



Figure 17: The extent of native vegetation across the development site and location of sampling quadrats.



Figure 18: Foraging habitat for microbats and *Pteropus poliocephalus* Grey-headed Flying-fox within vegetation zone 1 that will be removed by the proposal is shown hatched.



Figure 19: Hollow-bearing tree locations, representing potential roost habitat for *Myotis macropus* Large-footed Myotis.



Figure 20: The extent of native vegetation impacted by the proposal and requiring offset (red), totalling 0.44 hectares of DSF04 / PCT 1776. Construction footprint shown as red dashed line

APPENDIX 2

PHOTOGRAPHS



Photograph 1: Surrounding bushland: Greendale Park south east of the development site, 20th July 2017.



Photograph 2: Surrounding bushland: south western boundary of Bob Campbell Oval, 17th October 2017.



Photograph 3: Surrounding bushland: north eastern boundary of Bob Campbell Oval directly below the development site, 4th December 2017.



Photograph 4: Surrounding bushland: Along Gore Creek to the south wwest of the development site, 4th December 2017.



Photograph 5: Surrounding bushland: Lane Cove Bushland Park to the north west of the development site, 4th December 2017.



Photograph 6: Upper half of the riparian zone recognised by Council on the site's western boundary.



Photograph 7: Water being delivered from the stormwater pipe in the Council-recognised riparian area. This stormwater outlet is located approximately 15 metres upslope from the site's south western corner.



Photograph 8: Looking upstream into the Council-recognised riparian zone, from Gore Creek. Note the sewer pipe and the sandstone block walls.



Photograph 9: The confluence of Gore Creek with the Lane Cove River.

APPENDIX 3

TABLES

Table 1: Plot field data sheets for VZ 1 (PCT 1776).

KEYSTONE		BAM Site - Field Survey Form				Site sheet no: 1 of 2	
		Survey Name		Plot identifier	Recorders		
Date: 21-11-17	GPS:	Greenwich Hospital 99 River Rd, Greenwich		VZ1 -A	EA		
Zone 56	Datum 94	IBRA region Sydney Basin	IBRA subregion Pittwater	Photo#	Zone ID		
Easting 332042	Northing 6255450	Dimensions 20m x 50m	Mitchell landscape: Port Jackson Basin	Orientation of midline point from 0m point: 8°			
Vegetation Class		Sydney Coastal Dry Sclerophyll Forests				Confidence (H) M L	
Plant Community Type (PCT)		1776 Smooth-barked Apple - Red Bloodwood open forest on enriched sandstone slopes around Sydney and the Central Coast				Confidence (H) M L	
EEC / CEEC		Nil				Confidence (H) M L	

Record easting and north from the plot marker. If applicable, orient picket so that perforated rib points along direction of midline.
Dimensions (shape) of 0.04ha base plot inside 0.1ha FA plot should be identified, magnetic bearing taken along midline.

BAM Attribute (400m² plot)		# of spp	Function (woody veg only)				Record number of living eucalypt (Euc*) and living non-eucalypt (Non Euc) stems separately: *includes all species of Eucalyptus, Corymbia, Angophora, Lophostemon and Syncarpia. * Record total number of trees with hollows by size class with hollows (including dead stems/trees). D = Dead tree/stag
Count of Native richness (composition)	Trees	5					
	Shrubs	1					
	Grasses etc	2					
	Forbs	2					
	Ferns	0					
	Other	2					
Sum of cover of native vascular plants by growth form group (Structure)	Sum of cover (%)						
	Trees	100.1					
	Shrubs	10					
	Grasses etc	0.3					
	Forbs	0.3					
	Ferns	0					
Other	0.2						
High Threat Weed cover		31.3					

BAM Attribute (20x50m plot)	#Tree stems count	Record number of living eucalypt (Euc*) and living non-eucalypt (Non Euc) stems separately:	
DBH	Euc* Non euc Hollows*		
Large trees for Euc* & Non Euc	80+cm	11	11
	50-79cm	111	11
30-49cm	111 111	111	1
20-29cm	111	111	1 DEAD
10-19cm	11	111	
5-9cm			
<5cm			
Length of logs (m) (≥10cm diameter, >50cm in length)	15m	Natural regen>	Yes/ No
		Rocky outcrop?	Yes (No)

Counts must apply to each size when the number of living tree stems within the size class is ≤ 10.
Estimates can be used when the number of living tree stems within a class is ≥ 10. Estimates should draw from the number of series 10, 20, 30, 100, 200, 300.
For a multi-stemmed tree, only the largest living stem is included in the count/estimate.
For hollows, count only the presence of a stem containing hollow, not the count of hollows in that stem.

BAM Attribute (1x1m plots)	Litter cover (%)	Bare ground cover (%)	Cryptogram cover (%)	Rock cover (%)
Subplot score (% in each)	100 100 100 100 95	0 0 0 0 5		
Average of the 5 subplots	99	1	-	-

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1m x 1m plots located on alternate sides and 5m from the plot midline at the locations 5, 15, 25, 35 and 45m along the midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10cm in diameter). Within these 1m x 1m plots assessors may also record the cover of rock, bare ground and cryptogram soil crusts. Collection of these data is optional - the data do not currently contribute to assessment scores. They hold potential value for future vegetation integrity assessment attributes and benchmarks, and for enhancing PCT description.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological type	Heritage gardens	Landform element	sloping	Landform pattern	upperslope	Microrelief	Yes
Lithology	Natural fine-grained sandstone	Soil surface texture	loose, loamy	Soil colour	chocolate	Soil depth	shallow
Slope	~20°	Aspect	East	Site drainage	None - Downslope to East	Distance to nearest water and type	~120m SW Cop Creek Channel

Plot disturbance	Severity code	Age code	Observational evidence
Clearing (incl. logging)	3	0	Managed heritage garden
Cultivation (incl. pasture)			
Soil erosion			
Firewood collection			
Grazing			
Fire damage			
Storm damage			
Weediness	2	0	Managed heritage garden, regularly cleared of debris
Other	3	0	Weeds, principally mature exotic - heavy mulching

