Precinct	BP Precinct Mixed Business Area (MIBA), part of.			
Extent of Approved Works Site – Lot 2 on SP169551	26.50 Ha	Vegetation Clearance Plan Ref: LBEMP01- VCP01		
Vegetation (Habitat) Types within and adjacent to Approved Works Site	within and adjacent to Remnant Paperbark (Melaleuca guinguenervia) Open Forest			
Nature and Extent of Approved Vegetation Clearance Works	Vegetation clearing, grubbing, stockpiling and disposal within a defined area of 22.51 Ha. Extent of direct impact on specific vegetation (habitat) types: Regrowth Paperbark (<i>M. quinquenervia</i>) Open Forest – 12.90 Ha * Remnant Paperbark (<i>M. quinquenervia</i>) Open Forest – 0.24 Ha Remnant Scribbly gum (<i>E. racemosa</i>) Open Forest – 9.37 Ha Retention and protection of the following vegetation (habitat) types: Remnant Paperbark (<i>M. quinquenervia</i>) Open Forest – 2.60 Ha Remnant Scribbly gum (<i>E. racemosa</i>) Open Forest – 1.39 Ha	Vegetation Clearance Plan Ref: LBEMP01- VCP02		
Extent and Nature of Bulk Earthworks	None.			
Extent of Infrastructure and Building Works	None.			
Extent of Landscaping Works	None.			
Relevant State and Local Government Approvals	MIBA - MCU-2002-1079. Development Permit Plan (Vegetation Clearance) Ref: DPP 2006/008928. (note: the program of works is not subject to any other State or Local government approvals.)			



Aspect	Description	Figure/Plan Reference
Timing and duration of Approved Works Program	Commence: upon receipt of CDotE endorsement of this LBEMP Sub-Plan. Complete: within 6 months of upon receipt of CDotE endorsement of this LBEMP Sub-Plan.	

^{*:} areas of regrowth vegetation subjected to property maintenance clearance in 2005 and in September 2012.

The limits of the approved works site and associated extents of areas of vegetation clearance and retention, on Lot 2 on SP169551, are defined in the Vegetation Clearance Plan presented in Appendix A.



3 MNES Risk Assessment (Element 1)

The LBEMP requires the completion of an assessment of the risk that any works program will have adverse impacts on MNES for every works program forming part of the NEBP development.

This MNES Risk Assessment for the works program the subject of this LBEMP Sub-Plan 01 has been completed based on consideration of:

- > the likelihood of occurrence of specific MNES within or adjacent to the approved works site; and
- > the risk assessment framework contained within Section 4 of the NEBP LBEMP for MNES v1 (Cardno 2013).

3.1 Likelihood of Occurrence Assessment

The likelihood of occurrence of MNES presented in Table 3-1 is broadly based on the assessments presented in Table 3-2 of the NEBP LBEMP for MNES (Cardno 2013) with relevant amendments to reflect the nature of specific vegetation and habitat types present within and adjacent to the approved works site.

Table 3-1 Assessment of Likelihood of Occurrence of MNES

MNES		Habitat Requirements	Likelihood of Occurrence at or	
Common Name	Scientific Name	nabitat Requirements	adjacent to Works Site	
	Acacia attenuata	Low lying, high rainfall heathland or open eucalypt forest within coastal regions.	Moderate - areas of remnant scribbly gum open forest and paperbark open forest within and adjacent to the work site.	
Hairy Joint Grass	Arthraxon hispidus	Moisture and shade-loving grass, found in or on the edges of rainforest and in wet eucalypt forest, often near creeks or swamps. Dependence on persistent and reliable groundwater.	Moderate - areas of paperbark open forest to the south of the works site represents potential habitat for this species.	
Leafless Tongue Orchid	Cryptostylis hunteriana	Variety of heath, sedge and forested communities usually on moist sandy soil or clay loam below 1000m altitude. Detection is only possible during flowering which tends to occur in the August-January period in SEQ and northern NSW.	Moderate – areas of scribbly gum open forest provide potential habitat for this species.	
Lesser Swamp Orchid	Phaius australis	Swamps and low lying depressions within forests requires full shade, often associated with <i>Melaleuca quinquenervia</i> wetlands.	Moderate – potential habitat for this species is associated with the paperbark open forest to the south and the upslope fringes of the scribbly gum open forest.	
Grey-headed Flying Fox	Pteropus poliocephalus	Tropical and temperate wet and dry sclerophyll forest and mangroves. Roosts in trees beside water, feeds on flowering trees.	High – flowering eucalypts and paperbarks within and adjacent to the works site are a resource for this species. No roosting sites known.	
Water Mouse #	Xeromys myoides	Foraging and nesting habitat restricted to Mangrove and saltmarsh communities.	Low – work site situated > 2km from inter-tidal sections of Raff Creek.	



MN	NES	Helifat Barria	Likelihood of Occurrence at or
Common Name	Scientific Name	Habitat Requirements	adjacent to Works Site
Koala [#]	Phascolarctos cinereus	Open Eucalypt forest and woodland at lower altitude in undulating country on relatively deep and usually high nutrient soil.	Known – evidence of Koala activity have been previously recorded within the scribbly gum open forest that occur within the site and in the adjacent paperbark community.
Red Goshawk	Erythrotitrirchis radiatus	Various habitat types including coastal & sub-coastal tall open forest, tropical savannah adjacent to wooded or forested rivers, and rainforest edges are utilized with a preference for a mosaic of vegetation types near to a permanent watercourse.	Moderate – areas of remanet open forest within and adjacent to the site provide potential foraging habitat for this species.
Australian Painted Snipe	Rostratula australis	Shallow and vegetated wetland areas are considered important habitat types for this species.	Low – forested habitats within and adjacent to works site not suitable habitat.
Swift Parrot	Lathamus discolour	Preferences of habitat for the swift parrot, in Queensland, include eucalypts such as narrow leaved ironbark, yellow box forests and forest red gum. Larger trees are believed to be preferred by the species.	Moderate – areas of remnant scribbly gum open forest contain potential habitat resources for this species.
Regent Honey-eater	Xanthomyza Phrygia	Eucalypt forest and woodland are considered critical habitat for this species.	Moderate – areas of remnant scribbly gum open forest contain potential habitat for this species.
Coxen's Fig-Parrot	Cyclopsitta diophthalma coxenii	The presence of fruiting trees, particularly fig trees, seems to be of importance in habitat preference of the Coxen's Fig-Parrot. No single habitat type has been identified as critical.	Moderate – areas of remnant paperbark open forest to the south of the work site contain potential habitat for this species.
Wallum Sedge Frog #	Litoria olongburensis	Low pH, wallum habitats which support emergent vegetation including sedges, grasses and reeds. May occur in paperbark wetland areas downstream of the Works Site.	Moderate – reed beds associated with Raff Creek and areas of remnant paperbark open forest to the south of the work site contain potential habitat for this species.
Honey Blue-eye	Pseudomugil mellis	This species is typically found in the coastal lowland "wallum" ecosystem. Not previously recorded in the Caboolture River system. May occur in freshwater sections of Raff Creek downstream of the Works Site.	Moderate – freshwater reaches of Raff Creek to the south of the work site contains potential habitat for this species.
Loggerhead Turtle	Caretta caretta	Marine species known to inhabit but not nest within Moreton Bay.	Low – species known from Moreton Bay which is located ~ 12km downstream from the works site.
Green Turtle	Chelonia mydas	Marine species known to inhabit but not nest within Moreton Bay.	Low – species known from Moreton Bay which is located ~ 12km downstream from the works site.



