Hydrogeology & Groundwater

130 University Drive, Callaghan, NSW 2308

Driller's Logs

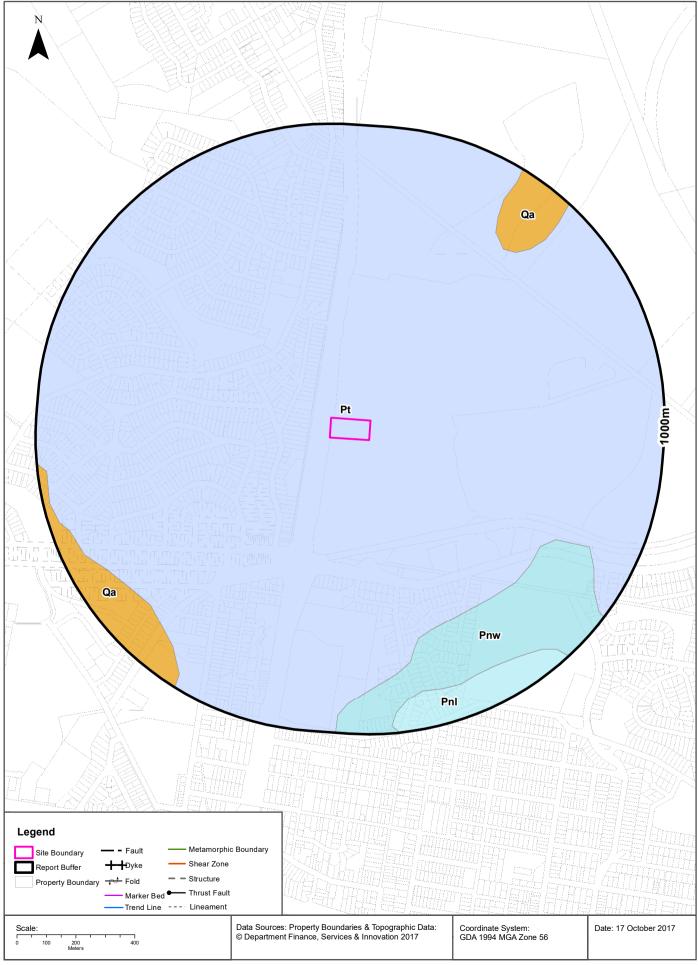
Drill log data relevant to the boreholes within the dataset buffer:

Groundwater No	Drillers Log	Distance	Direction
GW202512	0.00m-0.15m Silty CLAY; brown 0.15m-1.20m Silty CLAY; brown-orange mottled 1.20m-9.50m SILTSTONE, extremely weathered; light brown with some gravel, soft lense from 3.7m-3.8m & softer lense from ~6.0m-6.2m 9.50m-16.60m SILTSTONE; dark grey-dark brown 16.60m SILTSTONE; dark grey-black, presumed groundwater encountered 17.50m-18.00m TUFF; white	305m	North
GW202509	0.00m-0.15m Fill, Clayey Sandy SILT; brown, some gravel & rootlets 0.15m-0.75m Fill, Sandy GRAVEL; red-brown, with coal fragments, angular & round gravel/cobbles to 30mm 0.75m-1.50m Silty CLAY; orange-brown, with some gravel, becoming grey from 0.95m 1.50m-1.80m Siltstone/Claystone; extremely weathered, light brown-grey, some gravel 1.80m-2.50m Silty Clay/weathered Siltstone; mottled brown-orange 2.50m-3.40m Siltstone. weathered; orange-brown 3.40m-6.00m Sandstone, weathered; orange-brown 6.00m-7.50m Tuff; white 7.50m-8.80m Coal; black 8.80m-11.60m Tuff; white, near refusal	384m	North
GW202510	0.00m-0.05m FILL, Clayey SAND; dark brown, with some rootlets 0.05m-0.50m FILL, Clayey SAND; grey with some orange mottling, some gravel 0.50m-2.00m Silty CLAY; grey with some orange mottling 2.00m-2.35m SANDSTONE/SILTSTONE, extremely weathered; brown to orange-brown 2.35m-7.00m SANDSTONE; orange-brown 7.00m-7.50m COAL; dark grey-black 7.50m-12.80m TUFF; pale grey-white, soft lense from ~8.0-8.3m	429m	North
GW202511	0.00m-0.15m Silty CLAY; dark brown 0.15m-0.80m FILL, Clayey Gravelly SAND; dark brown, with slag/cement clasts 0.80m-2.60m SANDSTONE; pale brown, becoming orange-brown from ~2.0m 2.60m-3.50m COAL; black 3.50m-3.60m Silty CLAY; pale pink-brown, with trace-some gravel 3.60m-4.90m COAL; black 4.90m-9.80m TUFF; pale grey-white, soft lense from 8.0-8.2m	503m	North
GW202513	0.00m-0.20m FILL, Clayey Silty SAND; dark brown, some gravel & roots 0.20m-0.25m FILL, Concrete Slab 0.25m-0.30m FILL; Woodchips/Mulch 0.30m-0.35m FILL, Silty SAND; pale brown, trace of gravel 0.35m-0.45m FILL, Silty CLAY; dark grey 0.45m-0.60m FILL, Sandy GRAVEL; dark grey-black, angular 0.60m-1.20m Silty CLAY; dark grey 1.20m-2.10m Silty CLAY; pale grey - wood fragments/fibres, hard lense at 2.0-2.1m 2.10m-4.20m CLAYSTONE/SANDSTONE; pale brown 4.20m-4.60m CLAYSTONE/SILTSTONE; pale brown	517m	North East
GW053186	0.00m-0.15m Topsoil 0.15m-3.00m Clay 3.00m-24.38m Shale 24.38m-27.38m Coal 27.38m-32.00m Mudstone Water Supply	1108m	South West
GW202754	0.00m-0.26m Fill; Concrete 0.26m-0.30m Sand, gravelly; light brown & grey, fine to coarse grained 0.30m-0.50m Gravel, sandy; orange/brown & grey/brown 0.50m-1.30m Clay; with sand & gravel, grey/black, fine to coarse grained 1.30m-3.00m Clay, sandy; with silt, black with grey & brown mottling	1340m	South West
GW202755	0.00m-0.22m Fill; concrete 0.22m-0.30m Gravel; sandy, wet 0.30m-1.20m Sand; black, fine grained 1.20m-3.40m Gravel; silty sandy, black, stiff	1346m	South West
GW202756	0.00m-0.19m Fill; Concrete 0.19m-0.50m Sand; gravelly clayey, dark grey/brown 0.50m-3.50m Clay; sandy gravelly	1357m	South West
GW202753	0.00m-0.34m Fill; Concrete 0.34m-2.90m Sand, silty; black, coarse grained 2.90m-4.20m Clay; light grey/brown, fine grained, stiff	1372m	South West

Drill Log Data Source: NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corp Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

Geology 1:250,000





Geology

130 University Drive, Callaghan, NSW 2308

Geological Units

What are the Geological Units onsite?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dom Lith	Map Sheet	Dataset
Pt	Siltstone, sandstone, coal, tuff, claystone, conglomerate, minor clay	Tomago Coal Measures	Tomago Coal Measures		Palaeozoic			1:250,000

What are the Geological Units within the dataset buffer?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dom Lith	Map Sheet	Dataset
Pnl	Sandstone, siltstone, claystone, coal, tuff	Lambton Subgroup	Newcastle Coal Measures	Lambton Subgroup	Palaeozoic			1:250,000
Pnw	Sandstone	Waratah Sandstone	Newcastle Coal Measures		Palaeozoic			1:250,000
Pt	Siltstone, sandstone, coal, tuff, claystone, conglomerate, minor clay	Tomago Coal Measures	Tomago Coal Measures		Palaeozoic			1:250,000
Qa	Undifferentiated alluvial deposits; sand, silt, clay and gravel; some residual and colluvial deposits. Includes some channel, levee, lacustrine, floodplain and swamp deposits. May include some higher level Tertiary terraces	undifferentiated			Cainozoic			1:250,000

Geological Structures

What are the Geological Structures onsite?

Feature	Name	Description	Map Sheet	Dataset
No features				1:250,000

What are the Geological Structures within the dataset buffer?

Feature	Name	Description	Map Sheet	Dataset
No features				1:250,000

Geological Data Source : NSW Department of Industry, Resources & Energy © State of New South Wales through the NSW Department of Industry, Resources & Energy

Naturally Occurring Asbestos Potential

130 University Drive, Callaghan, NSW 2308

Naturally Occurring Asbestos Potential

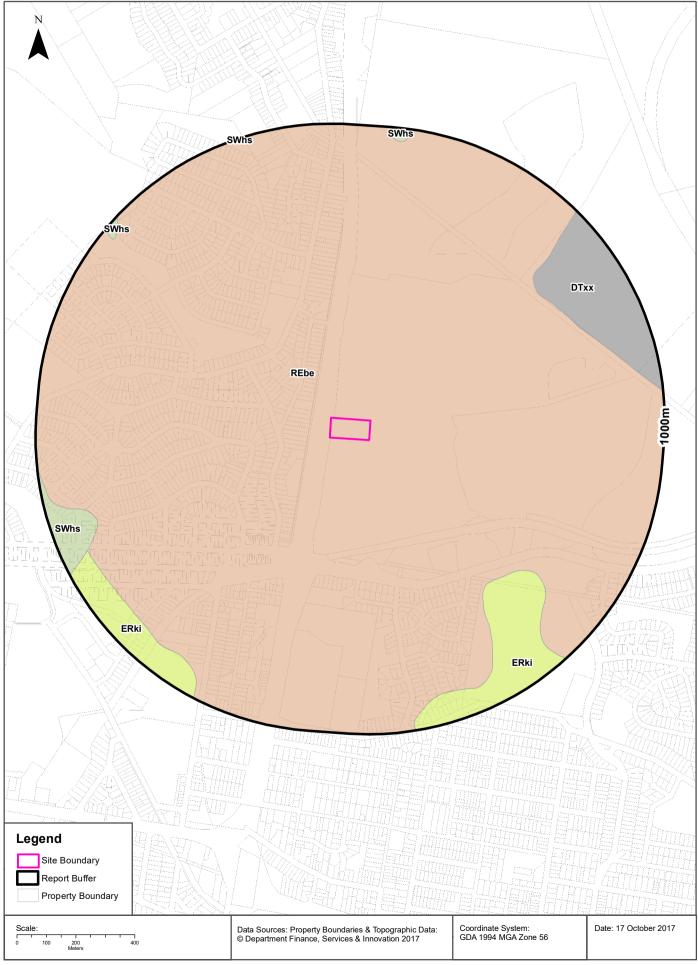
Naturally Occurring Asbestos Potential within the dataset buffer:

Potential	Sym	Strat Name	Group	Formation	Scale	Min Age	Max Age	Rock Type	Dom Lith	Description	Dist	Dir
No records in buffer												

Mining Subsidence District Data Source: © State of New South Wales through NSW Department of Industry, Resources & Energy

Soil Landscapes





Soils

130 University Drive, Callaghan, NSW 2308

Soil Landscapes

What are the onsite Soil Landscapes?

Soil Code	Name	Group	Process	Map Sheet	Scale
REbe	BERESFIELD		RESIDUAL	Newcastle	1:100,000

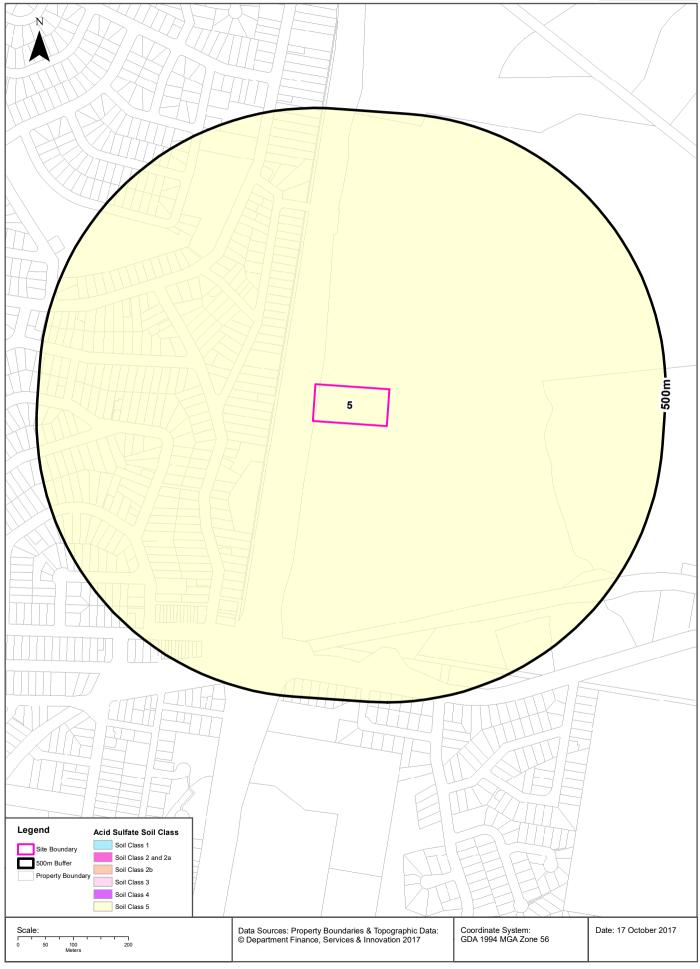
What are the Soil Landscapes within the dataset buffer?

Soil Code	Name	Group	Process	Map Sheet	Scale
DTxx	DISTURBED TERRAIN		DISTURBED TERRAIN	Newcastle	1:100,000
ERki	KILLINGWORTH		EROSIONAL	Newcastle	1:100,000
REbe	BERESFIELD		RESIDUAL	Newcastle	1:100,000
SWhs	HEXHAM SWAMP		SWAMP	Newcastle	1:100,000

Soils Landscapes Data Source : NSW Office of Environment and Heritage Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

Acid Sulfate Soils





Standard Local Environmental Plan Acid Sulfate Soils

130 University Drive, Callaghan, NSW 2308

Standard Local Environmental Plan Acid Sulfate Soils

What is the on-site Acid Sulfate Soil Plan Class that presents the largest environmental risk?

Soil Class	Description	LEP
5	Works within 500 metres of adjacent Class 1, 2, 3, or 4 land that is below 5 metres AHD and by which the watertable is likely to be lowered below 1 metre AHD on adjacent Class 1, 2, 3 or 4 land, present an environmental risk	Newcastle Local Environmental Plan 2012

If the on-site Soil Class is 5, what other soil classes exist within 500m?

Soil Class	Description	LEP	Distance	Direction
None				

Acid Sulfate Data Source Accessed 07/10/2016: NSW Crown Copyright - Planning and Environment Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

Dryland Salinity

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Dryland Salinity - National Assessment

Is there Dryland Salinity - National Assessment data onsite?

No

Is there Dryland Salinity - National Assessment data within the dataset buffer?

No

What Dryland Salinity assessments are given?

Assessment 2000	Assessment 2020	Assessment 2050	Distance	Direction
N/A	N/A	N/A	N/A	N/A

Dryland Salinity Data Source: National Land and Water Resources Audit

The Commonwealth and all suppliers of source data used to derive the maps of "Australia, Forecast Areas Containing Land of High Hazard or Risk of Dryland Salinity from 2000 to 2050" do not warrant the accuracy or completeness of information in this product. Any person using or relying upon such information does so on the basis that the Commonwealth and data suppliers shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information. Any persons using this information do so at their own risk.

In many cases where a high risk is indicated, less than 100% of the area will have a high hazard or risk.