Severity: 0 = no evidence; 1 = light; 2 = moderate; 3 = severe
Age: R = recent (<3yrs); NR = not recent (3-10yrs); 0 = Old (>10yrs)

	Date: 21-11-17	Survey Name	Plot Identifier	Site sheet no.
	Recorders: EA	Greenwich Hospital, 99 River Rd. Greenwich	V21 - A	2 of 2

#	(mandatory: leave blank for weeds)		Top 3 native species in each growth form group: Full species name mandatory. All other native and exotic species: Full species name where practicable. Circle top 3 species in each layer.	N, E or HTW	Cover (%)	Abund (stem count)	Stratum	Sample collect
	GF Code	BAM GF code						
1	S	SG	<i>Ptilothamnus undulatum</i>	N	10	4		
2			<i>Echtharta calycina</i>	HTE	0.2	10		
3	F	FG	<i>Calium australe</i>	N	0.1	1		
4	G	GG	<i>Microlaena stipoides</i>	N	0.2	30		
5	D	GG	<i>Gelismenus aculeatus</i>	N	0.1	20		
6	F	FG	<i>Dichondra repens</i>	N	0.2	10		
7			<i>Avena fatua</i>	E	0.1	1		
8			<i>Acer negundo</i>	HTE	0.1	50	L2	
9	T	TG	<i>Eucalyptus resinifera</i>	N	10	1		
10			<i>Ligustrum lucidum</i>	HTE	20	16		
11			<i>Olea europaea subsp. cuspidata</i>	HTE	0.1	3		
12			<i>Hedera helix</i>	HTE	0.1	1		
13			<i>Erythrina x tykesii</i>	HTE	5.1	3		
14			<i>Ceranium sp.</i>	E	0.1	20		
15			<i>Asparagus setulosus</i>	HTE	0.1	3		
16	T	TG	<i>Eucalyptus saligna</i>	N	40	1		
17			<i>Anedera cordifolia</i>	HTE	0.1	3		
18			<i>Araucaria serotina</i>	HTE	0.1	1		
19			<i>Cinnamomum camphora</i>	HTE	0.1	1		
20			<i>Ochna serrulata</i>	HTE	0.1	2		
21			<i>Photinia serratifolia</i>	E	0.1	1		
22	T	TG	<i>Cycas araucarioides</i>	N	0.1	1		
23			<i>Oxalis perennans</i>	N	0.1	4		
24			<i>Tradescantia fluminensis</i>	HTE	0.1	5		
25			<i>Phoenix canariensis</i>	HTE	0.1	1		
26	P	OG	<i>Archontophoenix cunninghamiana</i>	N	0.1	3		
27			<i>Cottis sinensis</i>	E	0.1	6		
28	T	TG	<i>Angophora planifolia</i>	N	10	2		
29			<i>Cotoneaster glaucophyllus</i>	HTE	5	1		
30			<i>Stellaria media</i>	E	0.1	1		
31			<i>Senecio clericeus</i>	E	0.1	3		
32	A	OG	<i>Macaranga communis</i>	N	0.1	3		
33	T	TG	<i>Eucalyptus pilularis</i>	N	40	2		
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

GF Codes: First letter represents GF code; code in bracket (e.g. SG) represents the BAM code for the calculator. Circle if in Top 3 of layer.
 A: Cycad (OG); C: Chenopod (SG); D: Other Grass (GG); E: Ferns (EG); F: Forb (FG); G: Tussock Grass (GG); H: Hummock Grass (GG); K: Epiphyte (OG); L: Vine (OG); M: Mallee Tree (TG); P: Palm (OG); Q: Tree Fern (OG); R: Rush (GG); S: Shrub (SG); T: Tree (TG); V: Sedge (GG); X: Xanthorrhoea (OG); Y: Mallee Shrub (SG); Z: Heath Shrub (SG)
 N, E, HTW: N: native; E: exotic; HTW: high threat weed.
 Cover: 0.1, 0.2, 0.3...1, 2, 3...10, 15, 20, 25...100% (foliage cover); Note: 0.1% cover represents approximately 63cm x 63cm or a circle about 71cm diameter. 0.3% cover is the lowest allowed - this may be an over estimate of the actual cover. 0.5% cover represents an area of approximately 1.4m x 1.4m, and 1% cover = 2m x 2m, 5% = 4m x 5m, 25% = 10m x 10m.
 Abundance: 1, 2, 3...10, 20, 30...100, 200...1000, ...grass abundance: count fractional unit, i.e. runner = one plant. Abundance of 200 - 1000 has no effect in BAM calculator.
 Stratum: T1: Upper (20m+); T2: Upper (15-20m); T3: Trees (10-15m); S1: Small trees (5-10m); S2: Shrubs (<5m); L1: ground (<1m); L2: Lower ground (<0.5m)

Table :2 – Plot field data sheets for VZ 2 (PCT 684).

KEYSTONE					BAM Site – Field Survey Form		Site sheet no: 1 of 2		
Date: 21-11-17		GPS:		Survey Name Greenwich Hospital 99 River Rd Greenwich		Plot Identifier V22-A		Recorders EA	
Zone 56		Datum 94		IBRA region Sydney Basin		IBRA subregion Pittwater		Photo# Zone ID	
Easting 331970.51		Northing 625535.018		Dimensions		Mitchell landscape: Port Jackson Basin		Orientation of midline point from 0m point:	
Vegetation Class				North Coast Wet Sclerophyll Forests				Confidence H M (L)	
Plant Community Type (PCT)				684 - Blackbutt narrow-leaved white Mahogany shrubby tall open forest of coastal ranges, northern Sydney Basin Bioregion				Confidence H M (L)	
EFF / CEFC				NIL				Confidence (H) M L	

Record easting and north from the plot marker. If applicable, orient picket so that perforated rib points along direction of midline.
Dimensions (shape) of 0.04ha base plot inside 0.1ha FA plot should be identified, magnetic bearing taken along midline.