MN	IES	Habitat Requirements	Likelihood of Occurrence at or	
Common Name Scientific Name		nabitat Requirements	adjacent to Works Site	
Pacific Ridley Turtle	Lepidochelys olivacea	Marine species known to inhabit but not nest within Moreton Bay.	Low – species known from Moreton Bay which is located ~ 12km downstream from the works site.	
Hawksbill Turtle	Eretmochelys imbricate	Marine species known to inhabit but not nest within Moreton Bay.	Low – species known from Moreton Bay which is located ~ 12km downstream from the works site.	
Australian Fritillary *	Argyreus hyberbius inconstans	The larval food plant, Native Violet (Viola betonicifolia), is vital for the breeding efforts of the butterfly. Therefore, Ling-leaved Matrush and Blady grass are also important habitat resources.	Moderate – freshwater wetlands associated with reaches of Raff Creek to the south of the work site contains potential habitat for this species.	

^{#:} MNES species not listed in EPBC Approval but known or considered likely to occur in or adjacent to the NEBP site and therefor considered in this LBEMP. *: Species listed in the EPBC Approval but not currently listed as an MNES pursuant to the EPBC Act and therefore not subject to further consideration in this LBEMP Sub-Plan.



3.2 MNES Risk Assessment

In order to manage environmental risk, minimise impacts to potentially present MNES and comply with the duty of care as defined by the EP Act, it is important to identify the potential environmental hazards associated with a project, assess the environmental risks involved, and develop controls to eliminate, or minimise, residual environmental risk. In accordance with AS/NZS ISO 31000:2009 Risk management – Principles and Guidelines, a project hazard identification and risk assessment process has been undertaken in order to assess and adequately manage the risks posed to the natural and social environment by the various construction activities associated with the project.

In undertaking this risk assessment, in which unmitigated project specific environmental hazards were assessed, likelihood levels, consequence levels and risk criteria based on the requirements of *AS/NZS ISO* 31000:2009 (as shown in Tables 3-2 to 3-4) were used to assess the environmental risk rating for each identified hazard (as shown in Table 3-5). Note that in cases where the likelihood and consequence of risks relating to one hazard varied, the most conservative figure was used.

For each of the hazards that are associated with a Medium to Extreme level of risk to one or more MNES, relevant environmental management measures are specified in Table 3-5 and the detailed specifications for which are provided in Section 4 of this LBEMP Sub-Plan 01.

This MNES Risk Assessment has been completed on behalf of NEBP Pty Ltd by an appropriately qualified and experienced ecologist, being: Mr John Delaney, Senior Principal – Ecologist for Cardno (Qld) Pty Ltd.

Table 3-2 Likelihood Levels

Level	Descriptor	Qualitative Description						
Α	Almost certain	The event is expected to occur; event will occur on an annual (or more frequent) basis.						
В	Likely	Probable that it will occur; event has occurred several times before at similar developments.						
С	Possible	May or may not occur; event may occur once during the development.						
D	Unlikely	The event may occur at some time but is unlikely; heard of happening from time to time at similar developments.						
Е	Rare	The event may occur in exceptional circumstances; not heard of at similar developments.						

Table 3-3 Consequence Levels

Level	Descriptor	Qualitative Description
1	Insignificant	Environment: No damaged detected. People: Event does not result in injury (i.e. no medical treatment required). Property: No damage to property.
		Amenity: No detectable impact on amenity.
2	Minor	Environment: Minor impact of short duration or short term damage. People: Reversible injury or illness. Property: Minor damage to property (<\$5,000 to repair). Amenity: Minor, localised and short term amenity impacts, no complaints.
3	Moderate	Environment: Short term damage, localised impact. People: Irreversible disability or impairment (30%) to one or more persons. Property: Moderate damage to property (<\$50,000 to repair). Amenity: One or two complaints, impacts extending to several properties and/or lasting for several days.



Level	Descriptor	Qualitative Description
4	Major	Environment: Significant impact locally and potential for offsite impacts. People: Severe injuries or impairment (60%) to one or more persons, single fatality. Property: Major damage to property (<\$500,000 to repair). Amenity: Many complaints, impacts extensive and/or lasting for many days, up to 5 properties rendered uninhabitable for more than one day.
5	Catastrophic	Environment: Significant impacts to regional ecosystems and threatened species, potential for widespread off site impacts. People: Multiple fatalities, or irreversible injuries/impairment (>60%). Property: Significant loss to property (>\$1,000,000 to repair). Amenity: Multiple dwellings rendered uninhabitable for >1 day.

Table 3-4 Risk Matrix Criteria

			Consequence					
		1 (Insignificant)	2 (Minor)	3 (Moderate)	4 (Major)	5 (Catastrophic)		
	A (Almost certain)	Medium	High	High	Extreme	Extreme		
-	B (Likely)	Medium	Medium	High	High	Extreme		
Likelihood	C (Possible)	Low	Medium	High	High	High		
_	D (Unlikely)	Low	Low	Medium	Medium	High		
	E (Rare)	Low	Low	Medium	Medium	High		

The Risk ratings presented in Table 3-4 are to be interpreted as follows:

- > **Low**: Risk can be adequately managed by routine procedures and work practices;
- > Medium: Corrective action other than administrative controls is needed;
- > High: Significant risk control measures need to be implemented before works commence; and
- > **Extreme**: Operations are not to be undertaken without extensive risk control and mitigation measures in place prior to the commencement of works.