Dryland Salinity Potential of Western Sydney

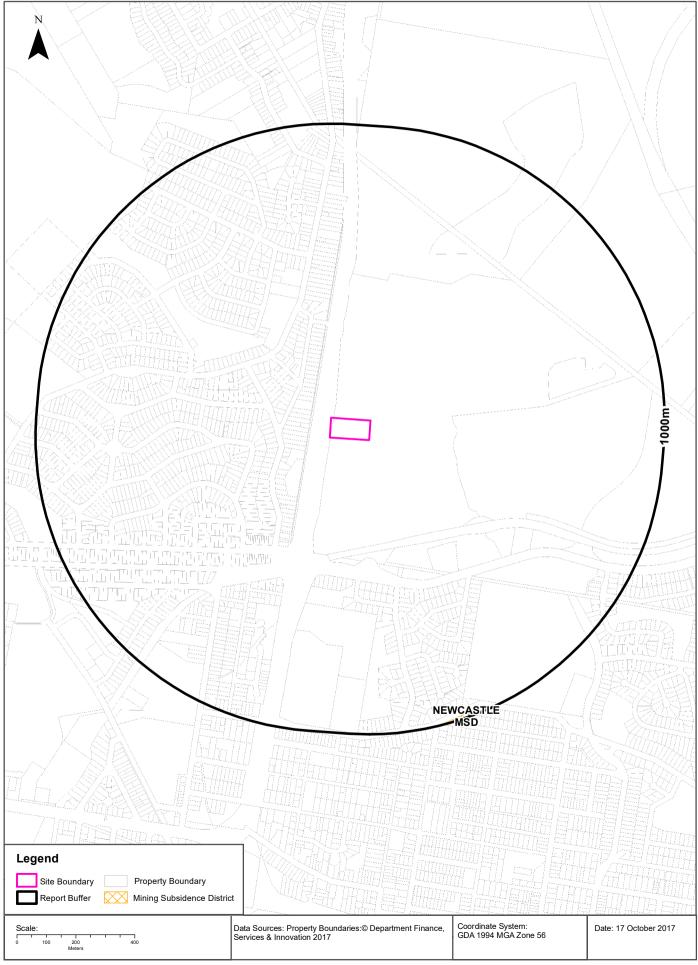
Dryland Salinity Potential of Western Sydney within the dataset buffer?

Feature Id	Classification	Description	Distance	Direction
N/A	Outside Data Coverage			

Dryland Salinity Potential of Western Sydney Data Source : NSW Office of Environment and Heritage Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

Mining Subsidence Districts 130 University Drive, Callaghan, NSW 2308





Mining Subsidence Districts

130 University Drive, Callaghan, NSW 2308

Mining Subsidence Districts

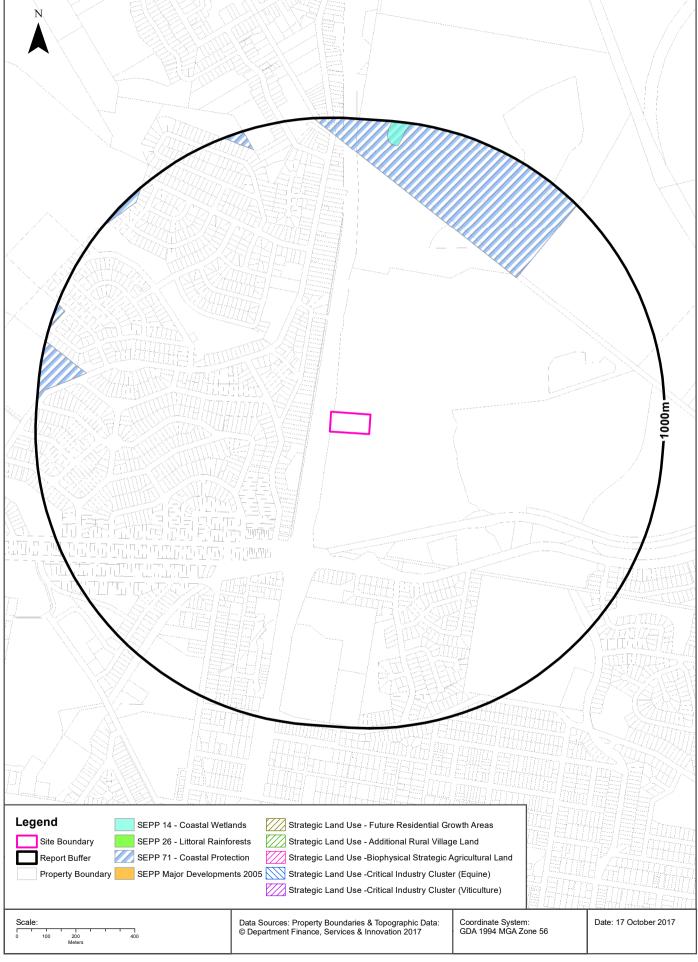
Mining Subsidence Districts within the dataset buffer:

District	Distance	Direction
NEWCASTLE	983m	South

Mining Subsidence District Data Source: © Land and Property Information (2016)
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State Environmental Planning Policy





Environmental Zoning

130 University Drive, Callaghan, NSW 2308

State Environmental Planning Policy Protected Areas

Are there any State Environmental Planning Policy Protected Areas onsite or within the dataset buffer?

Dataset	Onsite	Within Site Buffer	Distance
SEPP14 - Coastal Wetlands	No	Yes	920m
SEPP26 - Littoral Rainforests	No	No	N/A
SEPP71 - Coastal Protection Zone	No	Yes	672m

SEPP Protected Areas Data Source: NSW Department of Planning & Environment Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

State Environmental Planning Policy Major Developments (2005)

State Environmental Planning Policy Major Developments within the dataset buffer:

Map Id	Feature	Effective Date	Distance	Direction
N/A	No records within buffer			

SEPP Major Development Data Source: NSW Department of Planning & Environment Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

State Environmental Planning Policy Strategic Land Use Areas

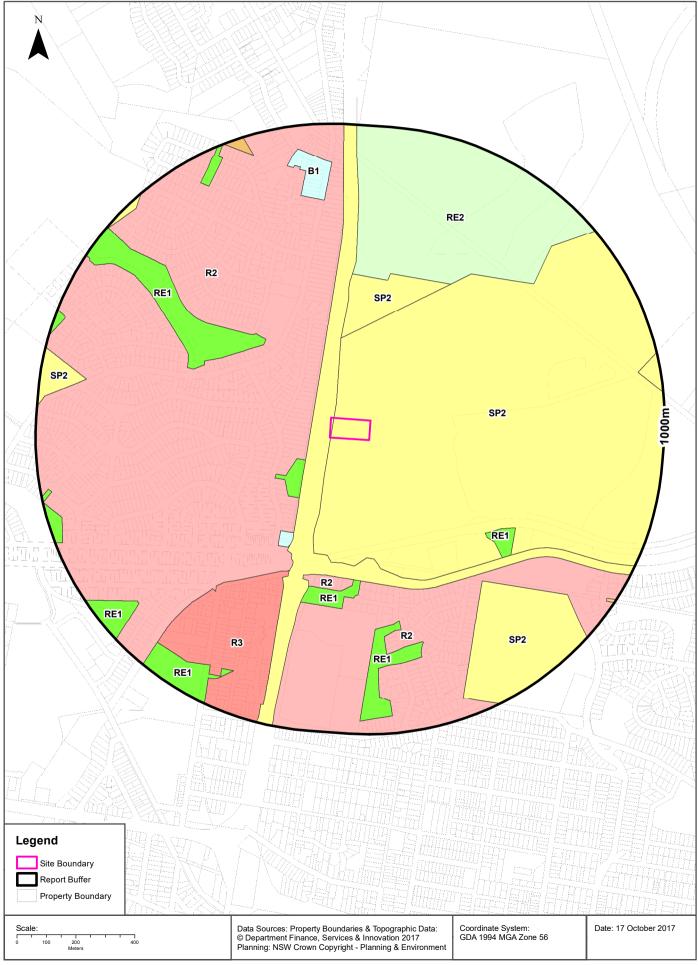
State Environmental Planning Policy Strategic Land Use Areas onsite or within the dataset buffer:

Strategic Land Use	SEPPNo	Effective Date	Amendment	Amendment Year	Distance	Direction
No records within buffer						

SEPP Strategic Land Use Data Source: NSW Department of Planning & Environment Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

LEP Planning Zones
130 University Drive, Callaghan, NSW 2308





Local Environmental Plan

130 University Drive, Callaghan, NSW 2308

Land Zoning

What Local Environmental Plan Land Zones exist within the dataset buffer?

Zone	Description	Purpose	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
SP2	Infrastructure	Educational Establishment	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	07/07/2017		0m	Onsite
SP2	Infrastructure	Classified Road	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	07/07/2017		0m	Onsite
R2	Low Density Residential		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	07/07/2017		62m	North West
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	07/07/2017		113m	South West
SP2	Infrastructure	Educational Establishment	Newcastle Local Environmental Plan 2012	14/03/2014	14/03/2014	07/07/2017	Amendment No 4	273m	North
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	07/07/2017		339m	North West
B1	Neighbourhood Centre		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	07/07/2017		345m	South West
R2	Low Density Residential		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	07/07/2017		467m	South
R3	Medium Density Residential		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	07/07/2017		472m	South West
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	07/07/2017		477m	South
R2	Low Density Residential		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	07/07/2017		479m	South East
RE2	Private Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	07/07/2017		481m	North East
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	07/07/2017		503m	South East
SP2	Infrastructure	Water Supply System	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	07/07/2017		612m	South East
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	07/07/2017		624m	South
B1	Neighbourhood Centre		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	07/07/2017		741m	North
SP2	Infrastructure	Cemetery	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	07/07/2017		842m	West
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	07/07/2017		857m	South West
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	07/07/2017		891m	North West
SP2	Infrastructure	Electircity Transmission	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	07/07/2017		922m	East
E2	Environmental Conservation		Newcastle Local Environmental Plan 2012	01/03/2013	01/03/2013	07/07/2017	State Environmental Planning Policy Amendment (Minmi- Newcastle Link Road) 2013	930m	North West
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	07/07/2017		949m	West
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	07/07/2017		966m	West
E3	Environmental Management		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	07/07/2017		969m	South East
SP2	Infrastructure	Sewerage System	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	07/07/2017		973m	North West

Local Environment Plan Data Source: NSW Crown Copyright - Planning & Environment Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

Local Environmental Plan

130 University Drive, Callaghan, NSW 2308

Minimum Subdivision Lot Size

What are the onsite Local Environmental Plan Minimum Subdivision Lot Sizes?

Symbol	Minimum Lot Size	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Percentage of Site Area
No Data							

Maximum Height of Building

What are the onsite Local Environmental Plan Maximum Height of Buildings?

Symbol	Maximum Height of Building	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Percentage of Site Area
No Data							

Floor Space Ratio

What are the onsite Local Environmental Plan Floor Space Ratios?

Symbol	Floor Space Ratio	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Percentage of Site Area
No Data							

Land Application

What are the onsite Local Environmental Plan Land Applications?

Application Type	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Percentage of Site Area
Included	Newcastle Local Environmental Plan 2012	31/05/2014	31/05/2014	31/05/2014	State Environmental Planning Policy Amendment (Newcastle) 2014	100

Land Reservation Acquisition

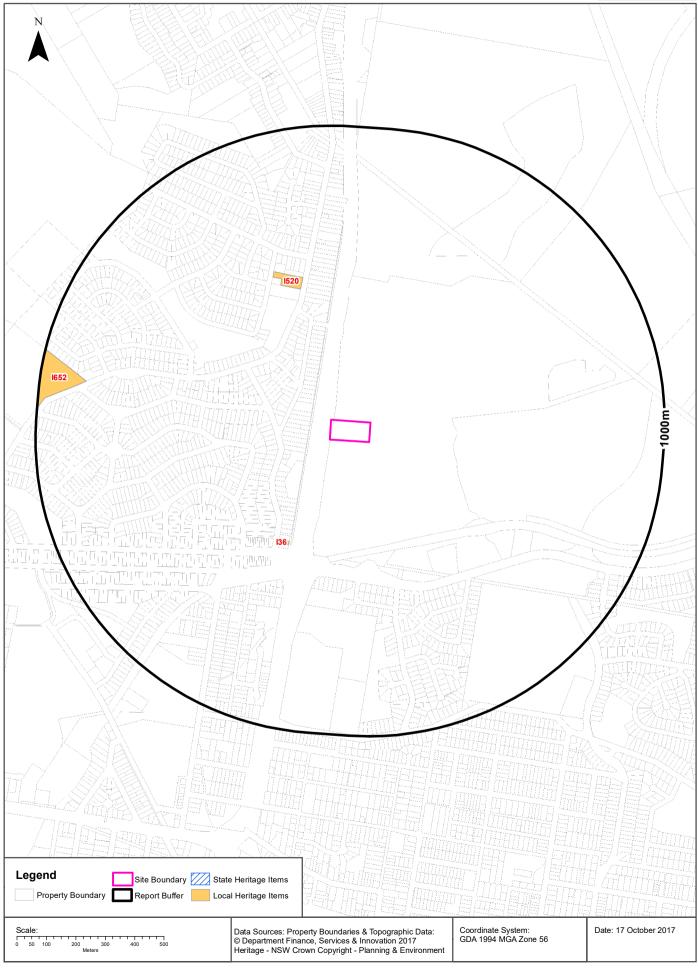
What are the onsite Local Environmental Plan Land Reservation Acquisitions?

Reservation	LEP	Published Date	Commenced Date	Currency Date	Amendment	Comments	Percentage of Site Area
No Data							

Local Environment Plan Data Source: NSW Crown Copyright - Planning & Environment Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

Heritage Items





Heritage

130 University Drive, Callaghan, NSW 2308

State Heritage Items

What are the State Heritage Items located within the dataset buffer?

Map Id	Name	Address	LGA	Listing Date	Listing No	Plan No	Distance	Direction
N/A	No records in buffer							

Heritage Data Source: NSW Crown Copyright - Planning & Environment Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

Local Heritage Items

What are the Local Heritage Items located within the dataset buffer?

Map Id	Name	Classification	Significance	LEP or Act	Published Date	Commenced Date	Currency Date	Distance	Direction
136	The Regal Cinema	Item - General	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	11/07/2016	372m	South West
1520	Uniting Church	Item - General	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	11/07/2016	457m	North
1652	Wallsend General Cemetery	Item - General	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	11/07/2016	842m	West

Heritage Data Source: NSW Crown Copyright - Planning & Environment Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

Natural Hazards - Bush Fire Prone Land





Natural Hazards

130 University Drive, Callaghan, NSW 2308

Bush Fire Prone Land

What are the nearest Bush Fire Prone Land Categories that exist within the dataset buffer?

Bush Fire Prone Land Category	Distance	Direction
Vegetation Buffer	0m	Onsite
Vegetation Category 1	3m	North East
Vegetation Category 2	610m	South East

NSW Bush Fire Prone Land - © NSW Rural Fire Service under Creative Commons 4.0 International Licence

Ecological Constraints - Vegetation & RAMSAR Wetlands





Ecological Constraints

130 University Drive, Callaghan, NSW 2308

Lower Hunter and Central Coast Regional Vegetation Survey

What vegetation from the Lower Hunter and Central Coast Regional Survey exists within the dataset buffer?