BAM Attribute (400m² plot)		# of spp	Function (woody veg only)						
Count of Native richness (composition)	Trees	4	BAM Attribute (20x50m plot)			Record number of living eucalypt (Euc*) and living non-eucalypt (Non Euc) stems separately. *Includes all species of Eucalyptus, Corymbia, Angophora, Lophostemon and Syncarpia. * Record total number of trees with hollows by size class with hollows (including dead stems/trees). D = Dead tree/stag			
	Shrubs	0	DBH				Euc*	Non euc	Hollows*
	Grasses etc	1	Large trees for Euc* & Non Euc	80+cm					
	Forbs	0		50-79cm					
	Ferns	1	30-49cm						
	Other	0	20-29cm						
Sum of cover of native vascular plants by growth form group (Structure)	Sum of cover (%)		10-19cm						
	Trees	20	5-9cm						
	Shrubs	0	<5cm						
	Grasses etc	40	Length of logs (m) (≥10cm diameter, >50cm in length)	0m		Natural regen?	Yes / (No)		
	Forbs	0				Rocky outcrop?	Yes / (No)		
	Ferns	1							
Other	0								
High Threat Weed cover		51.2	Counts must apply to each size when the number of living tree stems within the size class is ≤ 10. Estimates can be used when the number of living tree stems within a class is ≥ 10. Estimates should draw from the number of series 10, 20, 30, 100, 200, 300. For a multi-stemmed tree, only the largest living stem is included in the count/estimate. For hollows, count only the presence of a stem containing hollow, not the count of hollows in that stem.						

BAM Attribute (1x1m plots)	Litter cover (%)				Bare ground cover (%)				Cryptogram cover (%)				Rock cover (%)			
Subplot score (% in each)	5	10	0	15	5	10	15	5	15	10	-	-	-	-	-	-
Average of the 5 subplots	7				11											

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1m x 1m plots located on alternate sides and 5m from the plot midline at the locations 5, 15, 25, 35 and 45m along the midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10cm in diameter). Within these 1m x 1m plots assessors may also record the cover of rock, bare ground and cryptogram soil crusts. Collection of these data is optional - the data do not currently contribute to assessment scores. They hold potential value for future vegetation integrity assessment attributes and benchmarks, and for enhancing PCT description.


Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological type	Landform element	Landform pattern	Microrelief
Lithology	Soil surface texture	Soil colour	Soil depth
Slope	Aspect	Site drainage	Distance to nearest water and type

Plot disturbance	Severity code	Age code	Observational evidence
Clearing (incl. logging)			
Cultivation (incl. pasture)			
Soil erosion			
Firewood collection			
Grazing			
Fire damage			
Storm damage			
Weediness	2	NR	
Other	3	0	landscaping prominent with few native attributes

Severity: 0 = no evidence; 1 = light; 2 = moderate; 3 = severe

Age: R = recent (<3yrs); NR = not recent (3-10yrs); 0 = Old (>10yrs)

	Date: 21-11-17	Survey Name	Plot Identifier	Site sheet no.
	Recorders: EA	Greenwich Hospital, 99 River Rd Greenwich	VZ 2-A	2 of 2

#	(In parentheses: Leave blank for weeds)		Top 3 native species in each growth form group: Full species name mandatory. All other native and exotic species: Full species name where practicable. Circle top 3 species in each layer.	N, E or HTW	Cover (%)	Abund (stem count)	Stratum	Sample collect
	GF Code	BAM GF code						
1	E	EG	Nephrolepis cordifolia	N	1	10		
2	-	-	Jacaranda mimosifolia	E				
3	-	-	Ochra serrulata	HTE	1	1		
4	-	-	Syagrus romanzoffiana	E				
5	-	-	Acer negundo	HTE	2	5		
6	-	-	Asparagus aethiopicus	HTE	02	1		
7	T	TG	Eucalyptus sideroxylon	N	5	1		
8	T	TC	Eucalyptus pilularis	N	5	2		
9	-	-	Celtis sinensis	E				
10	-	-	Triadita sebifera	HTE	8	2		
11	T	TC	Eucalyptus saligna	N	5	1		
12	T	TC	Ficus rubiginosa	N	5	1		
13	-	-	Cenchrus clandestinus (kikuyu)	HTE	40	100		
14	D	CG	Cynodon dactylon	N	40	100		
15	-	-	Agapanthus praecox	E				
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GF Codes: First letter represents GF code; code in bracket (e.g. SG) represents the BAM code for the calculator. Circle if in Top 3 of layer.

A: Cycad (OG); **C:** Chenopod (SG); **D:** Other Grass (GG); **E:** Ferns (EG); **F:** Forb (FG); **G:** Tussock Grass (GG); **H:** Hummock Grass (GG); **K:** Epiphyte (OG); **L:** Vine (OG); **M:** Mallee Tree (TG); **P:** Palm (OG); **Q:** Tree Fern (OG); **R:** Rush (GG); **S:** Shrub (SG); **T:** Tree (TG); **V:** Sedge (GG); **X:** Xanthorrhoea (OG); **Y:** Mallee Shrub (SG); **Z:** Heath Shrub (SG)

N, E, HTW: N: native; E: exotic; HTW: high threat weed.

Cover: 0.1, 0.2, 0.3...1, 2, 3...10, 15, 20, 25...100% (foliage cover); **Note:** 0.1% cover represents approximately 63cm x 63cm or a circle about 71cm diameter, 0.1% cover is the lowest allowed - this may be an over estimate of the actual cover. 0.5% cover represents an area of approximately 1.4m x 1.4m, and 1% cover = 2m x 2m, 5% = 4m x 5m, 25% = 10m x 10m.

Abundance: 1, 2, 3...10, 20, 30...100, 200...1000, ... **grass abundance:** count fractional unit, i.e. runner = one plant. Abundance of 200 - 1000 has no effect in BAM calculator.

Stratum: T1: Upper (20m+); T2: Upper (15-20m); T3: Trees (10-15m); S1: Small trees (5-10m); S2: Shrubs (≤5m); L1: ground (≤1m); L2: Lower ground (±0.5m)

Table 3: Current vegetation integrity scores for vegetation zone 1 on the development site.