For each of the hazards that are associated with the approved works program and which are associated with a Medium to Extreme level of risk to one or more MNES, relevant environmental management elements that need to be addressed in this LBEMP Sub-Plan 01 are also specified in Table 3-5.



Page 9

Table 3-5 Environmental Risk Assessment Register

Hazard	Risk	MNES Possibly Impacted	Likelihood	Consequence	Environmental Risk Rating	Management Elements from Section **
Vegetation	Damage to flora intended for retention	All flora MNES	С	3	High	3
clearing/grubbing	Potential injury, death or displacement of fauna	All terrestrial fauna MNES	С	3	High	2
	Removal of soil – loss of seed bank/tubers	Acacia attenuata Leafless Tongue Orchid Lesser Swamp Orchid	С	3	High	3
	Introduction and/or spread of exotic species	All flora MNES Wallum Sedge Frog	С	3	High	4
	Soil instability and erosion	Wallum Sedge Frog Honey Blue Eye	С	2	Medium	5
	Degradation of downstream marine habitats	Marine Turtles	D	1	Low	-
Construction personnel bringing dogs onto the site	Injury and harassment of native fauna if dogs are not appropriately supervised or restrained All terrestrial fau MNES		В	2	Medium	2
Bulk earthworks above 5m AHD	No bulk earthworks are involved in this	No bulk earthworks are involved in this works program			Low	-
Bulk earthworks below 5m AHD	No bulk earthworks are involved in this works program			Low	-	
Grading, infrastructure, building and landscaping works	No grading, infrastructure, building and landscaping works are involved			Low	-	
Fire	Uncontrolled fire resulting in damage to retained vegetation All terrestrial flora and fauna MNES		D	2	Low	-
Increased Road Traffic	Injury to native fauna resulting from interactions with development related vehicular traffic	All terrestrial fauna MNES	В	3	High	2



4 LBEMP Sub-Plan Specifications

This LBEMP Sub-Plan 01 has been prepared to assists the Developer to meet its obligations to minimise impacts to MNES to the greatest extent practicable whilst undertaking the orderly development of the NEBP estate. This LBEMP Sub-Plan 01 sits below the overarching LBEMP v1 (Cardno 2013) and draws upon the broad guidance provided within that document.

The emphasis of this LBEMP Sub-Plan 01 is on the management of activities assessed as having an environmental risk rating of 'Extreme', 'High' or 'Medium' for MNES that are known or considered likely to occur in, or adjacent to, an area that is the subject of an approved works program.

Based on consideration of the environmental risk rating analysis presented in Table 3-4 herein this LBEMP Sub-Plan 01 is comprised of a number of environment management elements, these being:

- > Element 1: LBEMP Sub-Plan Risk Assessment (refer Section 3);
- > Element 2: Fauna;
- > Element 3: Flora:
- > Element 4: Weeds and Pests: and
- > Element 5: Water Quality (Soil Erosion and Sedimentation).

Each of these Environmental Management Elements consists of the following key components.

- > **Rationale**: the reason(s) why this management element is, or is not, relevant to this particular phase of the NEBP development.
- > **Objectives**: the objectives and targets to be achieved by implementing this element.
- > **Performance Indicators**: measurable indicators and standards set to assess the efficacy of management measures taken.
- Tasks: specific management and monitoring tasks that need to be taken, including;
 - Actions: details of the actions, including monitoring, to be undertaken; and
 - Timing: details concerning the timeframe for undertaking specific actions.

The **Developer**, being **North East Business Park Pty Ltd**, is to be the entity that assumes **responsibility** ensuring that all of the tasks that are specified within this LBEMP Sub-Plan 01 are implemented in the time frames specified.

The Developer is to ensure that all employees and contractor involved in the NEBP development works are aware of, and contractually required to comply with, the requirements of this LBEMP and any LBEMP Sub-Plan.

In the preparation of this LBEMP Sub-Plan 01, the services of an appropriately qualified and experienced ecologist have been engaged for the purposes of determining:

- > whether the approved package of works are likely to have an adverse impact on a MNES; and
- > the nature of management measures that need to be incorporated in the LBEMP Sub-Plan.

For the purposes of this LBEMP Sub-Plan 01 the **approved vegetation clearance area** is defined by the limits of remnant vegetation clearance on Lot 2 on SP169551 authorised under Development Permit Plan (Vegetation Clearance) Ref: DPP 2006/008928. The **approved vegetation clearance area** is shown on Vegetation Clearance Plan presented in Appendix A of this LBEMP Sub-Plan 01.



5 Environmental Management Elements

5.1 Element 1: LBEMP Sub-Plan MNES Risk Assessment

Details concerning the required MNES Risk Assessment for LBEMP Sub-Plan 01 are provided in Section 3.

5.2 Element 2: Fauna

Rationale

The works program involves the clearance of approximately 9.61 hectares of forested land that provides habitat resources for native fauna including a number of fauna listed as MNES pursuant to the EPBC Act. The approved vegetation clearance area also encompasses approximately 12.90 hectares of land that was classified as supporting regrowth Paperbark (*M. quinquenervia*) at the time that the NEBP EIS was being prepared. As noted in Section 2, Table 2-1 this regrowth area had previously been subjected to property maintenance clearance works in 2005 and in September 2012 and currently does not support any substantive native vegetation communities.

The vegetation clearance works are to be carried out in a manner that is designed to encourage fauna to move out of the vegetation clearance zone and into adjacent areas of retained bushland. There is an associated potential for the vegetation clearance works to promote the movement of native fauna into the adjacent Bruce Highway corridor, with consequential risks of harm to the fauna and motorists.

The vegetation clearance area is located upslope of areas of paperbark open forest that provide a vegetated buffer of approximately 100m width to a freshwater section of Raff Creek located to the south of the work site.

Objective/Target

To ensure:

- > the development of the NEBP is conducted in a manner that minimises impacts to fauna listed as MNES;
- > areas of fauna habitat that are to be retained are appropriately protected during the construction phase;
- > authorised fauna habitat disturbance is carried out in accordance with best practice environmental management measures, as well as the terms and conditions of relevant permits authorising such disturbance; and
- > existing infestations of pest fauna species are controlled and no new pest species are introduced to or spread within the site.