Map id	Unit Desc	Canopy Code	Canopy Cover	Species	Distance	Direction
15	Coastal Foothills Spotted Gum - Ironbark Forest	OF	Mid Dense (Open Forest) 50- <100% cover	C. maculata / E. umbra / E. siderophloia	0m	Onsite
15	Coastal Foothills Spotted Gum - Ironbark Forest	W	Wetland	C. maculata / E. umbra / E. siderophloia	532m	North East
30	Coastal Plains Smooth- barked Apple Woodland	OF	Mid Dense (Open Forest) 50- <100% cover	A. costata / C. gummifera / E. capitellata / E. umbra	633m	South East
46	Freshwater Wetland Complex	W	Wetland	Ludwigia peploides subsp montevidensis / Paspalum distichum / Eleocharis sphacelata / Juncus usitatus		North East
46	Freshwater Wetland Complex	OF	Mid Dense (Open Forest) 50- <100% cover	Ludwigia peploides subsp montevidensis / Paspalum distichum / Eleocharis sphacelata / Juncus usitatus	776m	North East
30	Coastal Plains Smooth- barked Apple Woodland	WO	Sparse (Woodland) 20-<50% cover	A. costata / C. gummifera / E. capitellata / E. umbra	909m	South East

Lower Hunter and Central Coast Regional Vegetation Survey: NSW Office of Environment and Heritage

RAMSAR Wetlands

What RAMSAR Wetland areas exist within the dataset buffer?

Map Id	RAMSAR Name	Wetland Name	Designation Date	Source	Distance	Direction
N/A	No records in buffer					

RAMSAR Wetlands Data Source: © Commonwealth of Australia - Department of Environment

Ecological Constraints

130 University Drive, Callaghan, NSW 2308

ATLAS of NSW Wildlife

Endangered &Vulnerable Species on the ATLAS of NSW Wildlife database, within 10km of the site?

Class	Family	Scientific	Common	Exotic	NSW Status	Commonwealth Status
Amphibia	Hylidae	Litoria aurea	Green and Golden Bell Frog	No	Endangered, Protected	Vulnerable
Aves	Accipitridae	Circus assimilis	Spotted Harrier	No	Vulnerable, Protected	
Aves	Accipitridae	Haliaeetus leucogaster	White-bellied Sea-Eagle	No	Vulnerable, Protected	CAMBA
Aves	Accipitridae	Hieraaetus morphnoides	Little Eagle	No	Vulnerable, Protected	
Aves	Accipitridae	Lophoictinia isura	Square-tailed Kite	No	Vulnerable, Protected, Category 3 Sensitive Species	
Aves	Accipitridae	Pandion cristatus	Eastern Osprey	No	Vulnerable, Protected, Category 3 Sensitive Species	
Aves	Anatidae	Oxyura australis	Blue-billed Duck	No	Vulnerable, Protected	
Aves	Anatidae	Stictonetta naevosa	Freckled Duck	No	Vulnerable, Protected	
Aves	Anseranatidae	Anseranas semipalmata	Magpie Goose	No	Vulnerable, Protected	
Aves	Ardeidae	Botaurus poiciloptilus	Australasian Bittern	No	Endangered, Protected	Endangered
Aves	Ardeidae	Ixobrychus flavicollis	Black Bittern	No	Vulnerable, Protected	
Aves	Artamidae	Artamus cyanopterus cyanopterus	Dusky Woodswallow	No	Vulnerable, Protected	
Aves	Burhinidae	Burhinus grallarius	Bush Stone-curlew	No	Endangered, Protected	
Aves	Cacatuidae	Callocephalon fimbriatum	Gang-gang Cockatoo	No	Vulnerable, Protected, Category 3 Sensitive Species	
Aves	Cacatuidae	Calyptorhynchus lathami	Glossy Black-Cockatoo	No	Vulnerable, Protected, Category 2 Sensitive Species	
Aves	Charadriidae	Charadrius leschenaultii	Greater Sand-plover	No	Vulnerable, Protected	V,C,J,K
Aves	Charadriidae	Charadrius mongolus	Lesser Sand-plover	No	Vulnerable, Protected	E,C,J,K
Aves	Ciconiidae	Ephippiorhynchus asiaticus	Black-necked Stork	No	Endangered, Protected	
Aves	Climacteridae	Climacteris picumnus victoriae	Brown Treecreeper (eastern subspecies)	No	Vulnerable, Protected	
Aves	Columbidae	Ptilinopus magnificus	Wompoo Fruit-Dove	No	Vulnerable, Protected	
Aves	Columbidae	Ptilinopus regina	Rose-crowned Fruit-Dove	No	Vulnerable, Protected	
Aves	Columbidae	Ptilinopus superbus	Superb Fruit-Dove	No	Vulnerable, Protected	
Aves	Diomedeidae	Diomedea exulans	Wandering Albatross	No	Endangered, Protected	E,J
Aves	Estrildidae	Stagonopleura guttata	Diamond Firetail	No	Vulnerable, Protected	
Aves	Falconidae	Falco subniger	Black Falcon	No	Vulnerable, Protected	
Aves	Haematopodidae	Haematopus fuliginosus	Sooty Oystercatcher	No	Vulnerable, Protected	
Aves	Haematopodidae	Haematopus longirostris	Pied Oystercatcher	No	Endangered, Protected	
Aves	Jacanidae	Irediparra gallinacea	Comb-crested Jacana	No	Vulnerable, Protected	
Aves	Laridae	Sternula albifrons	Little Tern	No	Endangered, Protected	CAMBA, JAMBA, ROKAMBA
Aves	Meliphagidae	Anthochaera phrygia	Regent Honeyeater	No	Critically Endangered Species, Protected	Critically Endangered

Class	Family	Scientific	Common	Exotic	NSW Status	Commonwealth Status
Aves	Meliphagidae	Epthianura albifrons	White-fronted Chat	No	Vulnerable, Protected	
Aves	Neosittidae	Daphoenositta chrysoptera	Varied Sittella	No	Vulnerable, Protected	
Aves	Petroicidae	Melanodryas cucullata cucullata	Hooded Robin (south-eastern form)	No	Vulnerable, Protected	
Aves	Petroicidae	Petroica boodang	Scarlet Robin	No	Vulnerable, Protected	
Aves	Pomatostomidae	Pomatostomus temporalis temporalis	Grey-crowned Babbler (eastern subspecies)	No	Vulnerable, Protected	
Aves	Procellariidae	Ardenna carneipes	Flesh-footed Shearwater	No	Vulnerable, Protected	J,K
Aves	Procellariidae	Macronectes giganteus	Southern Giant Petrel	No	Endangered, Protected	Endangered
Aves	Procellariidae	Pterodroma solandri	Providence Petrel	No	Vulnerable, Protected	JAMBA
Aves	Psittacidae	Glossopsitta pusilla	Little Lorikeet	No	Vulnerable, Protected	
Aves	Psittacidae	Lathamus discolor	Swift Parrot	No	Endangered, Protected, Category 3 Sensitive Species	Critically Endangered
Aves	Psittacidae	Neophema pulchella	Turquoise Parrot	No	Vulnerable, Protected, Category 3 Sensitive Species	
Aves	Rostratulidae	Rostratula australis	Australian Painted Snipe	No	Endangered, Protected	Endangered
Aves	Scolopacidae	Calidris ferruginea	Curlew Sandpiper	No	Endangered, Protected	CE,C,J,K
Aves	Scolopacidae	Calidris tenuirostris	Great Knot	No	Vulnerable, Protected	CE,C,J,K
Aves	Scolopacidae	Limicola falcinellus	Broad-billed Sandpiper	No	Vulnerable, Protected	CAMBA, JAMBA, ROKAMBA
Aves	Scolopacidae	Limosa limosa	Black-tailed Godwit	No	Vulnerable, Protected	CAMBA, JAMBA, ROKAMBA
Aves	Scolopacidae	Xenus cinereus	Terek Sandpiper	No	Vulnerable, Protected	CAMBA, JAMBA, ROKAMBA
Aves	Strigidae	Ninox connivens	Barking Owl	No	Vulnerable, Protected, Category 3 Sensitive Species	
Aves	Strigidae	Ninox strenua	Powerful Owl	No	Vulnerable, Protected, Category 3 Sensitive Species	
Aves	Sulidae	Sula dactylatra	Masked Booby	No	Vulnerable, Protected	J,K
Aves	Tytonidae	Tyto longimembris	Eastern Grass Owl	No	Vulnerable, Protected, Category 3 Sensitive Species	
Aves	Tytonidae	Tyto novaehollandiae	Masked Owl	No	Vulnerable, Protected, Category 3 Sensitive Species	
Aves	Tytonidae	Tyto tenebricosa	Sooty Owl	No	Vulnerable, Protected, Category 3 Sensitive Species	
Mammalia	Balaenopteridae	Megaptera novaeangliae	Humpback Whale	No	Vulnerable, Protected	Vulnerable
Mammalia	Dasyuridae	Phascogale tapoatafa	Brush-tailed Phascogale	No	Vulnerable, Protected	
Mammalia	Dugongidae	Dugong dugon	Dugong	No	Endangered, Protected	
Mammalia	Emballonuridae	Saccolaimus flaviventris	Yellow-bellied Sheathtail-bat	No	Vulnerable, Protected	
Mammalia	Molossidae	Mormopterus norfolkensis	Eastern Freetail-bat	No	Vulnerable, Protected	
Mammalia	Otariidae	Arctocephalus forsteri	New Zealand Fur-seal	No	Vulnerable, Protected	
Mammalia	Petauridae	Petaurus norfolcensis	Squirrel Glider	No	Vulnerable, Protected	
Mammalia	Phascolarctidae	Phascolarctos cinereus	Koala	No	Vulnerable, Protected	Vulnerable
Mammalia	Pteropodidae	Pteropus poliocephalus	Grey-headed Flying-fox	No	Vulnerable, Protected	Vulnerable
Mammalia	Vespertilionidae	Chalinolobus dwyeri	Large-eared Pied Bat	No	Vulnerable, Protected	Vulnerable
Mammalia	Vespertilionidae	Falsistrellus tasmaniensis	Eastern False Pipistrelle	No	Vulnerable, Protected	
Mammalia	Vespertilionidae	Miniopterus australis	Little Bentwing-bat	No	Vulnerable, Protected	

Class	Family	Scientific	Common	Exotic	NSW Status	Commonwealth Status
Mammalia	Vespertilionidae	Miniopterus schreibersii oceanensis	Eastern Bentwing-bat	No	Vulnerable, Protected	
Mammalia	Vespertilionidae	Myotis macropus	Southern Myotis	No	Vulnerable, Protected	
Mammalia	Vespertilionidae	Scoteanax rueppellii	Greater Broad-nosed Bat	No	Vulnerable, Protected	
Mammalia	Vespertilionidae	Vespadelus troughtoni	Eastern Cave Bat	No	Vulnerable, Protected	
Reptilia	Cheloniidae	Chelonia mydas	Green Turtle	No	Vulnerable, Protected	Vulnerable
Flora	Apocynaceae	Cynanchum elegans	White-flowered Wax Plant	No	Endangered, Protected	Endangered
Flora	Asteraceae	Rutidosis heterogama	Heath Wrinklewort	No	Vulnerable, Protected	Vulnerable
Flora	Elaeocarpaceae	Tetratheca glandulosa		No	Vulnerable, Protected	
Flora	Elaeocarpaceae	Tetratheca juncea	Black-eyed Susan	No	Vulnerable, Protected	Vulnerable
Flora	Fabaceae (Faboideae)	Pultenaea maritima	Coast Headland Pea	No	Vulnerable, Protected	
Flora	Juncaginaceae	Maundia triglochinoides		No	Vulnerable, Protected	
Flora	Myrtaceae	Angophora inopina	Charmhaven Apple	No	Vulnerable, Protected	Vulnerable
Flora	Myrtaceae	Callistemon linearifolius	Netted Bottle Brush	No	Vulnerable, Protected, Category 3 Sensitive Species	
Flora	Myrtaceae	Eucalyptus parramattensis subsp. decadens		No	Vulnerable, Protected	Vulnerable
Flora	Myrtaceae	Melaleuca biconvexa	Biconvex Paperbark	No	Vulnerable, Protected	Vulnerable
Flora	Myrtaceae	Syzygium paniculatum	Magenta Lilly Pilly	No	Endangered, Protected	Vulnerable
Flora	Orchidaceae	Diuris praecox	Rough Doubletail	No	Vulnerable, Protected, Category 2 Sensitive Species	Vulnerable
Flora	Orobanchaceae	Euphrasia arguta		No	Critically Endangered Species, Protected	Critically Endangered
Flora	Polygonaceae	Muehlenbeckia costata	Scrambling Lignum	No	Vulnerable, Protected	
Flora	Proteaceae	Grevillea parviflora subsp. parviflora	Small-flower Grevillea	No	Vulnerable, Protected	Vulnerable
Flora	Proteaceae	Grevillea shiressii		No	Vulnerable, Protected	Vulnerable
Flora	Zannichelliaceae	Zannichellia palustris		No	Endangered, Protected	

Data does not include records not defined as either endangered or vulnerable, and category 1 sensitive species are also excluded. NSW Office of Environment and Heritage's Atlas of NSW Wildlife, which holds data from a number of custodians. Data obtained 16/10/2017

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 - (a) the Report is compiled from or using content (Third Party Content) which is comprised of:
 - content provided to Lotsearch by third party content suppliers with whom Lotsearch has contractual arrangements or content which is freely available (Third Party Content Suppliers);
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 - (f) the Report does not include any information relating to the actual state or condition of the Property;
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 - (h) the Report should not be relied upon for determining saleability or value or making any other decisions in relation to the Property and in particular should not be taken to be a rating or assessment of the desirability or market value of the property or its features; and
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- 10. These terms are subject to New South Wales law.

University of Newcastle Proposed Bio-Resources Facility

APPENDIX

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TILTE SEARCH



ADVANCE LEGAL SEARCHERS PTY LTD

(ACN 147 943 842) ABN 82 147 943 842

 18/36 Osborne Road,
 Telephone:
 +612 9977 6713

 Manly NSW 2095
 Mobile:
 0412 169 809

Email: search@alsearchers.com.au

24th October 2017

LOTSEARCH PTY LTD Level 3, 68 Alfred Street, MILSONS POINT, NSW 2061

Attention: Howard Waldron,

RE: 130 University Drive,

Callaghan

Reference: LS002209

Note: Historical Search is of part Lot 1 DP 1188100, being part indicated in site diagram.

Current Search

Folio Identifier 1/1188100 (title attached)
DP 1188100 (plan attached)
Dated 23rd October 2017
Registered Proprietor:

THE UNIVERSITY OF NEWCASTLE

Title Tree Lot 1 DP 1188100

Folio Identifier 1/1188100

Folio Identifier 7/804087

Folio Identifier 11/531665

Certificate of Title Volume 11573 Folio 117

Certificate of Title Volume 9812 Folio 210

PA 43800

Government Gazette 18th January 1963

Government Gazette 29th October 1954

Crown Land

Summary of proprietor(s) **Lot 1 DP 1188100**

Year Proprietor(s)

	(Lot 1 DP 1188100)
2000 – todate	The University of Newcastle
(2000 – todate)	(various current leases shown on Folio Identifier 1/1188100)
(2000 – todate)	(various leases shown on Historical Folio 1/1188100)
	(Lot 16 DP 817507)
1991 - 2000	The University of Newcastle
(1991 - 2000)	(various leases shown on Historical Folio 16/817507)
	(Lot 7 DP 804087)
1991 – 1991	The University of Newcastle
	(Lot 11 DP 531665)
1991 – 1991	The University of Newcastle
	(Lot 11 DP 531665 & Lots 3 & 4 DP 216528 – CTVol 11573 Fol 117)
1971 – 1991	The University of Newcastle
(1990 - 1991)	(lease to Commonwealth Savings Bank of Australia and 2 car spaces)
(1983 - 1986)	(lease to Commonwealth Savings Bank of Australia and 2 car spaces)
	(Lots 2, 3 & 4 DP 216528 – CTVol 9812 Fol 210)
1968 – 1971	The University of Newcastle
1964 – 1968	The University of New South Wales
1964 – 1964	The Minister for Education
	(Lots 2, 3 & 4 DP 216528 – Area 235 Acres 0 Roods 39 ¾ Perches)
1963 – 1964	Crown Land
(1963 - 1964)	(Acquired for Technical Education and University vide Resumption
	Government Gazette 18 th January 1963)
	(Crown Land Parish Newcastle)
Prior – 1963	Crown Land
(1954 - 1963)	(Dedicated for University and Teachers College Site, Government Gazette
	29 th October 1954)

NEW SOUTH WALES

Application No. 43800

ERTY ACT, 1900, as amended.