Vegetation Zone 1								
Plant Community Type:		1776 – Smooth-barked Apple – Red Bloodwood open forest on enriched sandstone slopes around Sydney and the Central Coast.						
Area: 0.44ha		Condition class: Low – heritage garden						
Composition condition score								
Plot 1	Tree	Shrub	Grass and grass like	Forb	Fern	Other	Current composition condition score	
	5	1	2	2	0	2	17.7	
Calculation results								
Plot 1		Tree	Shrub	Grass and grass like		Forb	Fern	Other
Benchmark		7	28	9		8	2	5
Observed mean (\bar{x})		5	1	2		2	0	2
Unweighted composition score (UCSi)		89	0.1	11.1		14.6	0	40
Weighted composition score (WCSi)		10.6	0.1	1.7		2	0	3.4
Dynamic weighting (wi)		0.12	0.47	0.15		0.14	0.03	0.08

Structure condition score								
Plot 1	Tree	Shrub	Grass and grass like	Forb	Fern	Other	Current composition condition score	
	100.1	10	0.3	0.3	0	0.2	30.1	
Calculation results								
Plot 1		Tree	Shrub	Grass and grass like		Forb	Fern	Other
Benchmark		45	68	36		5	1	4
Observed mean (\bar{x})		100.1	10	0.3		0.3	0	0.2
Unweighted structure score (USSi)		100	4.1	0		0.4	0	0.3
Weighted structure score (WSSi)		28.3	1.7	0		0	0	0
Dynamic weighting (wi)		0.28	0.43	0.23		0.03	0.01	0.03

Vegetation Zone 1												
Plant Community Type:			1776 – Smooth-barked Apple – Red Bloodwood open forest on enriched sandstone slopes around Sydney and the Central Coast.									
Area: 0.44 hectares			Condition class: Low – heritage garden									
Zone function data												
Plot 1	Regenerating stems <5cm DBH	Stem classes					No. of large trees (>50cm DBHOB)	Hollow-bearing trees	Litter cover	Coarse woody debris	High threat weed cover	Current function condition score
		5-9	10-19	20-29	30-49	50-79						
		Present		x	x	x		8	6	99	1.5	31.3
Calculation results												
Plot 1		Regenerating stems <5cm DBH		Stem size class		No. of large trees		Litter cover	Coarse woody debris	High threat weed cover		
Benchmark		Present		4		3		62	47	-		
Observed mean (\bar{x})		1		3		8		99	1.5	31.3		
Weighted function score (WFSi)		15		13.8		35		15	0	-		
Weighting (wi)		0.15		0.15		0.35		0.15	0.2	-		
Overall current vegetation integrity score for VZ 1												
34.7												

Vegetation Zone 2								
Plant Community Type:		684 – Blackbutt – Narrow-leaved White Mahogany shrubby tall open forest of coastal ranges, northern Sydney Basin Bioregion.						
Area: 0.87		Condition class: Very low - landscaped						
Composition condition score								
Plot 1	Tree	Shrub	Grass and grass like	Forb	Fern	Other	Current composition condition score	
	4	0	1	0	1	0	9.2	
Calculation results								
Plot 1			Tree	Shrub	Grass and grass like	Forb	Fern	Other
Benchmark			9	15	6	8	5	13
Observed mean (\bar{x})			4	0	1	0	1	0
Unweighted composition score (UCSi)			48.6	0	5.5	0	8.6	0
Weighted composition score (WCSi)			7.8	0	0.6	0	0.8	0
Dynamic weighting (wi)			0.16	0.27	0.11	0.14	0.09	0.23

Structure condition score							
Plot 1	Tree	Shrub	Grass and grass like	Forb	Fern	Other	Current composition condition score
	20	0	40	0	1	0	12.3
Calculation results							
Plot 1	Tree	Shrub	Grass and grass like	Forb	Fern	Other	
Benchmark	73	52	8	4	15	20	
Observed mean (\bar{x})	20	0	40	0	1	0	
Unweighted structure score (USSi)	18	0	100	0	0.6	0	
Weighted structure score (WSSi)	7.6	0	4.7	0	0.1	0	
Dynamic weighting (wi)	0.42	0.3	0.05	0.02	0.09	0.12	

Vegetation Zone 2												
Plant Community Type:				684 – Blackbutt – Narrow-leaved White Mahogany shrubby tall open forest of coastal ranges, northern Sydney Basin Bioregion.								
Area: 0.87 hectares				Condition class: Very low - landscaped								
Zone function data												
Plot 1	Regenerating stems <5cm DBH	Stem classes					No. of large trees (>50cm DBHOB)	Hollow-bearing trees	Litter cover	Coarse woody debris	High threat weed cover	Current function condition score
		5-9	10-19	20-29	30-49	50-79						
	Absent			x	x	x	x	1	1	7	0	51.2
Calculation results												
Plot 1		Regenerating stems <5cm DBH		Stem size class		No. of large trees			Litter cover	Coarse woody debris	High threat weed cover	
Benchmark		Present		4		3			66	14	-	
Observed mean (\bar{x})		0		4		1			7	0	51.2	
Weighted function score (WFSi)		0		15		9.7			0.3	0	-	
Weighting (wi)		0.15		0.15		0.35			0.15	0.2	-	
Overall current vegetation integrity score for VZ 1												
14.1												

Table 4: Weather data during active fauna survey period September 2017 to January 2018.

Sydney, New South Wales
September 2017 Daily Weather Observations

Most observations from Observatory Hill, but some from Fort Denison and Sydney Airport.