Performance Indicators

Disturbance activities do not result in the avoidable harm to any fauna listed as MNES.

Compliance with project-specific conditions of approval relating to vegetation clearing or disturbance to native fauna, including implementation of Actions identified under Management Measures in this Sub-Plan 01

Vegetation adjacent to the approved vegetation clearance area is retained and protected at all times during clearing and ongoing works.

The clearance of native vegetation within the approved vegetation clearance area is undertaken in accordance with the terms and conditions of relevant permits.

Management Measures

Tasks	Actions	Timing
Identify and protect all vegetation and fauna	Clearly define the limits of the approved vegetation clearance area on all construction plans (Refer Vegetation Clearance Plan presented in	



Tasks	Actions	Timing	
habitats adjacent to the approved vegetation clearance area.	Appendix A). Physically demarcate areas of vegetation and fauna habitat to be retained using high visibility temporary or permanent fencing prior to the commencement of development activities.	of any vegetation clearance	
Conduct pre-clearance surveys of the approved vegetation clearance	Survey the approved vegetation clearance area for the presence, or likely presence, of fauna listed as MNES by an appropriately qualified and experienced ecologist.	Prior to the commencement of any	
area.	Mark with GPS and flagging tape the location of any fauna MNES that were observed during the surveys.	vegetation clearance	
Appointment of an appropriately licenced Fauna Spotter Catcher	An appropriately licenced fauna spotter-catcher is to be appointed to supervise and direct vegetation clearance works.	Prior to the commencement of any vegetation clearance	
	The appointed fauna spotter catcher is to inspect the approved vegetation clearance area and the findings of the pre-clearance survey.	Prior to the commencement of any vegetation clearance	
Establish fauna exclusion/guide fencing	Maintain existing perimeter fencing along the Bruce Highway (western) perimeter of the work site to prevent the movement of Koala (and other terrestrial fauna) from the site onto the Bruce Highway. Perimeter fencing is to be maintained generally in accordance with the specifications provided in the Vegetation Clearance Plan (Appendix A).	Prior to the commencement of any vegetation clearance	
Conduct clearance of vegetation in a manner which ensures that any native fauna living near or within or adjacent to the vegetation to be removed have time to move out of the areas of disturbance without human intervention.	The appointed fauna spotter catcher is to be authorised to issue relevant instructions to the vegetation clearance contractor to ensure: > vegetation clearance works comply with the procedures of Policy 6: Vegetation Clearing Practices of the Nature Conservation (Koala) Conservation Plan 2006, which will involve: - limiting the extent of clearance to not more than 3 hectares of open forest in any single day; and - ensuring that for a period of at least 12 hours, extending from 6:00pm tilll 6:00am on the following day, no further vegetation clearance occurs on the site;	During all site clearance works	
	any vegetation occupied by native fauna is not cleared until the fauna moves out of the vegetation, or (with the exception of Koala) is relocated to a secure area of similar habitat by a qualified fauna spotter-catcher; and		
	ensure vegetation clearance is conducted in a sequential manner in order to direct native fauna away from threatening processes or hostile environments (e.g. the Bruce Highway) and towards any retained vegetation or habitat links.		
	Unless directed by the appointed fauna spotter catcher, vegetation clearance works are to be carried out in accordance with the specifications provided in the Vegetation Clearance Plan (Appendix A).		
Domestic pets are excluded from the site during vegetation clearance works.	No domestic pets are to be brought into the site by contractors employed to undertake vegetation clearance works. Any contractors who ignore this management specification may, at the discretion of the proponent or its authorised representatives, be banned from the site.	Throughout vegetation clearance works	
A Post Clearance Fauna Management Report is to be completed.	At the completion of vegetation clearance works, a brief post works Fauna Management Report is to be completed and is to contain: > details on any incidents that occurred during the clearing;	At the completion of vegetation clearance	



Tasks	Actions	Timing
	relocated;	
	> provide an evaluation of the fauna management techniques;	
	> provide any appropriate future management measures; and	
	> the name, licence reference number and contact details of the appointed fauna spotter-catcher.	
Traffic management.	Vehicles attending and operating within the approved works site are to be operated in a manner that minimises the potential for harm to native fauna.	Ongoing
Care of injured fauna.	Any fauna recovered during vegetation clearance works will, immediately upon capture by the fauna spotter catcher, be inspected for any signs of physical injury. If the fauna appear to be injured, they will be immediately transported to a suitably qualified veterinary surgeon for appropriate treatment. Uninjured fauna will be relocated to suitable, habitat in the surrounding area as described above. The details for nearby, suitable wildlife care facilities are: > RSPCA – Ph: 1300 130 372.	During all site clearance works
Record keeping.	The following records and reports are to be retained and made available to relevant administering authorities upon request: > photographic records of the establishment of required fencing; > the dates and locations of habitat clearance works are to be maintained; > the name, licence reference number and contact details of the fauna spotter-catcher that supervised the vegetation clearance works each day; > details concerning any native vertebrate fauna that were injured during the conduct of the approved works program and the actions taken in respect thereof; and > post clearance Fauna Management Report.	Ongoing
Corrective actions.	Should there be non-compliance with the stated performance indicators the following corrective actions are to be implemented: > identification of the cause of the non-compliance; > implementation of appropriate corrective measures as determined by the Developer in consultation relevant experts (where required); and > relevant validation monitoring to confirm that the nominated corrective actions have been effective. The Developer shall implement the corrective action(s) as required within the agreed timeframe noted on the CAR. Corrective actions may include: > cessation of vegetation clearance activities; > restoration of fauna habitats subject to unauthorised disturbance; > establishment of fauna exclusion fencing around the work site; > reductions in vehicular speed limits within the works site; or > environmental awareness training of personnel.	Ongoing



5.3 Element 3: Flora

Rationale

The package of works the subject of this LBEMP Sub-Plan 01 involves the clearance of approximately 23 hectares of partially forested land that provides habitat resources for native flora including a number of flora listed as MNES pursuant to the EPBC Act.

Objective/Target

To ensure:

- > areas of native vegetation located outside of the approved vegetation clearance area are to be retained and appropriately protected;
- > authorised vegetation disturbance is carried out in accordance with best practice environmental management measures, as well as the terms and conditions of relevant permits authorising such disturbance; and
- > existing infestations of pest flora species are controlled and no new pest species are introduced to, or spread within, the site.