3812 CANCELLED W 1st Edition issued

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Witness

Persons are cautioned against altering or adding to this certificate or any notification hereon

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lots 2, 3 and 4 in Deposited Plan 216528 at Shortland in the City of Newcastle Parish of Newcastle and County of Northumberland. Excepting thereout the minerals specified by Section 141 of the Public Works Act, 1912.

Registrar General.

FIRST SCHEDULE (continued overleaf)

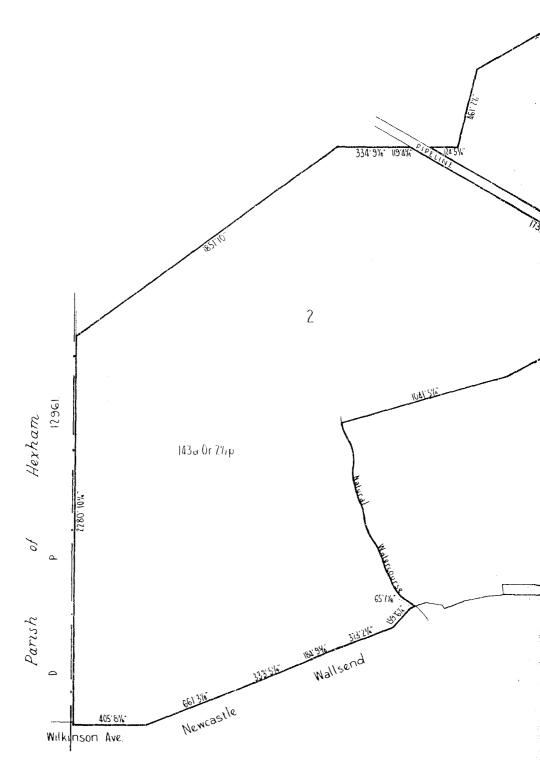
THE MINISTER EDUCATION.

Registrar General.

SECOND SCHEDULE (continued overleaf)

Req:R566419 /Doc:CT 09812-210 CT /Rev:08-Aug-2007 /Sts:NO.OK /Pgs:ALL /Prt:23-Oct-2017 09:54 /Seq:2 of Ref:advlegs /Src:P' Vol. 9812 Fol. 210

PLAN SHOWING LOCA

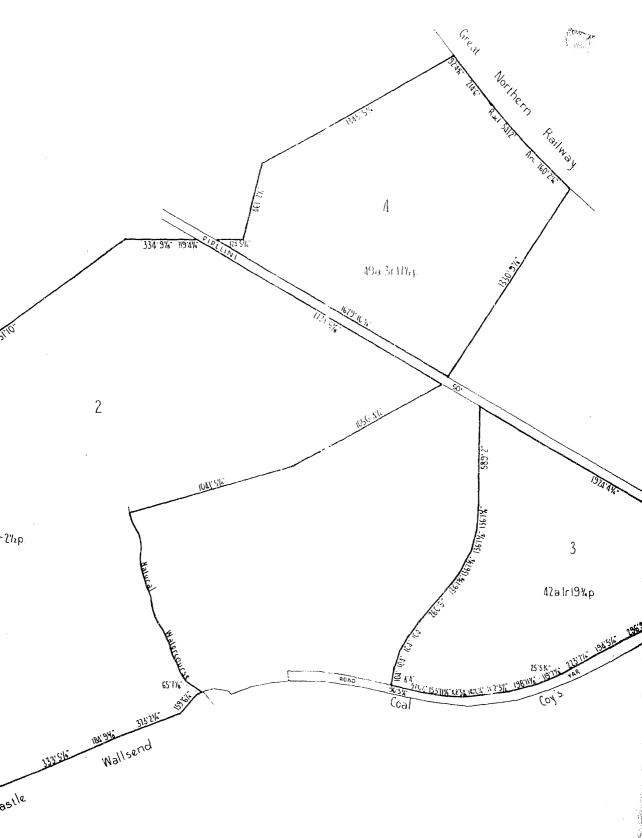


DP216528 MM'K

Total Area 235a.0r.39%p.

Scale 400 feet to one inch

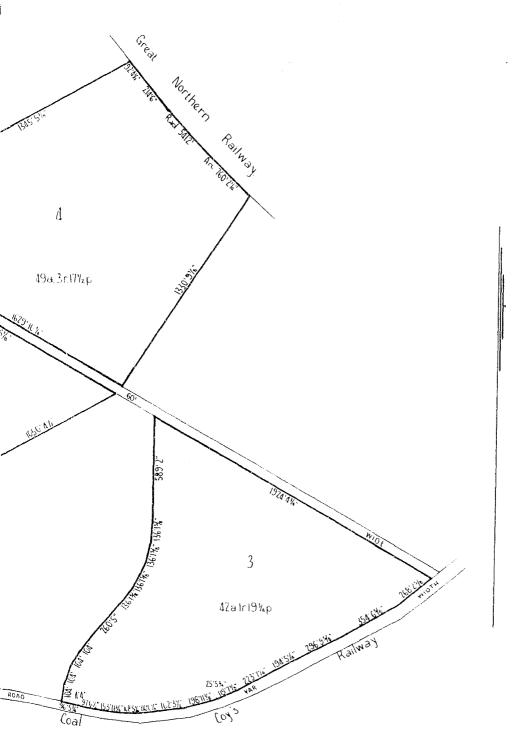
Req:R566419 /Doc:CT 09812-210 CT /Rev:08-Aug-2007 /Sts:NO.OK /Pgs:ALL /Prt:23-Oct-2017 09:54 /Seq:3 of 5 Ref:advlegs /Src:P 9812 Fol. 617



Total Area 235a.0r39%p

Scale 400 feet to one inch

ION OF LAND



	FIRST SCHEDULE (continued)					
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NEW SOUTH WALES

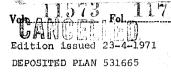
Appln. No. 43800

Prior Title Vol. 9812 Fol. 210

TY ACT, 1900, as amended.



11573117



SEE AUTO FULIO

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Witness

Registrar General.



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 11 in Deposited Plan 531665 and Lots 3 and 4 in Deposited Plan 216528 at Shortland in the City of Newcastle Parish of Newcastle and County of Northumberland being land for which no Crown Grant has issued. EXCEPTING THEREOUT the minerals specified by Section 141 of the Public Works Act, 1912.

FIRST SCHEDULE

THE UNIVERSITY OF NEWCASTLE.

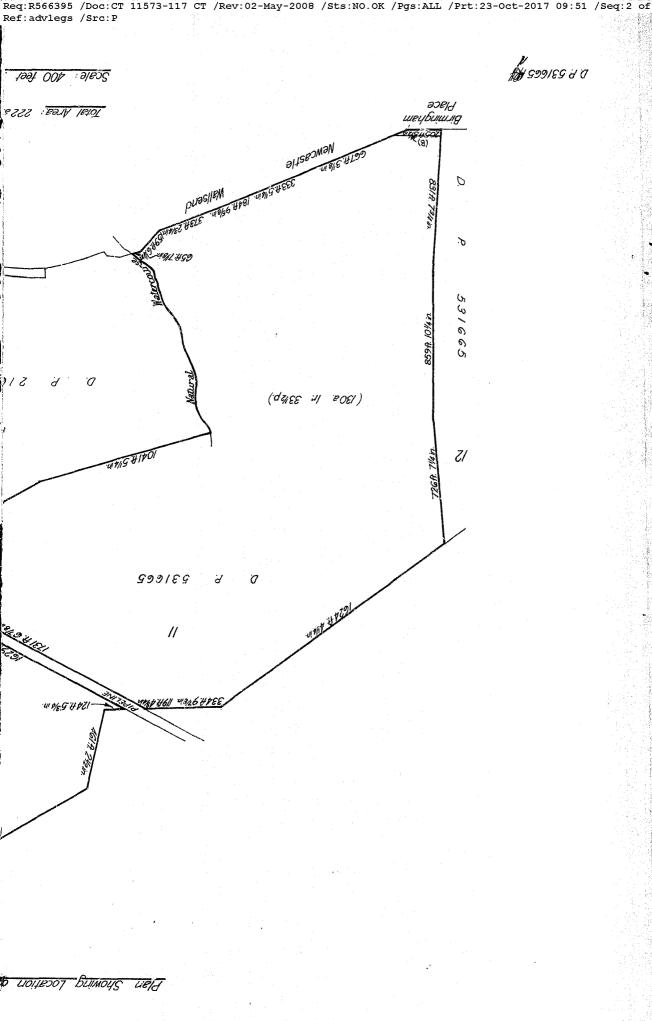
Registrar General.

SECOND SCHEDULE

1. Covenant created by Transfer No.Ml10023 as regards Lot 11 in Deposited Plan 531665.

Registrar General.





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Req:R566395 /Doc:CT 11573-117 CT /Rev:02-May-2008 /Sts:NO.OK /Pgs:ALL /Prt:23-Oct-2017 09:51 /Seq:3 of 6 Ref:advlegs /Src:P4503/

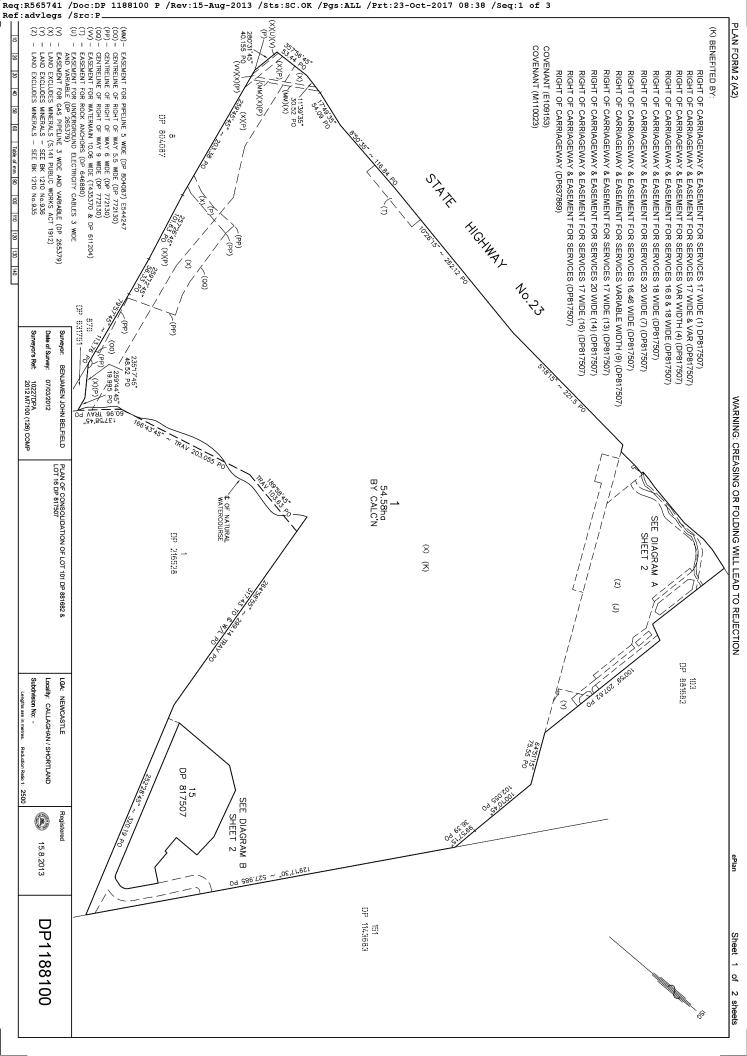
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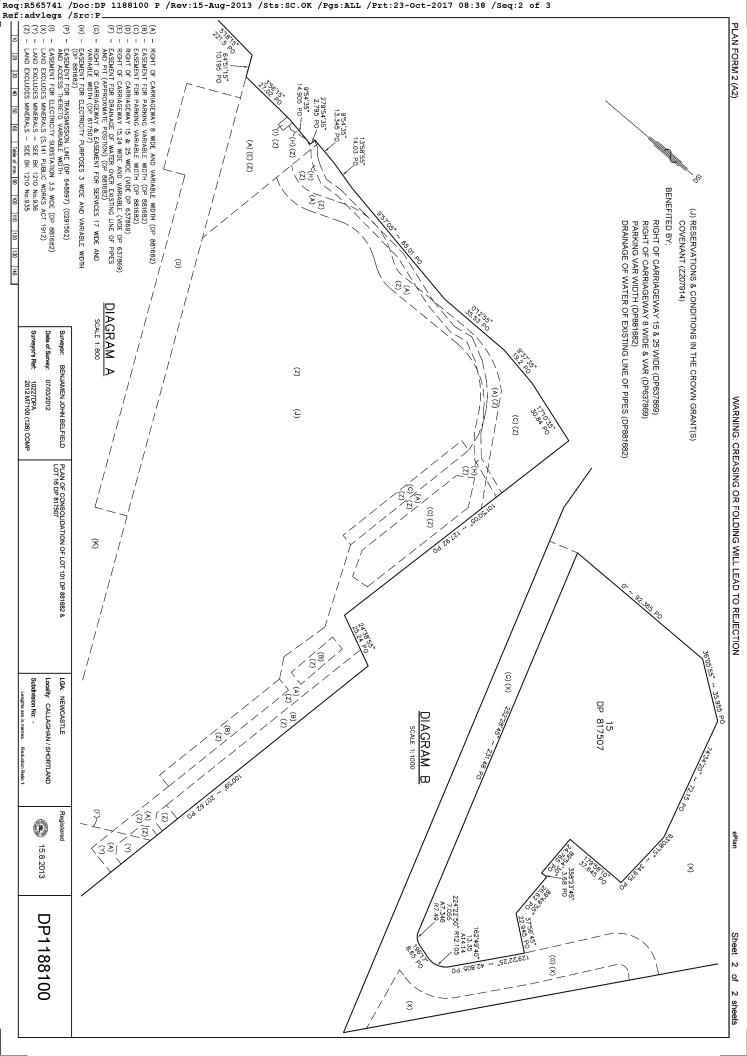
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SECOND SCHEDULE (continued)		
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	NOTATIONS AND UNREG	GISTERED DEALINGS		





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PLAN FORM 6

WARNING: Creasing or folding will lead to rejection

ePlan

Office Use Only

DEPOSITED PLAN ADMINISTRATION SHEET

Sheet 1 of 1 sheet(s)

SIGNATURES, SEALS AND STATEMENTS of intention to dedicate public roads, public reserves and drainage reserves or create easements, restrictions on the use of land and positive covenants

DP1188100

Office Use Only

Registered:

15.8.2013

Title System:

TORRENS

Purpose:

CONSOLIDATION

PLAN OF CONSOLIDATION OF LOT 101 DP 881682 AND LOT 16 DP 817507

Nort Mcarego Chief Operating affices

If space is insufficient use PLAN FORM 6A annexure sheet

Crown Lands NSW/Western Lands Office Approval-I.....in approving this plan eertify

(Authorised Officer)

that all necessary approvals in regard to the allocation of the land shown herein have been given

Signature:

Date:

Office:

Subdivision Certificate

I certify that the provisions of s.109J of the Environmental Planning and Assessment Act 1979 have been satisfied in relation to:

the proposed set out herein

(insert 'subdivision' or 'new road')

* Authorised Person/*General Manager/*Accredited Certifier

Consent Authority:

Date of Endorsement:

Accreditation no:

Subdivision Certificate no:

File no:

* Strike through inapplicable parts.