Australian Government
Bureau of Meteorology

Date	Day	Temps		Rain	Evap	Sun	Max wind gust			9am							3pm						
		Min	Max				Dirn	Spd	Time	Temp	RH	Cld	Dirn	Spd	MSLP	Temp	RH	Cld	Dirn	Spd	MSLP		
		°C	°C					km/h	local	°C	%	eighths		km/h	hPa	°C	%	eighths		km/h	hPa		
1	Fr	8.2	19.2	0	3.4	9.8	W	33	06:37	12.2	52	2	W	20	1026.3	17.7	44	1	ESE	19	1022.1		
2	Sa	7.8	19.4	0	4.8	10.8	W	24	05:47	11.8	69	1	W	15	1021.4	17.5	49	2	E	19	1017.9		
3	Su	10.0	27.2	0	5.0	7.3	NW	48	17:04	15.3	55	6	WSW	6	1013.8	26.6	16	6	N	19	1005.1		
4	Mo	12.0	22.2	0	7.6	10.7	WNW	56	15:00	16.0	35	0	W	7	1009.7	21.7	22	1	WNW	37	1005.9		
5	Tu	11.4	18.7	0	10.4	10.8	W	61	15:52	14.7	31	2	WNW	19	1011.6	18.2	22	2	WNW	33	1009.3		
6	We	11.5	19.9	0	8.0	10.6	WNW	59	03:11	14.6	31	1	W	31	1013.9	19.0	21	1	W	31	1012.9		
7	Th	10.0	21.9	0	7.0	10.6	W	50	15:39	15.7	38	1	W	20	1019.1	21.5	21	1	W	24	1015.7		
8	Fr	11.1	20.4	0	5.6	10.8	W	65	10:01	16.0	39	1	WSW	31	1017.6	19.9	22	2	WSW	30	1015.1		
9	Sa	9.6	19.4	0	8.0	10.8	WSW	44	03:00	13.1	37	1	W	24	1022.6	17.7	31	1	SE	20	1020.5		
10	Su	8.0	19.1	0	5.0	10.8	W	24	05:41	13.5	52	1	WNW	13	1023.3	17.3	51	1	ESE	17	1020.3		
11	Mo	8.7	22.7	0	3.8	10.1	NE	24	15:13	14.4	60	1	WNW	13	1020.4	22.5	29	3	NE	13	1015.3		
12	Tu	11.3	27.2	0	5.8	2.3	E	26	14:21	18.2	43	7	W	11	1015.7	23.4	34	6	SE	6	1010.8		
13	We	18.2	33.8	0	6.2	9.6	NNW	70	14:24	24.9	19	1	NW	20	1005.4	32.5	10	3	NW	31	999.9		
14	Th	12.0	17.3	0.2	13.0	10.5	WSW	72	10:41	13.8	37	2	WSW	28	1010.7	16.4	26	2	W	43	1011.7		
15	Fr	10.5	22.8	0	7.8	10.6	W	52	10:59	16.6	37	1	W	24	1019.0	22.2	24	1	WSW	19	1016.6		
16	Sa	12.5	24.2	0	7.0	6.4	SSW	56	15:37	17.3	43	7	NNW	15	1018.1	21.3	22	6	WSW	26	1015.8		
17	Su	8.1	18.6	0	4.6	10.8	ESE	28	12:50	13.6	48	1	W	17	1027.8	16.4	37	0	E	15	1024.9		
18	Mo	8.2	21.0	0	5.6	10.7	NE	39	14:17	14.0	55	1	W	7	1024.0	20.2	55	0	NE	20	1017.1		
19	Tu	14.0	25.2	0	6.4	10.8	SSW	54	16:51	20.4	30	2	WSW	19	1014.5	23.1	16	1	W	28	1013.4		
20	We	10.7	19.0	0	9.2	7.7	WSW	33	01:03	14.6	44	3	WNW	17	1021.2	17.7	56	1	E	19	1017.1		
21	Th	10.4	21.3	0	3.8	10.1	NE	30	18:30	15.6	65	0	W	13	1016.8	21.2	49	0	E	17	1012.4		
22	Fr	12.8	27.7	0	7.2	10.5	NNE	35	18:47	20.1	35	1	W	13	1014.7	25.8	26	5	ESE	11	1010.1		
23	Sa	15.5	32.2	0	8.6	5.7	NNE	50	15:58	23.0	25	7	ESE	4	1009.3	29.1	25	6	NE	24	1001.5		
24	Su	23.0	29.2	0	12.0	6.5	W	54	16:15	27.1	20	6	WSW	20	1002.7	27.8	15	5	W	20	1001.9		
25	Mo	16.0	26.7	0	10.8	10.8	WNW	57	15:02	22.3	21	0	W	11	1008.0	23.3	19	5	WNW	33	1005.5		
26	Tu	12.3	22.2	0	9.6	11.0	WSW	41	08:34	19.5	29	1	SW	20	1016.7	19.0	47	2	ESE	24	1015.4		
27	We	15.4	22.7	0	6.6	8.2	ENE	50	14:23	18.1	58	7	E	11	1017.7	21.1	62	4	NE	26	1010.0		
28	Th	18.0	25.7	0	6.2	3.8	WNW	59	12:42	22.7	47	5	WNW	13	1008.9	24.1	26	5	WNW	30	1006.5		
29	Fr	13.0	26.9	0	6.8	11.1	W	39	19:43	20.4	36	1	W	17	1015.9	26.8	20	1	W	2	1011.0		
30	Sa	16.3	24.1	0	9.2	0.7	WSW	59	15:25	18.8	30	6	W	35	1013.2	23.5	15	7	WSW	24	1012.7		
Statistics for September 2017																							
Mean		12.2	23.3		7.2	9.0				17.3	40	2		17	1016.0	21.8	30	2		22	1012.5		
Lowest		7.8	17.3		3.4	0.7				11.8	19	0	ESE	4	1002.7	16.4	10	0	W	2	999.9		
Highest		23.0	33.8	0.2	13.0	11.1	WSW	72		27.1	69	7	W	35	1027.8	32.5	62	7	W	43	1024.9		
Total				0.2	215.0	270.9																	

Temperature, humidity, pressure and rainfall observations are from Sydney (Observatory Hill) (station 066062). Cloud, evaporation and sunshine observations are from Sydney Airport AMO (station 066037). Wind observations are from Fort Denison (station 066022). Sydney Airport is about 10 km to the south of Observatory Hill.

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Sydney, New South Wales October 2017 Daily Weather Observations

Most observations from Observatory Hill, but some from Fort Denison and Sydney Airport.