Performance Indicators

Compliance with the project-specific conditions of approval relating to vegetation clearing (e.g. DPP 2006/008928).

Native vegetation adjacent to the approved development areas is retained and protected at all times during clearing of the site and ongoing works.

The clearance of native vegetation within the approved vegetation clearance area is undertaken in accordance with the terms and conditions of relevant permits.

No invasion/dispersal of weeds or other exotic species.

Management Measures

Tasks	Actions	Timing
Identify and delineate areas of vegetation clearance and retention.	Clearly define the limits of the approved development areas on all construction plans (Refer Vegetation Clearance Plan presented in Appendix A). Physically define areas of native vegetation to be retained, within or adjacent to the approved works site, using high visibility temporary or permanent fencing prior to the commencement of development activities.	Prior to the commencement of any vegetation clearance
Conduct clearance of vegetation in a manner which minimises the potential for harm to native fauna.	Implement an appropriate program of controls based on Element 2 – Fauna of this LBEMP Sub-Plan 01.	During all site clearance works
Protection of vegetation to be retained within approved works site.	Install and maintain tree protection fencing (TPF) around any native vegetation located within the approved works site that has been identified for retention. The TPF is to be generally compliant with Australian Standard AS4970-2009 Protection of Trees on a Development Site. The TPF which protects the exclusion area is to be of standard AS4970-2009.	Prior to the commencement of development works. Maintain for the duration of development works.
Conduct pre-clearance surveys of all vegetation to be removed.	Survey of the defined vegetation clearance area for the presence of any flora listed as MNES by an appropriately qualified and experienced ecologist. Clearly demarcate in the field and record the location with GPS any flora MNES observed during the surveys.	Prior to the commencement of any vegetation clearance



Tasks	Actions	Timing
Implement appropriate mitigation strategy for any MNES listed flora identified in the preclearance surveys.	Determine whether it is practicable to retain and sustain the ecological functionality of the identified MNES flora in-situ, taking into account the nature of the approved development. (note: the retention of small numbers of plants in an ecologically isolated patch of land surrounded by urban/industrial development is unlikely to maintain ecological functionality).	Prior to the commencement of vegetation clearance works in areas supporting
	If it is possible to achieve the above, incorporate the identified MNES flora into a vegetation protection zone and manage accordingly.	MNES flora.
	For MNES flora that are able to be successfully translocated, obtain a Clearing (protected Plant) Permit under the Nature Conservation Act from the Qld DEHP.	
	MNES flora with the potential to occur in the NEBP that are able to be translocated include:	
	> Arthraxon hispidus Hairy Joint Grass	
	> Cryptostylis hunteriana Leafless Tongue Orchid	
	> Phaius australis Lesser Swamp Orchid	
	> Acacia attenuata	
	Undertake MNES listed flora translocation works in accordance with the terms and condition of a Clearing (protected Plant) Permit under the Nature Conservation Act from the Qld DEHP.	
Monitor the condition of retained and transplanted vegetation.	Visually monitor the condition of retained/transplanted vegetation on a weekly basis for signs of stress or damage throughout the construction period.	Throughout construction period
	Undertake issue specific corrective actions in respect of any observed damage/stress to retained/transplanted vegetation.	
	Monitor all MNES flora translocation works in accordance with the terms of the required Clearing (Protected Plant) Permit issued by the Qld DEHP.	As specified in the Permit
Appropriate management, reuse and disposal of cleared vegetation.	Locate any temporary stockpiles of cleared vegetation on-site in a manner that assists with the management of erosion and sediment loss processes (refer LBEMP Element 5).	Ongoing
	Manage cleared non-native vegetation in accordance with LBEMP Element 4.	
	Reuse or dispose of cleared vegetation in accordance with Local government requirements.	
Protected MNES listed flora during ecological restoration works.	Undertake restoration site preparation and revegetation in a manner which avoids removal or damage to MNES listed flora species. Where ecological restoration works are to be undertaken in areas supporting MNES listed flora:	Ongoing
	> mark all MNES listed flora in the restoration area with flagging tape or conspicuous marker stakes;	
	> carefully undertake weed management, soil preparation, and planting works so as to avoid physical or chemical disturbance MNES listed flora; and	
	> monitor and record the responses of MNES listed flora to the ecological restoration works.	
Record keeping.	Ensure all records and reports are made available to relevant administering authorities upon request.	Ongoing
Corrective actions.	Should there be non-compliance with the stated performance indicators the following corrective actions are to be implemented:	Ongoing
	> identification of the cause of the non-compliance;	
	> implementation of appropriate mitigation measures as determined by the Developer in consultation with relevant experts (where	



Tasks	Actions	Timing
	required); and > relevant validation monitoring to confirm that the nominated corrective actions have been effective. The Developer shall implement the corrective action(s) as required within the agreed timeframe noted on the CAR.	



Element 4: Weeds and Pests 5.4

Rationale

The vegetation clearance works the subject of this LBEMP Sub-Plan 01 have the potential to:

- > introduce weed species to the site if contaminated machinery is used in the conduct of vegetation clearance works; and
- > further disperse pest species within, and external to, the work site if materials are not appropriately handled and disposed of.

Surveys of the NEBP site undertaken for the NEBP EIS (refer Cardno 2008) recorded the presence of a number of Class 2 and Class 3 pest plant species pursuant to the Land Protection (Pest and Stock Route Management) Act 2002 (LP Act), as listed below.

Common Name	Scientific Name	Location of Infestations	LP Act Designation
Groundsel Bush Baccharis halimifolia		Scattered across site	Class 2
Prickly Pear Opuntia sp.		Disturbed cleared areas and Cypress Pine woodland	Class 2
Water Hyacinth	Eichhornia crassipes	Paperbark Forest (south-eastern portion)	Class 2
Mother of Millions	Bryophyllum sp	Scattered across site	Class 2
Salvinia	Salvinia molesta	Constructed waterbody near the homestead	Class 2
Camphor Laurel	Cinnamomum camphora	Cultivated areas and northern riparian areas	Class 3
Lantana	Lantana camara	Scattered across site	Class 3
Asparagus Fern	Asparagus africanus	Scattered across site	Class 3
Chinese Elm Celtis sinensis		Disturbed riparian area	Class 3
Broad-leaved Pepper Tree	Schinus terebinthifolius	Scattered across site and in Disturbed riparian area	Class 3

Objective/Target

To ensure:

- existing infestations of pest flora or fauna species are controlled;
- no new pest species are introduced to or spread within the site; and
- pest flora and fauna species are not dispersed from the site to the surrounding environment.