Newcastle LGA:

Locality:

Shortland / Callaghan

Parish:

Newcastle

County:

Northumberland

Survey Certificate

I, Benjamen John Belfield of Monteath & Powys Pty Limited a surveyor registered under the Surveying and Spatial Information Act 2002, certify that the survey represented in this plan is accurate, has been made in accordance with the Surveying and Spatial Information Regulation 2006 and was completed on: 07/03/2012

The survey relates to

(specify the land actually surveyed or specify any land shown in the

plan that is not the subject of the survey)

Surveyor registered under the Surveying and Spatial

Information Act 2002

Datum Line: N/A Type: Urban/Rural

Plans used in the preparation of survey/compilation

DP 881682

DP 817507

(If space is insufficient use PLAN FORM 6A annexure sheet)

Surveyor's Reference: 10-227DPA 2012M7100(126) COMP

SEARCH DATE -----23/10/2017 4:00PM

FOLIO: 1/1188100

First Title(s): OLD SYSTEM

Prior Title(s): 16/817507 101/881682

Recorded	Number	Type of Instrument	C.T. Issue
15/8/2013	DP1188100	DEPOSITED PLAN	FOLIO CREATED EDITION 1
14/5/2014	АН999805	REJECTED - SUB-LEASE	
22/9/2014	AI908770	REQUEST	
4/10/2014	AI937358	LEASE	EDITION 2
24/6/2015	AJ597277	DEPARTMENTAL DEALING	
29/6/2015 29/6/2015 29/6/2015 29/6/2015 29/6/2015		DEPARTMENTAL DEALING SURRENDER OF LEASE SURRENDER OF LEASE SURRENDER OF LEASE SURRENDER OF LEASE	EDITION 3
20/7/2015	AJ666679	DEPARTMENTAL DEALING	
25/1/2016 25/1/2016 25/1/2016 25/1/2016		LEASE LEASE LEASE LEASE	EDITION 4
5/10/2016 5/10/2016 5/10/2016	AK760967 AK760968 AK760969	LEASE LEASE LEASE	EDITION 5
18/11/2016 18/11/2016	AK933756 AK933757	TRANSFER OF LEASE LEASE	EDITION 6
29/3/2017 29/3/2017	AM25754 AM25755	LEASE LEASE	EDITION 7
23/5/2017 23/5/2017	AM362500 AM362501	LEASE LEASE	EDITION 8

*** END OF SEARCH ***

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SEARCH DATE -----23/10/2017 4:00PM

FOLIO: 11/531665

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 11573 FOL 117

Recorded	Number	Type of Instrument	C.T. Issue
28/3/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
1/10/1991		CONVERTED TO AUTO CONSOL 11573-117	CONSOL CREATED CT NOT ISSUED
4/3/1992		EXCISED FROM AUTO CONSOL 11573-117	
5/3/1992	E301901	DEPARTMENTAL DEALING	
9/3/1992	E109153	TRANSFER	FOLIO CANCELLED
29/7/1996		AMENDMENT: LOCAL GOVT AREA	
8/2/2000	6546032	DEPARTMENTAL DEALING	

*** END OF SEARCH ***

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SEARCH DATE -----23/10/2017 4:00PM

FOLIO: 16/817507

First Title(s): OLD SYSTEM Prior Title(s): 7/804087

Recorded	Number	Type of Instrument	C.T. Issue
9/10/1992	DP817507	DEPOSITED PLAN	FOLIO CREATED EDITION 1
13/10/1992	DP646880	DEPOSITED PLAN	
14/5/1993 14/5/1993	I163444 I163445	LEASE SUB-LEASE	EDITION 2
25/3/1994	DP648897	DEPOSITED PLAN	
8/4/1994	U128489	TRANSFER GRANTING EASEMENT	EDITION 3
25/5/1995	DP265379	DEPOSITED PLAN	EDITION 4
6/6/1995	0285703	DEPARTMENTAL DEALING	
27/7/1995	0291562	TRANSFER GRANTING EASEMENT	EDITION 5
18/12/1995	0273273	REQUEST	
22/4/1998	3920688	TRANSFER RELEASING EASEMENT	EDITION 6
27/11/2000	7244999	LEASE	EDITION 7
4/4/2001	7522086	LEASE	EDITION 8
24/9/2001	7965651	LEASE	EDITION 9
23/9/2002	8973897	LEASE	EDITION 10
11/1/2003	9283553	VARIATION OF LEASE	
22/12/2005	AC6211	LEASE	EDITION 11
23/9/2006	AC616195	LEASE	EDITION 12
20/11/2006	AC751301	LEASE	EDITION 13
23/11/2006	AC761586	LEASE	EDITION 14

END OF PAGE 1 - CONTINUED OVER

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FOLIO: 16/8	317507		PAGE 2
Recorded	Number	Type of Instrument	C.T. Issue
16/4/2007 16/4/2007 16/4/2007	AD19657 AD19658 AD19659	LEASE LEASE LEASE	EDITION 15
16/7/2008	AD647092	WITHDRAWN - LEASE	
12/8/2008 12/8/2008 12/8/2008 12/8/2008 12/8/2008	AE9583 AE9584 AD884573 AE9585 AE139168	SURRENDER OF LEASE REQUEST LEASE SUB-LEASE LEASE	
29/9/2008 29/9/2008 29/9/2008 29/9/2008	AE239764 AE239765 AE239766 AE239767	SUB-LEASE SUB-LEASE SUB-LEASE SUB-LEASE	
16/10/2008	AD647091	REJECTED - LEASE	
17/10/2008	AE274870	DEPARTMENTAL DEALIN	G EDITION 16
21/10/2008 21/10/2008	AD647091 AD647091	RE-INSTATED - LEASE LEASE	EDITION 17
13/11/2008	AE320920	SUB-LEASE	
15/9/2009	AE910608	LEASE	EDITION 18
	AF683710 AF683711 AF683712 AF683713 AF683715 AF683716 AF683717	SURRENDER OF LEASE SURRENDER OF LEASE SURRENDER OF LEASE SUB-LEASE SUB-LEASE SUB-LEASE SUB-LEASE	
28/10/2010	AF831953	SUB-LEASE	
10/3/2011	AG110225	SUB-LEASE	
15/4/2011	AG163277	SUB-LEASE	
14/12/2011	AG678069	TRANSFER OF LEASE	
			END OF PAGE 2 - CONTINUED OVER
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FOLIO: 16/817507 PAGE 3

 Recorded
 Number
 Type of Instrument
 C.T. Issue

 5/3/2013
 AH590438
 LEASE
 EDITION 19

18/3/2013 AH595192 SUB-LEASE

15/8/2013 DP1188100 DEPOSITED PLAN FOLIO CANCELLED

*** END OF SEARCH ***

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WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER.

Req:R566477 /Doc:PA 043800 PA /Rev:22-Jun-2015 /Sts:OK.SC /Pgs:ALL /Prt:23-Oct-2017 09:57 /Seq:Ref:advlegs /Src:P

43100

Formerty part of C.T. Vol. 5052 Fol. 254 on which is endorsed

R. J. McKAY

JU 22 10 30 1964

Crown Sotters Muclin
REAL PROPERTY ACT 1900

APPLICATION UNDER SECTION 31A OF THE REAL PROPERTY
ACT 1900 IN RESPECT OF LAND AT SHORTLAND BY THE
MINISTER FOR EDUCATION.

11-664

The Registrar General,

SYDNEY.

The parcel of land containing 235 acres 397 perches or thereabouts situate in the City of Newcastle, Parish of Newcastle, County of Northumberland, more particularly described in the Schedule hereumder written was, excluding all such mines and deposits thereunder as are mentioned in Section 141 of the Public Works Act, 1912, as amended, resumed under the Public Works Act, 1912 as amended for the purpose of the University of New South Wales by Notification of Resumption (a copy of which appears hereafter) published in the Government Gazette of the 18th January 1963 and was vested in the Minister for Education as Constructing Authority on behalf of Her Majesty the Queen AND the said land not being under the provisions of the Real Property Act, 1900, the Minister for Education as Constructing Authority in pursuance of Section 31A of the Real Property Act, 1900 as amended HEREBY makes application for the issue to him of a Certificate of Title under the provisions of the lastmentioned Act in respect of the said land excluding mines and deposits.

THE SCHEDULE HEREINBEFORE REFERRED TO

ALL THAT piece or parcel of Crown land situate in the City of Newcastle Parish of Newcastle and County of Northumberland being Lots 2, 3 and 4 Deposited Plan No. 216,528 and having an area of 235 acres 397 perches or thereabouts.

Dated at Sydney

this fourteenth

day of May

1964.

THE OFFICIAL SEAL of THE MINISTER)
FOR EDUCATION the Constructing
Authority under the Public Works
Act, 1912 as amended was hereto
affixed in the presence of:

Odnareno Jel.

En Wetherell

9812

210

Cert, of T., issued Vol.

Dated

Fol,

21 SEP 1964

Req:R566477 /Doc:PA 043800 PA /Rev:22-Jun-2015 /Sts:OK.SC /Pgs:ALL /Prt:23-Oct-2017 09:57 /Seq:2

Ref:advlegs /Src:P

PUBLISHED IN NEW SOUTH WALES GOVERNMENT GAZETTE No. 5 OF 18th January, 1963. Fol. 152.

TECHNICAL EDUCATION/UNIVERSITY OF NEW SOUTH WALES ACT, 1949-1958. - PUBLIC WORKS ACT, 1912, AS AMENDED.

ACQUISITION OF LAND FOR THE PURPOSE OF THE TECHNICAL EDUCATION AND UNIVERSITY OF NEW SOUTH WALES ACT. 1949-1958.

In pursuance of the provisions of Section 49 of the Technical Education and University of New South Wales, Technology Act, 1949, it is hereby notified and declared by His Excellency the Governor, acting with the advice of the Executive Council, that so much of the land described in the Schedule hereto as is Crown land is hereby appropriated, and so much of the said land as is private property is hereby resumed under the Public Works Act, 1912, as amended, for the purpose of the University of New South Wales, and that the said land is vested in the Minister for Education as Constructing Authority on behalf of Her Majesty the Queen.

Dated at Sydney, this Ninth day or January One thousand nine hundred and sixty three.

K.W. STREET.

By deputation from His Excellency the Governor. By His Excellency's Command,

Ernect Wetherell, Minister for Education.

THE SCHEDULE

ALL THAT piece or parcel of Grown land situate in the City of Newcastle Parish of Newcastle and County of Northumberland being lots 2, 3 and 4 deposited plan 216,528 and having an area of 235 acres 397 perches or thereabouts.

The value of the land in the Application at the date of Recumption WOS C

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FOLIO: 1/1188100

LAND

LOT 1 IN DEPOSITED PLAN 1188100
AT CALLAGHAN & SHORTLAND
LOCAL GOVERNMENT AREA NEWCASTLE
PARISH OF NEWCASTLE COUNTY OF NORTHUMBERLAND
TITLE DIAGRAM DP1188100

FIRST SCHEDULE

THE UNIVERSITY OF NEWCASTLE

SECOND SCHEDULE (62 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S) WITHIN THE PART(S) SHOWN SO INDICATED IN THE TITLE DIAGRAM
- 2 LAND EXCLUDES MINERALS (S.141 PUBLIC WORKS ACT, 1912) WITHIN THE PART(S) SHOWN SO INDICATED IN THE TITLE DIAGRAM
- 3 BK 1210 NO 936 LAND EXCLUDES MINERALS WITHIN THE PART(S) SHOWN SO INDICATED IN THE TITLE DIAGRAM
- 4 BK 1210 NO 935 LAND EXCLUDES MINERALS WITHIN THE PART(S) SHOWN SO INDICATED IN THE TITLE DIAGRAM
- 5 F702707 SUBJECT TO THE PROVISIONS OF CLAUSE 29 OF THE BROKEN HILL PROPRIETARY COMPANY LIMITED (RECLAMATION AND EXCHANGE) AGREEMENT RATIFICATION ACT, 1950 OF THE PART(S) FORMERLY IN 101/881682
- 6 E109153 COVENANT AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM.
- 7 M110023 COVENANT AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM.
- 8 Z207914 COVENANT AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM.
- 9 T435370 EASEMENT FOR WATER MAIN 10.06 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 10 E544247 EASEMENT FOR PIPELINE 5 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 11 DP637869 RIGHT OF CARRIAGEWAY 15 & 25 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 12 DP637869 RIGHT OF CARRIAGEWAY 15.24 METRE(S) WIDE & VARIABLE WIDTH AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 13 DP637869 RIGHT OF CARRIAGEWAY APPURTENANT TO THE PART(S) OF

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FOLIO: 1/1188100 PAGE 2

SECOND SCHEDOLE (02 NOTIFICATIONS) (CONTINGED)				
	THE LAND S	SHOWN SO BENEE	TITED IN THE	TITLE DIAGRAM
14 DP6378	69 RIGHT OF C	CARRIAGEWAY 15	6 & 25 METRE	(S) WIDE

SECOND SCHEDULE (62 NOTLETCATIONS) (CONTINUED)

		THE DAME SHOWN SO DENDITIED IN THE TITLE DINGLAND
14	DP637869	RIGHT OF CARRIAGEWAY 15 & 25 METRE(S) WIDE
		APPURTENANT TO THE PART(S) OF THE LAND SHOWN SO
		BENEFITED IN THE TITLE DIAGRAM
1 5	DD772120	DICHT OF WAY E E METDE/C) WIDE AFFECTING THE DADT

- 15 DP772130 RIGHT OF WAY 5.5 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 16 DP772130 RIGHT OF WAY 6 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 17 DP772130 RIGHT OF WAY 9 METRE(S) WIDE AFFECTING THE PART(S)
- SHOWN SO BURDENED IN THE TITLE DIAGRAM

 18 DP817507 RIGHT OF CARRIAGEWAY & EASEMENT FOR SERVICES 17

 METRE(S) WIDE & VARIABLE WIDTH AFFECTING THE PART(S)

 SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 19 DP817507 RIGHT OF CARRIAGEWAY & EASEMENT FOR SERVICES 17 METRE(S) WIDE REFERRED TO AND NUMBERED (1) IN THE S.88B INSTRUMENT APPURTENANT TO THE PART(S) OF THE LAND SHOWN SO BENEFITED IN THE TITLE DIAGRAM
- 20 DP817507 RIGHT OF CARRIAGEWAY & EASEMENT FOR SERVICES 17
 METRE(S) WIDE & VARIABLE WIDTH APPURTENANT TO THE
 PART(S) OF THE LAND SHOWN SO BENEFITED IN THE TITLE
 DIAGRAM
- 21 DP817507 RIGHT OF CARRIAGEWAY & EASEMENT FOR SERVICES
 VARIABLE WIDTH REFERRED TO AND NUMBERED (4) IN THE
 S.88B INSTRUMENT APPURTENANT TO THE PART(S) OF THE
 LAND SHOWN SO BENEFITED IN THE TITLE DIAGRAM
- 22 DP817507 RIGHT OF CARRIAGEWAY & EASEMENT FOR SERVICES 16.8 & 18 METRE(S) WIDE APPURTENANT TO THE PART(S) OF THE LAND SHOWN SO BENEFITED IN THE TITLE DIAGRAM
- 23 DP817507 RIGHT OF CARRIAGEWAY & EASEMENT FOR SERVICES 18
 METRE(S) WIDE APPURTENANT TO THE PART(S) OF THE LAND
 SHOWN SO BENEFITED IN THE TITLE DIAGRAM
- 24 DP817507 RIGHT OF CARRIAGEWAY & EASEMENT FOR SERVICES 20 METRE(S) WIDE REFERRED TO AND NUMBERED (7) IN THE S.88B INSTRUMENT APPURTENANT TO THE PART(S) OF THE LAND SHOWN SO BENEFITED IN THE TITLE DIAGRAM
- 25 DP817507 RIGHT OF CARRIAGEWAY & EASEMENT FOR SERVICES 16.46
 METRE(S) WIDE & VARIABLE WIDTH APPURTENANT TO THE
 PART(S) OF THE LAND SHOWN SO BENEFITED IN THE TITLE
 DIAGRAM
- 26 DP817507 RIGHT OF CARRIAGEWAY & EASEMENT FOR SERVICES VARIABLE WIDTH REFERRED TO AND NUMBERED (9) IN THE S.88B INSTRUMENT APPURTENANT TO THE PART(S) OF THE LAND SHOWN SO BENEFITED IN THE TITLE DIAGRAM
- 27 DP817507 RIGHT OF CARRIAGEWAY & EASEMENT FOR SERVICES 17 METRE(S) WIDE REFERRED TO AND NUMBERED (13) IN THE S.88B INSTRUMENT APPURTENANT TO THE PART(S) OF THE