Australian Government
Bureau of Meteorology

Date	Day	Temps		Rain	Evap	Sun	Max wind gust			9am						3pm					
		Min	Max				Dirn	Spd	Time	Temp	RH	Cld	Dirn	Spd	MSLP	Temp	RH	Cld	Dirn	Spd	MSLP
		°C	°C					km/h	local	°C	%	eighths		km/h	hPa	°C	%	eighths		km/h	hPa
1	Su	11.2	23.1	0	6.0	10.6	W	31	09:30	15.4	65	1	W	11	1022.0	19.3	36	1	E	22	1019.0
2	Mo	12.0	22.9	0	6.2	10.1	NE	44	17:23	16.7	55	2	WNW	11	1024.2	21.3	60	3	E	24	1021.3
3	Tu	16.7	22.1	0	7.0	5.4	NNE	39	17:15	18.9	69	6	W	9	1023.2	20.1	65	7	ENE	22	1020.1
4	We	15.6	23.8	0	3.6	8.7	SE	30	08:55	20.4	72	2	S	17	1021.8	22.1	58	7	ESE	20	1019.9
5	Th	16.5	23.4	0	5.0	9.6	NNE	41	17:41	19.5	73	4	W	9	1018.8	22.6	64	1	ENE	17	1013.1
6	Fr	18.0	22.1	0	6.6	4.7	SSW	39	08:01	18.9	66	6	SSW	24	1013.5	20.3	46	3	SE	19	1015.8
7	Sa	13.7	22.0	0	6.2	8.7	SSW	43	00:29	16.2	52	6	SW	11	1023.4	21.1	46	3	SSE	20	1021.2
8	Su	13.0	21.4	0	4.8	2.3	ENE	31	12:56	16.6	70	7	WNW	13	1020.7	19.6	64	8	NE	17	1016.0
9	Mo	16.6	30.0		2.6	8.3	S	48	20:01	20.1	74	1	W	9	1011.2	27.5	45	2	NE	20	1006.1
10	Tu	16.1	21.3	0	8.0	4.7	ENE	39	19:26	19.0	62	7	ESE	9	1018.1	20.5	59	5	E	19	1016.5
11	We	18.0	23.2	0	5.6	3.8	NNE	48	02:44	19.3	86	7	ENE	13	1017.4	22.6	75	6	NE	17	1012.3
12	Th	19.2	29.6		3.6	9.6	SW	46	13:23	23.2	61	6	E	2	1008.8	27.3	30	1	SSE	24	1010.1
13	Fr	14.7	23.2	0	7.2	10.5	NE	46	16:06	18.4	69	7	WNW	9	1019.0	22.7	55	1	ENE	26	1015.5
14	Sa	17.1	22.3	0	7.6	0.0	S	54	03:11	18.7	63	8	SE	28	1023.2	18.2	61	7	SSE	26	1023.1
15	Su	16.0	22.4	0	3.8	2.4	ESE	28	02:22	22.3	52	5	SE	17	1024.9	20.1	58	7	ESE	17	1024.7
16	Mo	15.9	23.3	0	5.0	10.4	E	30	15:57	22.4	55	5	E	13	1028.0	22.3	50	1	E	20	1026.7
17	Tu	16.9	23.5	0	7.6	9.9	ENE	39	14:28	21.2	57	6	NNE	22	1028.3	22.9	47	3	E	28	1026.5
18	We	18.8	23.2	0	9.0	10.4	NNE	50	11:33	20.9	64	5	ENE	20	1028.9	22.5	56	5	NE	28	1026.1
19	Th	17.1	25.3	0	10.0	11.4	NNE	52	18:44	22.1	52	0	N	17	1025.2	24.6	47	2	NE	26	1020.0
20	Fr	19.0	19.6	7.8	9.2	0.0	S	56	11:41	19.6	87	8	NNE	2	1019.6	15.3	85	8	S	22	1020.8
21	Sa	13.0	20.0	16.4	4.4	11.3	SSW	50	11:28	16.8	52	1	SSW	24	1021.9	18.9	53	6	SSE	28	1019.3
22	Su	13.4	21.7	0.2	4.8	5.5	ESE	30	12:43	16.0	75	6	WNW	9	1015.3	18.7	60	6	ESE	17	1013.0
23	Mo	12.7	23.0	3.4	3.6	12.1	S	31	09:21	18.0	60	3	W	7	1018.1	22.1	43	1	ESE	20	1017.2
24	Tu	13.9	24.3	0	6.8	10.5	NE	39	16:34	19.9	57		W	4	1019.0	22.6	55	3	NE	26	1015.1
25	We	18.0	26.9	0	8.0	5.0	S	59	19:09	21.0	67	8	SSE	9	1013.9	23.3	56	5	E	19	1008.5
26	Th	17.2	24.6	0.4	7.0	6.5	WSW	63	22:59	19.7	73	7	SSW	9	1007.6	22.6	63	7	SSE	24	1003.2
27	Fr	14.8	24.2	34.2	7.2	3.9	WSW	61	23:19	18.1	85	6	SSW	28	1008.6	22.3	65	7	SSW	20	1009.9
28	Sa	17.5	25.1	0.2	3.2	7.7	ENE	35	13:31	21.6	66	3	SE	6	1011.5	22.3	65	7	ENE	20	1008.2
29	Su	20.2	29.6	0.2	4.6	10.6	NNE	39	18:17	24.4	49	2	W	11	1008.6	27.7	35	3	NE	19	1005.1
30	Mo	20.3	35.4	0	11.4	9.3	SSW	69	16:31	28.5	37	1	NNW	22	1003.0	34.9	13	5	NW	37	998.3
31	Tu	13.0	20.5	0	12.0	10.1	SSE	57	16:25	15.8	43	7	SW	20	1014.7	19.7	36	1	S	31	1013.0
Statistics for October 2017																					
Mean		16.0	24.0		6.4	7.5				19.7	63	4		13	1018.1	22.2	53	4		22	1015.7
Lowest		11.2	19.6		2.6	0.0				15.4	37	0	#	2	1003.0	15.3	13	1	#	17	998.3
Highest		20.3	35.4	34.2	12.0	12.1	SSW	69		28.5	87	8	#	28	1028.9	34.9	85	8	NW	37	1026.7
Total				62.8	197.6	234.0															

Temperature, humidity, pressure and rainfall observations are from Sydney (Observatory Hill) (station 066062). Cloud, evaporation and sunshine observations are from Sydney Airport AMO (station 066037). Wind observations are from Fort Denison (station 066022). Sydney Airport is about 10 km to the south of Observatory Hill.