Performance Indicators

No invasion/dispersal of weeds or other exotic species.

Weeds are treated in accordance with industry best practise and any relevant legislative regulations.

Management Measures

Tasks	Actions	Timing
Identify specific areas of weed and pest infestation	Prior to commencing development works (i.e. vegetation clearing) conduct survey of development footprint to determine and map the presence and location of weed and pest infestations.	Prior to the commencement of vegetation clearance and earthworks
Treat identified weed infestations within	In areas where existing native vegetation and fauna habitat are to be retained and/or restored, treat existing weed infestations in accordance	Ongoing

Page 17



Tasks	Actions	Timing
designated vegetation retention areas.	with: > Department of Agriculture, Forestry and Fisheries requirements and industry best practise as detailed in http://www.daff.qld.gov.au/plants/weeds-pest-animals-ants > LBEMP Element 2; and > LBEMP Element 3.	
Manage weed infestations within designated vegetation clearance areas.	In areas where vegetation clearance and earthworks are to occur: > clear and stockpile weed infested areas separately from weed free areas; and > dispose of, rather than reuse, weed infested material in accordance with local government requirements.	Ongoing
Minimise the introduction and dispersal of weeds and other exotic species.	Ensure that all equipment (e.g. machinery, vehicles and clothing) used in weed-infested areas are cleaned of weed propagules before moving into weed-free areas of the site. Ensure that all mulch and fill material imported to the site is certified as being weed free.	Ongoing
Corrective actions.		



5.5 Element 5: Water Quality (Erosion and Sedimentation)

Rationale

The works program does not trigger a requirement for the preparation of a detailed water quality or erosion and sedimentation program under the provisions of the following development approvals.

- > MIBA Precinct (refer MCU-2002-1079); and
- > Residential West Precinct (refer MCU-2004-1420).

Nevertheless, the vegetation clearance works the subject of this LBEMP Sub-Plan 01 have the potential to impact on the qualities of downstream waterways and wetlands if some basic erosion and sedimentation controls are not implemented, particularly in the southern sector of the work site which drains into Raff Creek.

Objective/Target

To minimise changes to the qualities of receiving waters attributable to the works program.

Performance Indicators

No physical evidence of on-site erosion leading to the off-site transport and deposition of sediment.

Establishment of a vegetative ground cover following completion of the vegetation clearance and grubbing works.

Management Measures

Tasks	Actions	Timing
Implement erosion and sediment controls.	Establish and maintain sediment fencing in the locations specified in the Vegetation Clearance Plan (Appendix A).	Prior to commencement of broad scale clearance and then maintain.
	Undertake vegetation clearance and grubbing works in a staged manner.	As required.
	Stockpile cleared vegetation in windrows parallel to site contours.	As required.
	Apply grass seed to cleared areas to stabilise exposed soils.	As required.
	Maintain silt fences and windrowed vegetation until a vegetative cover has been established.	As required.
	Inspect erosion and sediment controls following rainfall events and undertake maintenance/corrective actions as required.	As required.
Record keeping.	Maintain records of the implementation, inspection and maintenance of erosion and sediment controls.	Ongoing.
Corrective actions.	Should there be non-compliance with the stated performance indicators the following corrective actions are to be implemented: > identification of the cause of the non-compliance; > implementation of appropriate mitigation measures as determined by the Developer in consultation with relevant experts or regulators (where required); and > relevant validation monitoring to confirm that the nominated corrective actions have been effective. The Developer shall implement the corrective action(s) as required within the agreed timeframe noted on the CAR.	Ongoing.



6 Non-compliance and Corrective Action Requirements

The **Developer**, being North East Business Park Pty Ltd, is to be the entity that assumes **responsibility** ensuring that all of the tasks that are specified within this LBEMP Sub-Plan 01 are implemented in the time frames specified.

The Developer is to ensure that all employees and contractor involved in the works program are aware of, and contractually required to comply with, the requirements of this LBEMP Sub-Plan 01.

Where the Developer becomes aware of a site or operational condition that does not comply with stated performance indicators of this LBEMP Sub-Plan 01, there is a requirement for a corrective action.

A Corrective Action Request (CAR) form shall be completed and authorised where appropriate in general compliance with the example CAR form provided in Appendix B of this LBEMP Sub-Plan 01 or similar.

The Developer shall also maintain a register of CARs, which shall demonstrate that appropriate actions have been completed within a suitable timeframe.

Any CAR registered in accordance with this LBEMP shall be provided to any Local, State or Commonwealth Government Department, any statutory authority or other person, consensually or as lawfully required.

The Developer is to implement an Environmental Incident and Response procedure including an Environmental Incident Report form. The procedure shall clearly define response and notification requirements including all relevant details of those to be contacted in the event of an environmental incident or emergency. The Environmental Incident Report form shall include the details of the incident, and as a minimum include:

- > date of incident;
- > details of the persons who detected or notified the incident (internal and external);
- > nature of the incident; and
- > details of the corrective actions undertaken.

The Developer shall notify the Commonwealth Department of the Environment of any recorded environmental incidents involving MNES as soon as practicably possible.



7 Record Keeping and Review Procedures

The Developer is to retain appropriate records concerning all tasks and actions undertaken in accordance with this LBEMP Sub-Plan 01 including:

- > copies of all relevant permits or approvals relevant to the works the subject of this LBEMP Sub-Plan 01;
- > the name, qualifications and contact details of the appropriately qualified ecologist engaged to the assist in the preparation of this LBEMP Sub-Plan 01;
- > the dates and findings of the preclearance flora and fauna surveys and the name, qualifications and contact details of the ecologist who completed the surveys;
- > the name, qualifications and contact details of the appropriately qualified fauna spotter catcher engaged to supervise vegetation clearance works;
- > the dates of all vegetation clearance works;
- > the Post Clearance Fauna Management Report as required by Section 5.2 of this LBEMP Sub-Plan 01; and
- > all incident reports and corrective action requests generated during the works program.