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FOLIO: 1/1188100 PAGE 3

SEC	OND SCHEDU	LE (62 NOTIFICATIONS) (CONTINUED)
28	DP817507	LAND SHOWN SO BENEFITED IN THE TITLE DIAGRAM RIGHT OF CARRIAGEWAY & EASEMENT FOR SERVICES 20 METRE(S) WIDE REFERRED TO AND NUMBERED (14) IN THE S.88B INSTRUMENT APPURTENANT TO THE PART(S) OF THE
29	DP817507	LAND SHOWN SO BENEFITED IN THE TITLE DIAGRAM RIGHT OF CARRIAGEWAY & EASEMENT FOR SERVICES 17 METRE(S) WIDE REFERRED TO AND NUMBERED (16) IN THE S.88B INSTRUMENT APPURTENANT TO THE PART(S) OF THE
30	DP881682	LAND SHOWN SO BENEFITED IN THE TITLE DIAGRAM RIGHT OF CARRIAGEWAY 8 METRE(S) WIDE AND VARIABLE WIDTH AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
31	U128489	EASEMENT FOR ROCK ANCHORS AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
32	DP881682	RIGHT OF CARRIAGEWAY 8 METRE(S) WIDE AND VARIABLE WIDTH APPURTENANT TO THE PART(S) OF THE LAND SHOWN SO BENEFITED IN THE TITLE DIAGRAM
33	DP881682	EASEMENT FOR PARKING VARIABLE WIDTH (B) AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
34	DP265379	EASEMENT FOR GAS PIPELINE 3 METRE(S) WIDE AND VARIABLE WIDTH AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
35	DP881682	EASEMENT FOR PARKING VARIABLE WIDTH APPURTENANT TO THE PART(S) OF THE LAND SHOWN SO BENEFITED IN THE TITLE DIAGRAM
36	DP265379	EASEMENT FOR UNDERGROUND ELECTRICITY CABLES 3 METRE(S) WIDE AND VARIABLE WIDTH AFFECTING THE PART(S)
37	DP881682	SHOWN SO BURDENED IN THE TITLE DIAGRAM EASEMENT FOR PARKING VARIABLE WIDTH (C) AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
38	0291562	EASEMENT FOR TRANSMISSION LINE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
39	DP881682	EASEMENT FOR DRAINAGE OF WATER OVER EXISTING LINE OF PIPES AND PIT AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
40	DP881682	EASEMENT FOR DRAINAGE OF WATER OVER EXISTING LINE OF PIPES APPURTENANT TO THE PART(S) OF THE LAND SHOWN SO
41	DP881682	BENEFITED IN THE TITLE DIAGRAM EASEMENT FOR ELECTRICITY PURPOSES 3 METRE(S) WIDE AND VARIABLE WIDTH AFFECTING THE PART(S) SHOWN SO
42	DP881682	BURDENED IN THE TITLE DIAGRAM EASEMENT FOR ELECTRICITY SUBSTATION 3.5 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE
43	AD19658	TITLE DIAGRAM LEASE TO JIREH INTERNATIONAL PTY LIMITED OF SHOP 2, LEVEL 2, SHORTLAND UNION BUILDING, UNIVERSITY OF

END OF PAGE 3 - CONTINUED OVER

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SECOND SCHEDULE (62 NOTIFICATIONS) (CONTINUED)

NEWCASTLE, UNIVERSITY DRIVE, CALLAGHAN. EXPIRES: 26/5/2012. OPTION OF RENEWAL: 5 YEARS.

- 44 AF683715 LEASE TO UNIFOOD GROUP PTY LTD (SEE AG678069) OF PREMISES KNOWN AS RAFTERS, LEVEL 2, SHORTLAND BUILDING, UNIVERSITY OF NEWCASTLE, CALLAGHAN. EXPIRES: 31/12/2014. OPTION OF RENEWAL: 5 YEARS WITH A FURTHER 5 YEARS AND A FURTHER 2 YEARS 3 MONTHS AND 1 DAY.
- 45 AF683716 LEASE TO UNIFOOD GROUP PTY LTD (SEE AG678069) OF PREMISES KNOWN AS MCLARTY DINING, LEVEL 2, SHORTLAND BUILDING, UNIVERSITY OF NEWCASTLE, CALLAGHAN. EXPIRES: 31/12/2014. OPTION OF RENEWAL: 5 YEARS WITH A FURTHER 5 YEARS AND A FURTHER 2 YEARS 3 MONTHS AND 1 DAY.
- 46 AF683717 LEASE TO UNIFOOD GROUP PTY LTD (SEE AG678069) OF PREMISES KNOWN AS HUB CAFE, LEVEL 3, SHORTLAND BUILDING, UNIVERSITY OF NEWCASTLE, CALLAGHAN. EXPIRES: 31/12/2014. OPTION OF RENEWAL: 5 YEARS WITH A FURTHER 5 YEARS AND A FURTHER 2 YEARS 3 MONTHS AND 1 DAY.
- 47 AF831953 LEASE TO FRESH FOOD EXPRESS PTY LIMITED OF SHOP 1, LEVEL ONE ,SHORTLAND BUILDING , UNIVERSITY OF NEWCASTLE, CALLAGHAN. EXPIRES: 31/7/2014. OPTION OF RENEWAL: 4 YEARS.
- 48 AG110225 LEASE TO S & L EDWARDS INVESTMENTS PTY LTD OF SHOPS 205, 209, 210, 211, 212, 213 LEVEL 2, SHORTLAND BUILDING UNIVERSITY OF NEWCASTLE, CALLAGHAN. EXPIRES: 30/1/2016. OPTION OF RENEWAL: 5 YEARS.
- 49 AG163277 LEASE TO FUJI XEROX AUSTRALIA PTY LIMITED OF SHOPS 201, 203 & 204, LEVEL 2, SHORTLAND BUILDING, CALLAGHAN. EXPIRES: 31/1/2016. OPTION OF RENEWAL: 5 YEARS.
- 50 AH595192 LEASE TO GAVIN LEIGH SMITH & STUART JAMES SHORTLAND OF SHOP 110B, LEVEL 1, SHORTLAND BUILDING, THE UNIVERSITY OF NEWCASTLE, UNIVERSITY DRIVE, CALLAGHAN. EXPIRES: 30/6/2018. OPTION OF RENEWAL: 5 YEARS.

AK933756 TRANSFER OF LEASE AH595192 LESSEE NOW SHORTLAND MEDICAL CENTRE PTY LIMITED

- 51 AJ682912 LEASE TO TELSTRA CORPORATION LIMITED OF THE PART SHOWN HATCHED IN PLAN WITH AJ682912. EXPIRES: 31/3/2019.
- 52 AJ682913 LEASE TO TELSTRA CORPORATION LIMITED OF THE PART SHOWN HATCHED IN PLAN WITH AJ682913. COMMENCES: 1/4/2019. EXPIRES: 31/3/2024.
- 53 AJ682914 LEASE TO TELSTRA CORPORATION LIMITED OF THE PART SHOWN HATCHED IN PLAN WITH AJ682914. COMMENCES: 1/4/2024. EXPIRES: 31/3/2029.
- 54 AJ682915 LEASE TO TELSTRA CORPORATION LIMITED OF THE PART SHOWN HATCHED IN PLAN WITH AJ682915. COMMENCES:

END OF PAGE 4 - CONTINUED OVER

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SECOND SCHEDULE (62 NOTIFICATIONS) (CONTINUED)

1/4/2029. EXPIRES: 31/3/2034.

55 AK760967 LEASE TO HELIOS FOOD PTY LIMITED OF THE AREA KNOWN AS ROOMS 236, 236A, 238, 238A, 239, 240, 241, 242, 243, 243A, 244, 245, 246, 247, 248, 249, 250, 253, 254 AND 265 ON LEVEL 2, SHORTLAND BUILDING, UNIVERSITY OF NEWCASTLE, CALLAGHAN. EXPIRES: 31/12/2019. OPTION OF RENEWAL: 5 YEARS AND A FURTHER OPTION OF 2 YEARS, 3

MONTHS AND 1 DAY.

56 AK760968 LEASE TO HELIOS FOOD PTY LIMITED OF THE AREA KNOWN
AS ROOMS 231 AND 237 ON LEVEL 2, SHORTLAND BUILDING,
UNIVERSITY OF NEWCASTLE, CALLAGHAN. EXPIRES:
31/12/2019. OPTION OF RENEWAL: 5 YEARS AND A FURTHER

57 AK760969 LEASE TO HELIOS FOOD PTY LIMITED OF THE AREA KNOWN
AS ROOMS 304, 305 AND 306 ON LEVEL 3, SHORTLAND
BUILDING, UNIVERSITY OF NEWCASTLE, CALLAGHAN. EXPIRES:
31/12/2019. OPTION OF RENEWAL: 5 YEARS AND A FURTHER
OPTION OF 2 YEARS 3 MONTHS AND 1 DAY.

OPTION OF 2 YEARS 3 MONTHS AND 1 DAY.

58 AK933757 LEASE TO UNIVERSITY CO-OPERATIVE BOOKSHOP LIMITED OF ROOMS 130, 132, 132A, 132B AND 133, LEVEL 1, SHORTLAND UNION BUILDING, UNIVERSITY DRIVE, CALLAGHAN. EXPIRES: 2/10/2020.

59 AM25754 LEASE TO FRESH FOOD EXPRESS PTY LIMITED OF SHOP 1, LEVEL 1, BUILDING KNOWN AS SHORTLAND BUILDING, UNIVERSITY OF NEWCASTLE, CALLAGHAN. EXPIRES: 31/7/2018.

60 AM25755 LEASE TO RESTECH PTY LTD OF ROOMS 105, 109, 111 AND 112, BUILDING EB, UNIVERSITY OF NEWCASTLE, CALLAGHAN. EXPIRES: 13/8/2018. OPTION OF RENEWAL: 2 YEARS.

61 AM362500 LEASE TO FUJI XEROX AUSTRALIA PTY LIMITED OF ROOMS 204, 205 & 205A, LEVEL 2, SHORTLAND UNION BLDG, UNIVERSITY DR, CALLAGHAN. EXPIRES: 31/1/2021.

62 AM362501 LEASE TO NEWCASTLE PERMANENT BUILDING SOCIETY
LIMITED OF ROOMS 221, 221A, 221B, 221C, 221D, 221E &
221F, LEVEL 2, SHORTLAND BUILDING, UNIVERSITY DR,
CALLAGHAN. EXPIRES: 31/10/2018.

NOTATIONS

DP648897 NOTE: DP648897 PROPOSED EASEMENT PLAN

UNREGISTERED DEALINGS: DP1233389.

*** END OF SEARCH ***

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University of Newcastle Proposed Bio-Resources Facility

APPENDIX

F

SECTION 149 CERTIFICATE





PLANNING CERTIFICATE

Section 149, Environmental Planning and Assessment Act 1979

To: Lotsearch Pty Ltd Level 3, 68 Alfred Street

Level 3, 68 Alfred Street MILSONS POINT NSW 2061 Certificate No: PL2017/05204 Fees: \$133.00 D000662739

Your Reference: LS002009

Date of Issue: 24/10/2017

The Land: Lot 1 DP 1188100

8 University Drive Callaghan NSW 2308

Advice provided on this Certificate:

Advice under section 149(2): see items 1 - 20

Additional advice under section 149 (5): see Items 21 - 29

IMPORTANT: Please read this certificate carefully

This certificate contains important information about the land.

Please check for any item which could be inconsistent with the proposed use or development of the land. If there is anything you do not understand, phone Council's **Customer Enquiry Centre** on (02) 4974 2000, or come in and see us.

The information provided in this certificate relates only to the land described above. If you need information about adjoining or nearby land, or about the Council's development policies for the general area, contact Council's **Customer Enquiry Centre**.

All information provided is correct as at 24/10/2017. However, it's possible for changes to occur within a short time. We recommend that you only rely upon a very recent certificate.

Newcastle City Council

PO Box 489 NEWCASTLE 2300

Phone: (02) 4974 2000 Facsimile: (02) 4974 2222

Customer Enquiry Centre Ground floor,

282 King Street Newcastle NSW 2300

Office hours:

Mondays to Fridays 8.30 am to 5.00 pm

PART 1:

ADVICE PROVIDED UNDER SECTION 149(2)

ATTENTION: The explanatory notes appearing in italic print within Part 1 are provided to assist understanding, but do not form part of the advice provided under section 149(2). These notes shall be taken as being advice provided under section 149(5).

1. Names of relevant planning instruments and DCPs

The following environmental planning instruments, proposed environmental planning instruments and development control plans apply to the land, either in full or in part.

State Environmental Planning Policy No. 44 - Koala Habitat Protection

State Environmental Planning Policy No. 50 - Canal Estate Development

State Environmental Planning Policy No. 55 - Remediation of Land

State Environmental Planning Policy No. 62 - Sustainable Aquaculture

State Environmental Planning Policy No. 64 - Advertising and Signage

State Environmental Planning Policy (Housing For Seniors or People with a Disability) 2004

State Environmental Planning Policy (State Significant Precincts) 2005

State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007

State Environmental Planning Policy (Temporary Structures) 2007

State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Exempt and Complying Development Codes) 2008

State Environmental Planning Policy (State and Regional Development) 2011

Newcastle Local Environmental Plan 2012

Newcastle Development Control Plan 2012

2. Zoning and land use under relevant LEPs

Newcastle Local Environmental Plan 2012

Zoning: The Newcastle Local Environmental Plan 2012 identifies the land as being within the following zone(s):

Zone SP2 Infrastructure -Educational Establishment

Note: Refer to www.newcastle.nsw.gov.au or www.legislation.nsw.gov.au web site for LEP instrument and zoning maps.

The following is an extract from the zoning provisions contained in Newcastle Local Environmental Plan 2012:

Zone SP2 Infrastructure

Objectives of zone

- To provide for infrastructure and related uses.
- To prevent development that is not compatible with or that may detract from the provision of infrastructure.

Permitted without consent

Roads

Permitted with consent

The purpose shown on the Land Zoning Map, including any development that is ordinarily incidental or ancillary to development for that purpose

Prohibited

Any development not specified in, permitted without consent or permitted with consent

Minimum land dimensions for erection of a dwelling-house: The Newcastle Local Environmental Plan 2012 contains development standards relating to minimum land dimensions for the erection of a dwelling house. Refer to clause 4.1 Minimum subdivision lot size and Part 4 Principle development standards of the Newcastle LEP 2012 for provisions relating to minimum lot sizes for residential development.