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Sydney, New South Wales November 2017 Daily Weather Observations

Most observations from Observatory Hill, but some from Fort Denison and Sydney Airport.



Australian Government
Bureau of Meteorology

Date	Day	Temps		Rain	Evap	Sun	Max wind gust			9am						3pm					
		Min	Max				Dirn	Spd	Time	Temp	RH	Cld	Dirn	Spd	MSLP	Temp	RH	Cld	Dirn	Spd	MSLP
		°C	°C					km/h	local	°C	%	eighths		km/h	hPa	°C	%	eighths		km/h	hPa
1	We	13.0	22.2	0	9.6	4.2	SSW	54	00:11	15.4	39	7	WSW	17	1013.8	21.0	32	7	ESE	20	1010.4
2	Th	15.3	22.6	0	5.6	9.9	ESE	31	13:17	20.1	56	3	S	11	1014.2	21.8	46	1	ESE	20	1012.4
3	Fr	16.9	26.9	0	6.6	5.9	SSW	57	19:58	20.6	58	7	NNW	11	1012.0	25.7	48	6	E	20	1008.3
4	Sa	16.2	17.1	1.6	7.4	0.0	SSE	39	09:14	17.0	73	7	SSE	15	1017.6	15.8	78	8	SSE	19	1018.2
5	Su	14.1	19.5	31.8	2.6	0.0	ENE	39	22:44	14.9	85	8	ESE	24	1022.6	17.7	59	8	E	15	1020.9
6	Mo	14.8	26.3	4.4	1.8	5.7	SSW	67	17:52	19.4	81	8	N	20	1008.7	23.6	57	4	WSW	28	1002.7
7	Tu	13.8	21.8	5.6	8.8	11.3	SSE	54	16:09	18.9	40	2	SSW	20	1015.8	20.0	40	1	SSE	35	1016.2
8	We	14.6	21.7	0	9.6	10.0	SSE	44	07:32	16.8	54	7	S	20	1025.7	20.5	44	1	SE	22	1025.4
9	Th	12.3	22.1	0	6.8	11.6	E	28	12:25	17.9	52	2	W	11	1027.9	21.2	50	1	E	20	1025.7
10	Fr	14.2	23.4	0	6.8	11.6	E	26	15:37	19.2	59	4	WNW	11	1028.8	22.7	50	3	ENE	20	1026.5
11	Sa	14.7	23.7	0	7.4	8.6	ENE	33	14:59	19.9	58	3	WNW	9	1027.8	20.9	56	5	ENE	22	1024.9
12	Su	17.1	22.5	0	7.4	10.7	E	31	17:40	19.7	49	6	ENE	9	1026.4	21.7	47	1	E	22	1023.9
13	Mo	17.5	22.3	0	6.4	9.1	E	33	14:14	19.1	48	4	ESE	11	1024.8	21.2	42	2	ESE	24	1022.7
14	Tu	16.0	22.9	0	7.6	8.9	ENE	37	16:56	20.0	53	5	NNE	4	1023.7	22.3	46	2	E	24	1020.6
15	We	16.0	24.4	0	7.6	12.0	ENE	54	16:36	22.6	53	1	E	13	1020.3	23.4	57	1	NE	24	1017.1
16	Th	18.6	24.4	0	11.0	7.7	ENE	46	10:17	23.2	49	3	NE	26	1016.8	22.7	58	7	NE	24	1014.9
17	Fr	19.0	24.0	0.4	8.2	6.5	NE	50	12:54	22.4	61	7	NE	24	1018.0	22.0	56	7	NE	28	1016.5
18	Sa	19.1	22.6	0.2	8.4	1.1	ENE	44	09:35	19.9	73	7	ENE	24	1019.7	20.8	66	7	ENE	30	1019.5
19	Su	17.4	23.6	2.4	5.6	9.7	ESE	35	15:16	22.3	52	6	ESE	13	1023.7	23.0	51	4	ESE	20	1023.0
20	Mo	17.5	22.9	2.8		1.8	ESE	35	06:25	18.4	80	7	WNW	4	1025.9	22.4	56	7	E	19	1024.7
21	Tu	17.6	23.6	1.6	11.2	5.3	E	33	16:18	21.5	44	7	ESE	9	1024.7	23.2	49	2	ESE	20	1022.8
22	We	17.4	24.4	7.8	4.6	7.4	E	31	17:04	18.3	84	7	SSE	9	1021.3	23.6	54	3	E	19	1018.6
23	Th	17.3	24.7	0	5.6	11.1	E	39	14:31	23.3	56	2	ESE	9	1017.9	23.9	56	1	E	30	1014.9
24	Fr	18.2	25.9	0	10.8	9.3	NE	41	13:35	23.4	59	1	E	6	1017.2	24.5	54	3	NE	26	1015.2
25	Sa	18.9	26.4	0	8.0	12.6	ENE	35	15:46	23.8	59	1	NE	17	1018.7	24.3	62	1	E	22	1016.7
26	Su	19.3	26.8	0	8.4	10.1	NE	48	14:38	24.4	65	5	E	13	1017.7	24.8	64	2	NE	28	1015.1
27	Mo	20.6	25.1	0	8.6	1.9	ENE	39	16:41	23.7	66	8	NE	13	1015.9	24.5	65	7	NE	19	1014.8
28	Tu	19.3	27.7	0	5.8	11.1	SE	35	12:04	25.1	64	4	E	11	1018.8	26.9	59	5	ESE	24	1018.0
29	We	20.6	26.4	0.8		7.7	E	26	12:48	22.8	78	7	ESE	15	1020.4	25.8	64	7	ESE	19	1018.3
30	Th	20.2	26.7	1.8	10.8	10.9	ENE	48	17:04	24.4	66	6	E	13	1018.4	25.9	62	2	ENE	28	1015.8
Statistics for November 2017																					
Mean		16.9	23.8		7.5	7.8				20.6	60	5		13	1020.2	22.6	54	3		23	1018.2
Lowest		12.3	17.1		1.8	0.0				14.9	39	1	#	4	1008.7	15.8	32	1	E	15	1002.7
Highest		20.6	27.7	31.8	11.2	12.6	SSW	67		25.1	85	8	NE	26	1028.8	26.9	78	8	SSE	35	1026.5
Total				61.2	209.0	233.7															

Temperature, humidity, pressure and rainfall observations are from Sydney (Observatory Hill) (station 066062). Cloud, evaporation and sunshine observations are from Sydney Airport AMO (station 066037). Wind observations are from Fort Denison (station 066022). Sydney Airport is about 10 km to the south of Observatory Hill.