North East Business Park

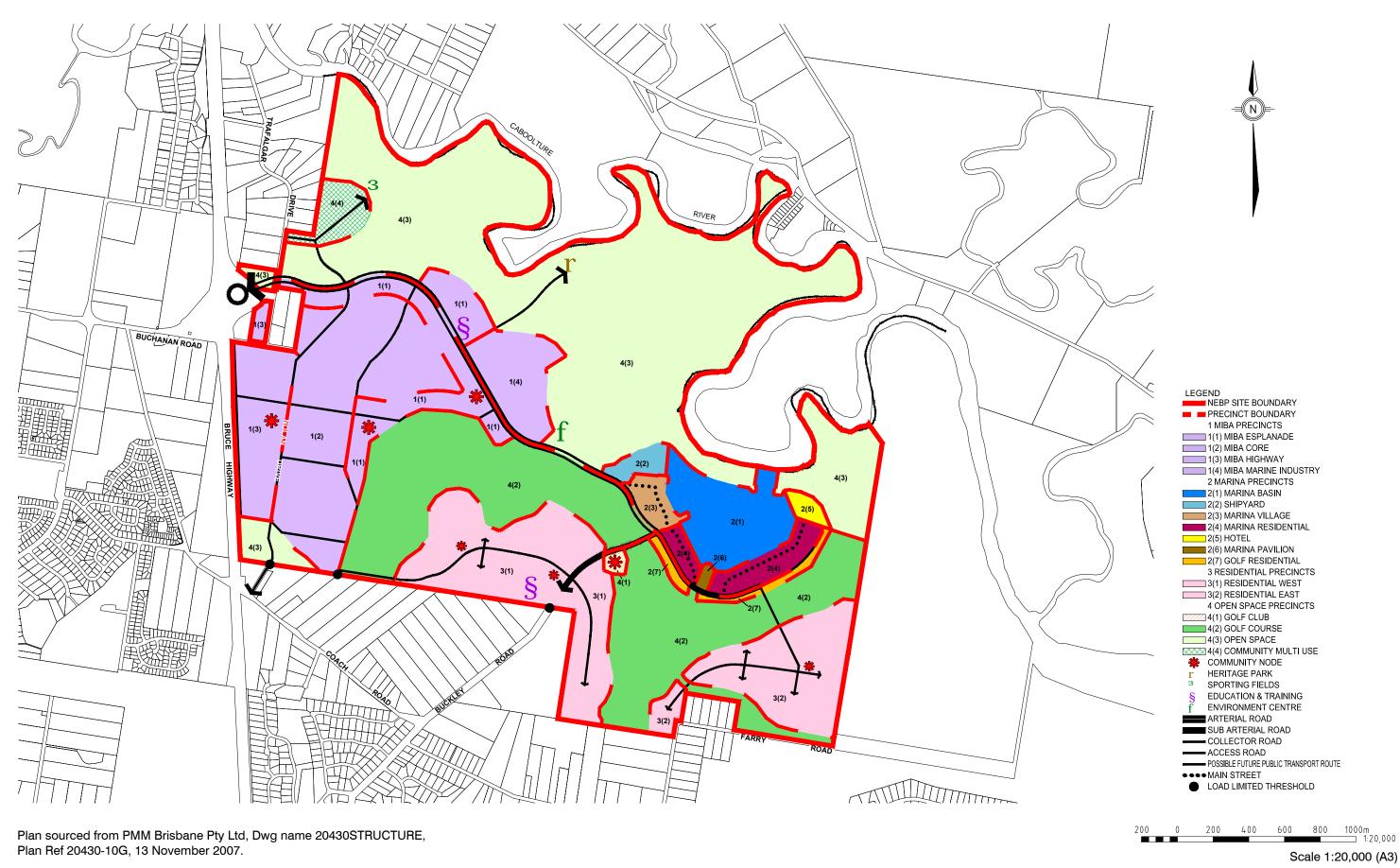
FIGURES

Figure 1 NEBP Development
Footprint and
Precincts Boundaries

Figure 2 NEBP LBEMP Sub-Plan 01 Locality







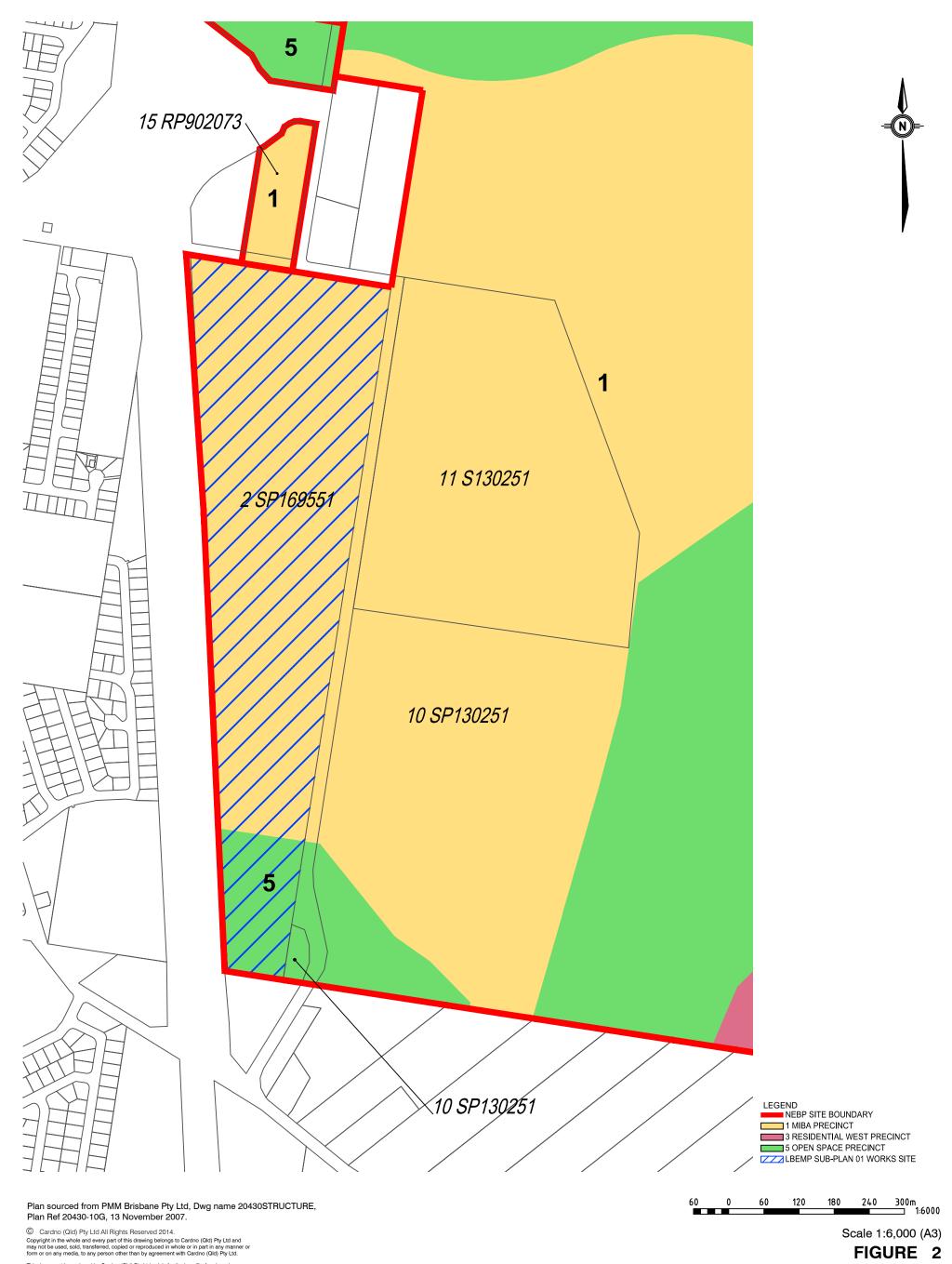
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FIGURE 1 **NEBP DEVELOPMENT FOOTPRINT AND PRECINCTS**