Critical habitat: The Newcastle Local Environmental Plan 2012 does not identify the land as including or comprising critical habitat.

Heritage conservation area: The land is not within a heritage conservation area under the Newcastle Local Environmental Plan 2012.

Heritage items: There are no heritage items listed in the Newcastle Local Environmental Plan 2012 situated on the land.

3. Complying development

Note Other requirements: The advice below for all Complying Development Codes, is limited to identifying whether or not the **land**, the subject of the certificate, is land on which complying development may be carried out because of Clauses 1.17A(1)(c) to (e), (2), (3) & (4), 1.18 (1)(c3) and 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 (the Codes SEPP).

General Housing Code

Complying development under the General Housing Code MAY be carried out on this land.

Rural Housing Code

Complying development under the Rural Housing Code MAY be carried out on this land.

Housing Alterations Code

Complying development under the Housing Alterations Code MAY be carried out on this land.

General Development Code

Complying development under the General Development Code MAY be carried out on this land.

Commercial and Industrial Alterations Code

Complying development under the Commercial and Industrial Alterations Code MAY be carried out on this land.

Commercial and Industrial (New Buildings and Additions) Code

Complying development under the Commercial and Industrial (New Buildings and Additions) Code MAY be carried out on this land.

Subdivision Code

Complying development under the Subdivision Code MAY be carried out on this land.

Demolition Code

Complying development under the Demolition Code MAY be carried out on this land.

Fire Safety Code

Complying development under the Fire Safety Code MAY be carried out on this land.

4. Coastal Protection Act 1979

The land IS NOT AFFECTED by the operation of sections 38 or 39 of the Coastal Protection Act 1979.

4A. Certain information relating to beaches and coasts

The land IS NOT AFFECTED by an order under Part 4D of the Coastal Protection Act 1979 in relation to temporary coastal protection works (within the meaning of that Act) on the land (or on public land adjacent to that land), except where the council is satisfied that such an order has been fully complied with.

The Council HAS NOT been notified under section 55X of the Coastal Protection Act 1979 that temporary coastal protection works (within the meaning of that Act) have been placed on the land (or on public land adjacent to that land).

4B. Annual charges under Local Government Act 1993 for coastal protection services that relate to existing coastal protection works

The land IS NOT subject to an agreement for annual charges under section 496B of the Local Government Act 1993 for coastal protection services (within the meaning of section 553B of that Act).

5. Mine Subsidence Compensation Act 1961

The land IS NOT within a proclaimed Mine Subsidence District under the Mine Subsidence Compensation Act 1961.

NOTE: The above advice is provided to the extent that Council has been notified by the Mine Subsidence Board. For up-to-date details, contact the Mine Subsidence Board, 117 Bull Street, Newcastle West. Ph (02) 49084300.

6. Road widening or realignment

NOTE: The Roads and Maritime Services (RMS) may have proposals that are not referred to in this item. For advice about affectation by RMS proposals, contact the Roads and Maritime Services, Locked Mail Bag 30 Newcastle 2300. Ph: 131 782.

The land IS NOT AFFECTED by any road widening or road realignment under Division 2 of Part 3 of the Roads Act 1993.

The land IS NOT AFFECTED by any road widening or road realignment under an environmental planning instrument.

The land IS NOT AFFECTED by road widening or road realignment under a resolution of the Council.

7. Policies on hazard risk restrictions

Except as stated below, the land is not affected by a policy referred to in Item 7 of Schedule 4 of the Environmental Planning and Assessment Regulation 2000 that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

Potential acid sulfate soils: Works carried out on the land must be undertaken in accordance with Clause 6.1 Acid sulfate soils of the Newcastle Local Environmental Plan 2012.

Land Contamination: Council has land contamination information/records in relation to this property. Council has adopted a policy of restricting development or imposing conditions on properties affected by land contamination. Refer to Section 5.02 Land Contamination of Newcastle Development Control Plan 2012, which may be inspected or purchased at Council's Customer Enquiry Centre.

Bush fire: Under clause 5.11 Bush fire hazard reduction of the Newcastle LEP 2012, bush fire hazard reduction work authorised by the Rural Fires Act 1997 may be carried out on any land without development consent. *NOTE: The Rural Fires Act 1997 also makes provision relating to the carrying out of development on bush fire prone land.*

NOTE: The absence of a policy to restrict development of the land because of the likelihood of a particular risk does not imply that the land is free from that risk. The Council considers the likelihood of natural and man-made risks when determining development applications under section 79C of the Environmental Planning and Assessment Act 1979. Detailed investigation carried out in conjunction with the preparation or assessment of a development application may result in the Council either refusing development consent or imposing conditions of consent on the basis of risks that are not identified above.

7A. Flood related development controls information

Council's information currently indicates that the property is, or contains, flood prone land as defined in the Floodplain Development Manual: the management of flood liable land, April 2005 published by the NSW Government.

Development of flood prone land is controlled by Section 4.01 Flood Management of Newcastle DCP 2012. The Newcastle DCP 2012 provides restrictions or imposes conditions with respect to all development of flood prone land. This includes development for the purpose of dwelling houses, dual occupancies, multi dwelling housing or residential flat buildings.

NOTE: More detailed flood information specific to the property is available on separate flooding certificate application through Council's Customer Contact Centre on (02) 4974 2000

8. Land reserved for acquisition

The land is not identified for acquisition by a public authority (as referred to in section 27 of the Act) by any environmental planning instrument or proposed environmental planning instrument applying to the land.

9. Contributions plans

The following contribution plan/s apply to the land.

Section 94A Development Contributions Plan 2009 - August 2017:

The Plan specifies section 94A contributions that may be imposed as a condition of development consent.

NOTE: Contributions plans are available on Council's website or may be inspected or purchased at Council's Customer Enquiry Centre.

9A. Biodiversity certified land

The land IS NOT biodiversity certified land within the meaning of Part 7AA of the Threatened Species Conservation Act 1995.

10. Biobanking agreements

The land IS NOT land to which a biobanking agreement under Part 7A of the Threatened Species Conservation Act 1995 relates.

11. Bush fire prone land

The land, either in whole or in part IS bush fire prone land for the purposes of the Environmental Planning and Assessment Act 1979.

12. Property vegetation plans

Not applicable. The Native Vegetation Act 2003 does not apply to the Newcastle local government area.

13. Orders under Trees (Disputes Between Neighbours) Act 2006

Council HAS NOT been notified that an order has been made under the Trees (Disputes between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

14. Directions under Part 3A

The land IS NOT AFFECTED by a direction by the Minister in force under section 75P (2) (c1) of the Act.

15. Site compatibility certificates and conditions for seniors housing

- (a) The land IS NOT AFFECTED by a current site compatibility certificate (of which the Council is aware) issued under the State Environmental Planning Policy (Housing for Seniors and People with a Disability) 2004.
- (b) The land IS NOT AFFECTED by any terms of kind referred to in clause 18(2) of the State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004, that have been imposed as a condition of consent to a development application granted after 11 October, 2007 in respect of the land.

16. Site compatibility certificates for infrastructure

The land IS NOT AFFECTED by a valid site compatibility certificate (of which the Council is aware) issued under the State Environmental Planning Policy (Infrastructure) 2007.

17. Site compatibility certificates and conditions for affordable rental housing

The land IS NOT AFFECTED by a valid site compatibility certificate (of which the Council is aware) issued under the State Environmental Planning Policy (Affordable Rental Housing) 2009.

18. Paper subdivision information

The land IS NOT AFFECTED by any development plan that applies to the land or that is proposed to be subject to a consent ballot.

19. Site verification certificates

The land IS NOT AFFECTED by a current site verification certificate (of which the Council is aware) issued under the State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007.

20. Loose-fill asbestos insulation

The Council HAS NOT been notified that the land includes any residential premises (within the meaning of Division 1A of Part 8 of the Home Building Act 1989) that are listed on the register of loose-fill asbestos insulation, that is required to be maintained under that Division.

Note: The following matters are prescribed by section 59(2) of the Contaminated Land Management Act 1997.

The land to which the certificate relates is the subject of the following site audit statement(s) within the meaning of the Contaminated Land Management Act 1997.

1. Site Audit Statement No. GN467 (30/7/2013) Produced by Environ Australia Pty Ltd. You can contact Council's Compliance Services Unit on (02) 49742525 to obtain further information. NOTE: Contamination information that relates to the land that is not required to be disclosed under section 59(2) Contaminated Land Management Act 1997, may be provided under a section 149(5) certificate.

PART 2:

ADVICE PROVIDED UNDER SECTION 149(5)

ATTENTION: Section 149(6) of the Act states that a Council shall not incur any liability in respect of advice provided in good faith pursuant to sub-section 149(5).

21. Outstanding Notices and Orders issued by Council.

Council records indicate that this premise IS NOT AFFECTED by a current notice or order (excluding the notices or orders mentioned in the note below).

NOTE: The Council has not inspected the premises immediately prior to the issue of this certificate. It is possible that the premises are affected by matters of which the Council is unaware.

NOTE: This Certificate does not include any advice regarding outstanding notices or orders issued under the Environmental Planning and Assessment Act 1979 or the Local Government Act 1993. To obtain advice regarding these matters, you should lodge an application for a Certificate as to Outstanding Notices and Orders (accompanied by the appropriate fee). For further information, please contact the Customer Enquiry Centre on (02) 4974 2000.

22. Further consent requirements under the Newcastle Local Environmental Plan 2012.

The following provisions of the Newcastle Local Environmental Plan 2012 affect the carrying out of development on the land. These provisions are in addition to those required to be disclosed at Item 2 of this Certificate.

Refer to clause 3.1 Exempt Development of the Newcastle Local Environmental Plan 2012

Refer to clause 3.2 Complying Development of the Newcastle Local Environmental Plan 2012

Note: The Newcastle Local Environmental 2012 may have additional provisions that affect the carry out of development. Refer to the Newcastle Local Environmental 2012 for the full affect it may have on the land or obtain profession advice for more information.

23. Suspension of covenants.

Refer to 1.9A Suspension of covenants, agreements and instruments of the Newcastle Local Environmental Plan 2012.

24. Draft development control plans.

The following draft development control plans APPLY to the land. The draft plans are exhibited pursuant to Part 3 of the Environmental Planning and Assessment Regulation 2000.

Draft Newcastle Development Control Plan 2012 - Section 4.04 Safety & Security

Draft Newcastle Development Control Plan 2012 - Section 5.03 Tree Management

Draft Newcastle Development Control Plan 2012 - Section 9.00 Glossary

25. Heritage Act 1977.

The land IS NOT AFFECTED by a listing on the State Heritage Register or an Interim Heritage Order that is in force under the Heritage Act 1977.

NOTE: The above advice is provided to the extent that Council has been notified by the Heritage Council of NSW. For up-to-date details, contact the Office of Environment and Heritage, PO Box A290, South Sydney NSW 1232 Ph: (02) 9995 5000.

26. Listing by National Trust of Australia.

The land IS NOT AFFECTED by a listing of the National Trust of Australia (NSW).

NOTE: The above advice is provided to the extent that Council has been notified by the National Trust of Australia (NSW). For up-to-date details, contact the National Trust Ph 02 9258 0123.

27. Australian Heritage Database.

The land IS NOT AFFECTED by a listing on the Australian Heritage Database.

NOTE: The above advice is provided to the extent that Council has been notified by the Department of the Environment. For up-to-date details, contact the Department of the Environment, Heritage, King Edward Terrace, Parkes ACT 2600. Ph (02) 6274 1111.

28. Environment Protection & Biodiversity Conservation Act 1999 (Cth)

Under the (Commonwealth) Environment Protection and Biodiversity Conservation Act 1999, actions which have, may have or are likely to have, a significant impact on a matter of national environmental significance may be taken only with the approval of the Commonwealth Minister for the Environment.

Approval is also required for actions that have a significant effect on the environment of Commonwealth land. These actions may be on Commonwealth land or other land.

This approval is in addition to any approvals under the (NSW) Environmental Planning and Assessment Act 1979 or other NSW legislation.

Matters of national environmental significance are:

- · declared World Heritage areas
- declared Ramsar wetlands
- · listed threatened species and ecological communities
- · listed migratory species
- · nuclear actions
- the environment of Commonwealth marine areas.

Locations within the City of Newcastle that are a declared Ramsar wetland include Kooragang Nature Reserve and Shortland Wetlands. Listed threatened species and listed migratory species are known to occur within the City of Newcastle.

29. Other matters

The land is affected by the following:

Newcastle earthquake

Earthquakes occurred in the vicinity of Newcastle on 28th December 1989 and 6 August 1994. Buildings on the land may have suffered damage as a consequence of the earthquakes. Prospective purchasers are advised to make their own enquiries as to whether the property is affected by any damage.

Local Planning Strategy

The Local Planning Strategy is the principal land use strategy for Newcastle. It was adopted by the Council on 28 July 2015. The Strategy is taken into account when the Council assesses development applications and amendments to the Newcastle Local Environmental Plan 2012.

Note: Refer to Council's website to view the document. www.newcastle.nsw.gov.au

Lower Hunter Regional Strategy (2006 - 2031)

The Lower Hunter Regional Strategy has been prepared by the Department of Planning and Infrastructure. The contents of the strategy will be taken into account when Council assesses development applications and amendments to the Newcastle Local Environmental Plan 2012.

Note: Refer to Council's website to view the document. www.newcastle.nsw.gov.au

Newcastle City-Wide Floodplain Risk Management Study and Plan (2012)

The Newcastle City-wide Floodplain Risk Management Study and Plan addresses flood management for the City of Newcastle. The Study and Plan will be taken into account when Council assesses development applications and amendments to the Newcastle Local Environmental Plan 2012.

Note: Refer to Council's website to view the document. www.newcastle.nsw.gov.au

Stormwater drain

The Council's records indicate that a stormwater drain passes through the land. A registered easement to drain water has not been created for this drain.

Contaminated land information

Council records indicate that this land has been identified as being affected by soil or groundwater contamination. Recommendations have been made regarding restrictions or special conditions over the use or development of the land. Council is in possession of the following management plan(s) which apply to the land:

- 1. Report: Douglas Partners Pty Ltd (December 2011) Interim Environmental Management Plan Soil and Water Management NIER Site, prepared for The University of Management Project 49538.02.
- 2. Report: Douglas Partners Pty Ltd (June 2014) Long Term Environmental management Plan Council is in possession of the following contaminated land document(s) which relate to the land. Persons relying on the certificate are advised to examine and consider the contents of each document:
- 1. Report: Robert Carr & Associates Pty Ltd (November 2004) Environmental Assessment Proposed Demolition Area C & D Blocks Newcastle Technology Centre Off Vale St Shortland Prepared for BHP Billiton RCA Ref: 4403-002/0.
- 2. Report: Robert Carr & Associates Pty Ltd (December 2004) Phase 2 Environmental Site Assessment Proposed Demolition Area Newcastle Technology Centre Off Vale St Shortland Prepared for Kate Noble on behalf of BHP Billiton RCA Ref: 4549-002/0.
- 3. Report: RCA Australia Pty Ltd (March 2005) Contamination Delineation and Groundwater Investigation Proposed Demolition Area Newcastle Technology Centre Off Vale St Shortland RCA Ref: 4549-003/1
- 4. Report: RCA Australia Pty Ltd (May 2005) Remedial Action Plan Proposed Demolition Area Newcastle Technology Centre Off Vale St Shortland RCA Ref: 4549-005/1
- 5. Letter: RCA Australia Pty Ltd (30 May 2005) Notice of Category 2 Site Remediation Proposed Demolition Area, Newcastle Technology Centre Off Vale Street, Shortland.
- 6. Report: Robert Carr & Associates Pty Ltd (November 2005) Site Remediation and Validation Demolition Area Newcastle Technology Centre. RCA Ref: 4911-002/1.
- 7. Report: Douglas Partners Pty Ltd (May 2011) Baseline Soil and Groundwater Testing
- 8. Report: RCA Australia (May 2013) Detailed Site Investigation
- 9. Site Audit Report No. GN 467 (July 2013) Produced by Environ Australia Pty Ltd. Council records indicate the following potentially contaminating landuse(s) may have been carried out on the land:
- 1. waste storage activities

Persons relying on the certificate are advised to make their own investigations as to whether the land is affected by elevated concentrations of soil or groundwater contaminants in relation to proposed purchase or use of land.

Issued without alterations or additions, 24/10/17
Authorised by
JEREMY BATH
INTERIM CHIEF EXECUTIVE OFFICER

University of Newcastle Proposed Bio-Resources Facility

APPENDIX

G

QA/QC REPORT





Shaping the Future

Cardno (NSW/ACT) Pty Ltd

Unit 1 10 Denney Street Broadmeadow 2292 Australia

Phone +61 2 4965 4555 Fax +61 2 4965 4666

File Reference: 82218015 QAQC Report

Date: 17 October 2017

University of Newcastle University Drive Callaghan, NSW, 2308

QA/QC Report
Preliminary Site Investigation
Bio-Resource Facility, University of Newcastle

This Quality Assurance and Quality Control (QA/QC) report assesses the reliability of field procedures adopted and the analytical results produced as part of the Preliminary Site Investigation for the proposed redevelopment of the Bio-Resource Facility at the University of Newcastle, NSW ('the site'). The following data quality indicators have been adopted with reference to the National Environment Protection Council, National Environment Protection (Assessment of Site Contamination) Measure, 1999 (amended, April 2013) (NEPM, 2013):

- > Precision The quantitative measure of variability of reproducibility of the data. Is a measure of the reproducibility of on measurements under a given set of conditions the Relative Percent Difference ('RPD') has been adopted to assess the precision of data between duplicate sample pairs;
- > Accuracy The quantitative measure of the closeness of the reported data to the true value. It is a measure of the bias in the analytical results and can often be attributed to: field contamination; insufficient preservation or sample preparation; or inappropriate analytical techniques. Accuracy of the analytical data is assessed by consideration of laboratory control samples, laboratory spikes and analytical techniques in accordance with appropriate standards. Accuracy of the fieldwork is assessed against an assessment of field blank, field trip and rinsate results;
- > Representativeness The confidence that the data is representative of each medium present on the site. Data representativeness is achieved by the collection of samples at an appropriate pattern and density as well as consistent and repeatable sampling techniques and procedures;
- > Completeness A measure of the amount of usable data (expressed as a %) from a data collection activity. Sufficient data is required to enable an assessment of the Decision Rules; and,
- > Comparability The confidence that data may be considered to be equivalent for each sampling and analytical event. This is achieved through consistent sampling and analytical testing and reporting techniques.

The data quality objectives, requirements and indicators for the assessment are presented in Table 1 below.

Table 1 Data Quality Objectives, Requirements and Indicators

Data Quality Objective	Requirement	Data Quality Indicator
Precision		
Intra-laboratory Duplicates	1 per 20 samples	RPDs < 50%
Inter-laboratory Duplicates	1 per 20 samples	RPDs < 50%
Laboratory Duplicates	Minimum of 1 per batch per analyte.	RPDs < 50%
Accuracy		
Laboratory Matrix Spikes	1 per batch per volatile/semi-volatile analyte	Recoveries 50% to 150%
Laboratory Surrogate Spikes	1 per volatile/semi-volatile analyte sample (as appropriate)	Recoveries 70% to 130%
Laboratory Method Blanks	At least 1 per batch per analyte tested	Result < Limit of reporting
Laboratory Control Samples	At least 1 per batch per analyte tested	Result < Limit of reporting
Rinsate samples	1 per sampling day	Result < Limit of reporting
Representativeness		
Sampling methodology	Appropriate for the sample type and analytes	Meet Requirement
Samples extracted and analysed within holding times	Specific to each analyte	Meet Requirement
Comparability		
Sampling approach	Consistent for each sample	Meet Requirement
Analysis methodology	Consistent methodology for each sample	Meet Requirement
Handling conditions and sampler	Consistent for each sample	Meet Requirement
Field observations and analytical results	Field observations to support analytical results	Meet Requirement
Consistent laboratory Limit of Reporting (LOR)	Consistent between primary and secondary laboratories	Meet Requirement
Completeness		
Chain of Custody Documentation	Appropriately completed	Meet Requirement
Field Sampling Documentation	Appropriately completed	Meet Requirement
Satisfactory quality assurance/ quality control procedures	In accordance with relevant guidance	Meet Requirement

1 Field QA/QC Results

1.1 Duplicate Sampling Techniques

1.1.1 Soil Sampling

Duplicate samples were collected by splitting soil samples in the field. This comprised collecting a sample of soil from the borehole and splitting it equally (per volume) into three laboratory supplied jars (primary, duplicate and triplicate). This process was repeated until all jars were full and zero headspace remained. Care was taken to collect a representative sample in each jar, that is, from the same strata, location and depth within the bore hole.

Field splitting was employed rather than sample homogenisation (blending of a sample in a bowl) and splitting to minimise VOC loss.

1.2 Decontamination Procedures

Decontamination of non-disposable equipment was conducted between sampling events and comprised:

- > The scrubbing of field equipment in contact with potentially contaminated materials with a scrubbing brush and a container of 1% Decon 90 solution; and,
- > Rinsing of equipment with deionised water following scrubbing to remove the detergent.

1.3 Relative Percentage Difference

The precision or repeatability of laboratory results obtained between field split primary and replicate samples (ie. duplicate and triplicate samples) is derived by the calculation of the relative percentage differences (RPDs). The calculation of the RPD is conducted using the following equation:

RPD (%) =
$$\frac{\text{Original - Duplicate}}{\text{(Original + Duplicate) / 2}} \times 100$$

A RPD of +/- 50% is generally considered acceptable.

The comparative analysis between the primary and replicate samples for the sampling event is summarised below in Table 2. Note that when the laboratory result for one or both samples is below the PQL the RPD has been given as NA. Complete laboratory reports are provided in Appendix C.

Table 2 Replicate RDP results for HA2 0.05 – 0.15 / DUP/ TRIP

Contaminant Species		Units	PQL ¹	PQL ²	Primary Sample ID HA2 0.05- 0.15	Duplicate ID DUP	Triplicate ID TRIP	MAX RPD	
					29/09/2017	29/09/2017	29/09/2017		
	As	mg/kg	3	2	3	3	3.6	18%	
	Cd	mg/kg	0.3	0.4	<0.3	<0.3	< 0.4	NA	
	Cr	mg/kg	0.3	5	40	26	39	42%	
Heavy	Cu	mg/kg	0.5	5	11	11	17	43%	
Metals	Pb	mg/kg	1	5	20	20	28	33%	
	Hg	mg/kg	0.05	0.1	<0.05	<0.05	< 0.1	NA	
	Ni	mg/kg	0.5	5	6.8	6.5	9.8	40%	
	Zn	mg/kg	0.5	5	200	210	260	26%	
	C ₆ - C ₉	mg/kg	20	20	<20	<20	<20	NA	
	C ₁₀ - C ₃₆	mg/kg	110	50	<110	<110	119	NA	
TRH	F1 C ₆ - C ₉	mg/kg	20	20	<20	<20	<20	NA	
INI	F2 > C ₁₀ - C ₁₆	mg/kg	25	50	<25	<25	<50	NA	
	F3 > C ₁₆ - C ₃₄	mg/kg	90	100	<90	<90	<100	NA	
	F4 > C ₃₄ - C ₄₀	mg/kg	120	100	<120	<120	<100	NA	
Na	aphthalene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	NA	
	Benzene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	NA	
BTEX	Toluene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	NA	
BILX	Ethyl Benzene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	NA	
	Total Xylenes	mg/kg	0.3	0.3	0.4	0.4	<0.3	NA	
	Total	mg/kg	0.8	0.5	5.8	3	1.2	131%	
PAH	B(a)P	mg/kg	0.1	0.5	0.5	0.2	<0.5	NA	
	B(a)P TEQ (Upper)	mg/kg	0.3	0.5	0.8	0.4	1.2	100%	
	Total	mg/kg	1.7	2	<1.7	<1.7	<2.0	NA	
	DDT+DDE+DDD	mg/kg	0.3	0.05	<0.3	<0.3	<0.05	NA	
	DDT	mg/kg	0.1	0.05	<0.1	<0.1	<0.05	NA	
	Aldrin + Dieldrin	mg/kg	0.3	0.1	<0.3	<0.3	<0.1	NA	
ОСР	Chlordane	mg/kg	0.2	0.1	<0.2	<0.2	<0.1	NA	
GG	Endosulfan	mg/kg	0.2	0.15	<0.2	<0.2	<0.15	NA	
	Endrin	mg/kg	0.2	0.05	<0.2	<0.2	<0.05	NA	
	Hepta-chlor	mg/kg	0.2	0.05	<0.1	<0.1	<0.05	NA	
	HCB	mg/kg	0.1	0.05	<0.1	<0.1	<0.05	NA	
	Methoxychlor	mg/kg	0.1	0.05	<0.1	<0.1	<0.05	NA	
OPP	Total	mg/kg	1	1.2	<1	<1	<1.2	NA	
	Chlorpyrifos	mg/kg	0.2	0.2	<0.2	<0.2	<0.2	NA	
Total PCB		mg/kg	1	0.5	<1	<1	0.5	NA	

Notes to Table:

Bold - indicates exceedance of the acceptable RPD range of +/- 50%

^{1.} SGS LOR Values

^{2.} Eurofins LOR Values

The replicate RPD results summarised in Table 2 indicate that the samples analysed were generally within the acceptable RPD range of +/- 50% with the following exception:

- > Total Polycyclic Aromatic Hydrocarbons (PAH); and
- > Benzene (a) Pyrene, TEQ (Upper).

Elevated RPD values were considered tolerable due to:

- > Concentrations of some analytes being less than 5 times the PQL, which can produce elevated RPD values, despite the low magnitude differences in the concentrations of the replicate pairs; and,
- > The splitting of materials in the field to reduce volatile loss instead of homogenised blending.

The RPD results indicate the sampling methodology was acceptable and laboratory precision or repeatability was achieved.

1.4 Rinsate Samples

Rinsate samples are samples of laboratory prepared water poured over or through decontaminated field sampling equipment prior to the collection of environmental samples. Following completion of decontamination procedures (refer Section 1.2) laboratory supplied de-ionised water was poured over sampling equipment (typically a stainless steel garden trowel) and collected into a clean sampling jar for contaminant analysis. Rinsate samples are recovered to determine the adequacy of decontamination procedures and the potential for cross contamination of samples through use of adulterated sampling equipment.

Laboratory results for the Total Heavy Metals analysis of rinsate samples for the investigation are summarised in Table 3. Complete laboratory reports sheets are provided in Appendix C.

Table 3 Summary of TRH/BTEX Rinsate laboratory results

ı		Date Sampled	Total Heavy Metals							
ı	Sample ID		Arsenic	Cadmium	Chromium	Copper	Nickel	Lead	Zinc	Mercury
J			μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L
	RIN	29/09/2017	<1	<0.1	<1	<1	<1	<1	<5	<0.001
	SGS PQL		1	0	1	2	1	1	5	0.001

Notes to Table:

BOLD - Indicates laboratory result is greater than the laboratory PQL

PQL - Practical Quantification Limit

The rinsate laboratory results summarised in Table 3 were all less than the laboratory PQL, indicating that field decontamination procedures were generally adequate.

1.5 Trip Blanks

Trip blanks are a laboratory supplied analyte free matrix (laboratory certified clean sands for solid samples or de-ionised water for water samples). Trip blanks are taken from the laboratory to the sampling site, unopened and unexposed to sampling procedures and subjected to the same preservation methods as the field samples. The samples are then analysed to determine the potential for cross- contamination into the samples as a result of field handling, storage and shipping procedures. Laboratory results for the trip blank samples for the PSI are summarised in Table 4. Complete laboratory reports sheets are provided in Appendix C.

Table 4 Summary of Trip Blank Laboratory Results

	Date Sampled	BTEX							
Sample ID		Benzene	Toluene	Ethyl- benzene	m+p- Xylene	o-Xylene	Total Xylenes	Napthalene	
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
TRIP BLANK	29/09/2017	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.1	
ENVIROLAB	0.1	0.1	0.1	0.2	0.1	0.3	0		

Notes to Table:

BOLD - Indicates laboratory result is greater than the laboratory PQL

PQL - Practical Quantification Limit

The trip blank laboratory results summarised in Table 4 were all less than the laboratory PQL, indicating that field handling, storage and shipping procedures were generally adequate.

1.6 Trip Spikes

Trip spikes are a laboratory prepared sample injected or spiked with a known concentration of contaminants, in this case BTEX. The trip spikes were taken from the laboratory to the sampling site, unopened and unexposed to sampling procedures and subjected to the same preservation methods as the field samples. The samples are then analysed to determine the loss of VOCs as a result of field handling, storage and shipping procedures. Laboratory results for the trip spike samples for the PSI are summarised in Table 5 below. Complete laboratory reports sheets are provided in Appendix C.

Table 5 Summary of Trip Spike Laboratory Results

	Date Sampled	BTEX						
Sample ID		Benzene	Toluene	Ethyl- benxene	o-Xylene	m+p- Xylene		
TRIP SPIKE	29/09/2017	89%	96%	97%	100%	100%		

Notes to Table:

BOLD - Indicates the contaminant recovery is less than the specified DQI of 60 - 100%

The trip spike laboratory results summarised in Table 5 were within the acceptable contaminant recovery limits of 60-100%, indicate that field handling, storage and shipping procedures were generally adequate.

2 Laboratory QA/QC Results

2.1 Laboratory Replicates

Laboratory replicates are generated by subjecting a separate aliquot of sample through the same preparation and analysis procedures as the primary sample. Comparison of the primary sample to the duplicate will yield a precision measurement (expressed as RPD) in a given matrix.

The laboratory acceptance criteria for duplicate samples are as follows:

- > If results are less than 5 times the PQL, any RPD is acceptable; and,
- > If results are greater than 5 times the PQL, an RPD of 0-50% is acceptable.

Two samples returned RPD's outside of the acceptance criteria. Due to the low contaminant concentrations the RPD's are not considered to be a significant difference and are not indicative of inadequate field quality control. The RPD results are considered to be acceptable.

2.2 Method Blanks

A Method Blank is an analyte free matrix (laboratory certified clean sands for solid samples or de-ionised water for water samples) which is subjected to the complete preparation and analytical procedure to assess contamination introduced during laboratory procedures.

All laboratory results for method blank analysis were below the PQL indicating laboratory procedures were adequate to prevent cross contamination of samples.

2.3 Matrix Spikes

The Matrix Spike is a separate aliquot of the sample spiked with known concentrations of the analytes of interest. It is analyzed to determine, including the matrix interferences, if the procedure is working within established control limits. Analyte recoveries must lie between 70-130% for inorganics, 60-140% for organics and 10-140% for SVOC and Phenols.

Matrix spike recoveries were all within acceptable laboratory criteria.

3 Summary

It was considered that the field and laboratory QA/QC criteria were generally within acceptable limits indicating field sampling, storage, handling and decontamination procedures and laboratory preparation and analysis procedures were adequate for the purposes of the environmental investigation.