NEBP LBEMP SUB-PLAN 01 LOCALITY

Project No.: 7903/59

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North East Business Park

APPENDIX



Vegetation Clearance Plan





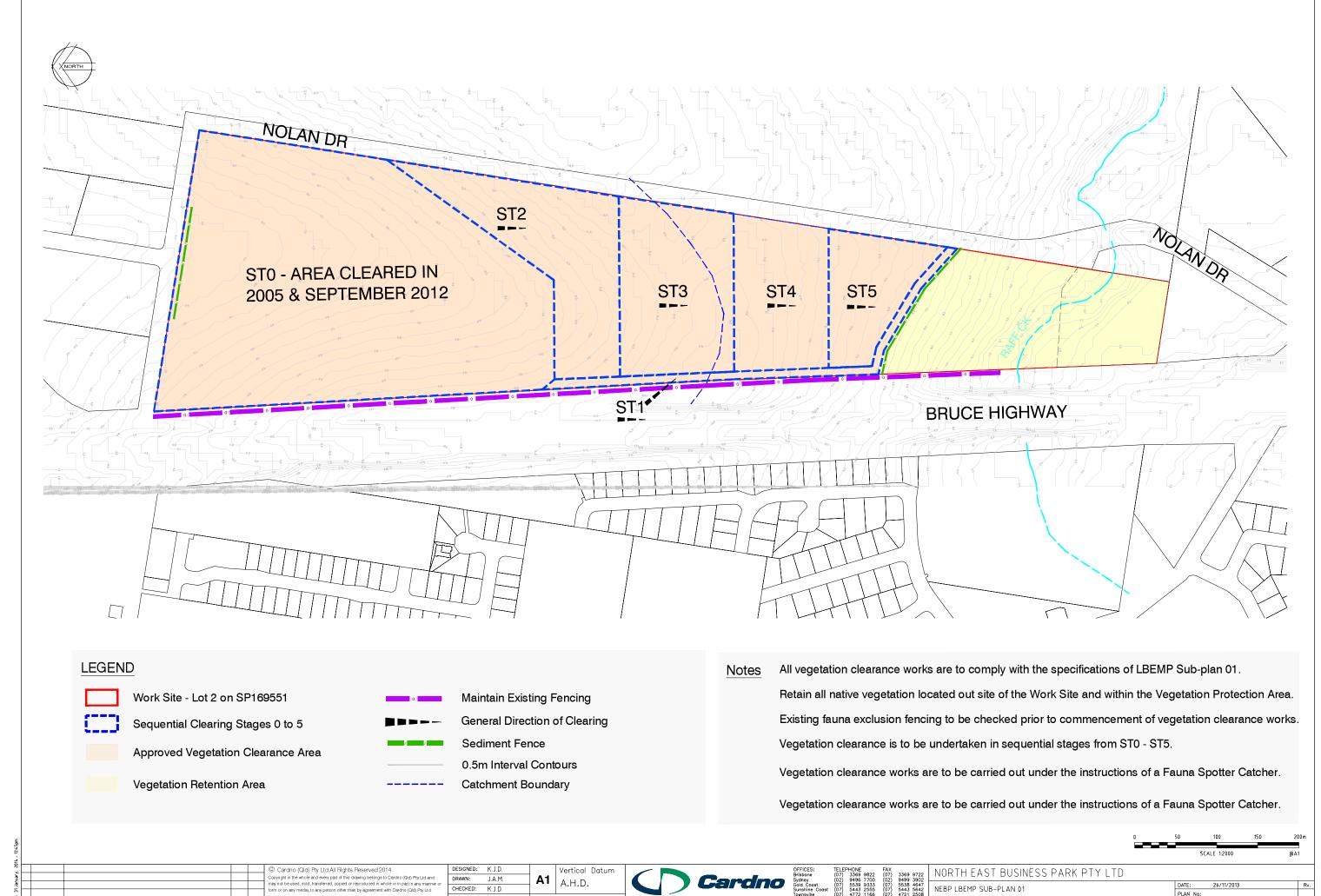




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VEGETATION CLEARANCE PLAN

LBEMP01-VCP02

North East Business Park

APPENDIX

B

Corrective Action Request



CORRECTIVE ACTION REQUEST (Example)

Report No:	
Date:	
DETAILS OF NON-CONFORMANCE:	
Inspected by:	
DETAILS OF PROPOSED ACTION	
Passed to Developer (as applicable): y/n Name:	Date:
Passed to Regulator (as applicable): y/n Name:	Date:
Reply required by:	
CONSULTANT/EXPERT/REGULATOR ADVICE (as required):	
Date action required by (if applicable): Signed (by Developer or Developer's representative):	Date:
AUTHORITY TO PROCEED	24.0
	Data
Sign: ACTION CARRED OUT	Date:
Sign:	Date:
ELEMENT RE-INSPECTED BY	
Sign:	Date:
COPY ISSUED TO DEVELOPER	Date:
Sign:	