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Sydney, New South Wales December 2017 Daily Weather Observations

Most observations from Observatory Hill, but some from Fort Denison and Sydney Airport.



Australian Government
Bureau of Meteorology

Date	Day	Temps		Rain	Evap	Sun	Max wind gust			9am						3pm					
		Min	Max				Dirn	Spd	Time	Temp	RH	Cld	Dirn	Spd	MSLP	Temp	RH	Cld	Dirn	Spd	MSLP
		°C	°C					km/h	local	°C	%	eighths		km/h	hPa	°C	%	eighths		km/h	hPa
1	Fr	20.1	27.5	0.2	8.6	11.3	NE	59	15:41	25.4	62	1	E	17	1015.4	26.6	57	5	NE	31	1011.0
2	Sa	19.7	26.8	0	11.0	1.3	WNW	72	14:22	22.9	72	7	NE	17	1006.4	24.6	62	8	NE	17	1003.1
3	Su	16.9	29.2	10.8	0.6	13.5	E	37	14:15	22.1	45	1	W	20	1006.2	23.7	50	3	E	24	1005.3
4	Mo	16.1	18.6	3.0	10.0	0.4	SSW	52	08:40	16.8	79	7	SSW	24	1011.4	17.1	81	8	SSW	22	1010.1
5	Tu	16.0	25.3	7.6	0.6	5.9	SSW	63	15:35	18.4	71	7	SSW	19	1007.6	23.8	54	2	SSW	33	1004.6
6	We	18.2	26.0	0.2	10.2	5.7	SW	44	13:11	19.8	59	7	W	17	1003.2	19.3	68	7	SW	13	1001.7
7	Th	17.5	31.3	5.8	6.4	12.6	NE	43	16:39	25.2	39	1	WNW	13	1006.4	28.3	32	5	ENE	11	1004.3
8	Fr	21.4	27.7	0	12.8	8.9	SE	50	15:37	22.8	44	5	NW	6	1009.1	23.7	52	6	SSE	31	1010.7
9	Sa	18.1	24.1	0	8.0	7.9	SSE	35	00:37	21.4	52	7	SE	13	1019.9	22.6	46	4	E	19	1018.8
10	Su	17.3	24.8	0	7.4	12.7	ENE	39	16:48	23.0	54	3	ESE	9	1023.0	24.2	50	1	ENE	26	1020.7
11	Mo	18.0	26.5	0	10.4	13.1	ENE	43	13:53	24.0	49	1	NE	6	1020.5	25.8	47	2	ENE	33	1017.0
12	Tu	20.3	27.0	0	10.2	12.2	ENE	41	15:34	25.2	56	5	E	19	1019.3	25.2	57	1	E	31	1015.9
13	We	19.3	28.0	0	10.0	13.0	NNE	56	15:49	24.7	59	1	ESE	7	1014.4	28.0	52	1	ENE	13	1010.3
14	Th	20.9	30.8	0	9.2	11.6	NNE	59	17:55	27.3	54	1	E	11	1008.3	29.9	43	2	E	19	1005.1
15	Fr	20.7	26.6	0.2	13.4	0.1	SSW	54	05:06	21.9	73	8	SSW	24	1013.1	26.3	61	7	S	7	1012.1
16	Sa	21.4	28.5	1.4	2.6	11.6	NE	48	17:11	25.3	67	3	ENE	7	1014.2	25.9	61	2	ENE	22	1011.6
17	Su	21.9	26.8	0.6	10.0	1.1	SE	39	02:41	23.1	82	7	SE	15	1015.7	24.5	71	7	SSE	20	1015.1
18	Mo	21.1	27.6	0.2	3.2	5.8	ENE	33	13:44	24.8	69	4	NW	7	1013.4	25.6	64	7	ENE	22	1009.4
19	Tu	22.3	35.3	0	6.4	5.2	NNE	57	16:10	25.4	69	7	E	6	1009.4	30.1	50	7	NNE	35	1003.7
20	We	25.2	38.3	0	11.4	8.6	SSW	78	15:16	35.3	32	5	ESE	9	1005.0	27.1	60	6	SSE	26	1006.3
21	Th	21.2	24.5	3.0		1.1	ESE	39	09:02	23.7	62	7	SE	17	1017.4	22.9	64	7	ESE	26	1017.4
22	Fr	21.2	26.1	0.2	13.6	7.9	ENE	35	15:40	23.9	63	7	E	15	1016.4	25.0	59	2	E	20	1014.8
23	Sa	20.1	28.3	0	7.6	12.3	NE	41	17:44	24.8	61	1	ESE	9	1013.0	26.7	56	2	ENE	17	1008.8
24	Su	21.0	37.7	0	10.0	7.6	SSE	50	19:55	28.3	53	3	W	9	1007.2	28.4	52	7	SSE	19	1005.1
25	Mo	18.5	21.7	1.2	10.0	0.2	SSE	46	00:37	20.0	64	8	SSE	19	1015.5	21.0	62	8	SSE	26	1016.2
26	Tu	19.5	23.8	0	5.2	0.0	ENE	43	19:29	21.3	54	7	ESE	20	1019.4	22.6	54	7	E	17	1018.6
27	We	18.8	26.2	3.0	4.6	10.9	E	43	13:04	23.7	60	6	ENE	19	1019.0	24.9	62	6	E	28	1017.0
28	Th	19.2	27.4	0	9.8	10.8	ENE	44	14:20	25.0	59	5	E	13	1017.1	26.2	57	7	ENE	26	1013.6
29	Fr	21.3	28.8	0	8.2	8.4	NE	33	17:10	25.6	72	5	E	11	1012.5	28.3	58	6	ENE	19	1008.6
30	Sa	22.4	36.2	3.8	8.4	8.0	WNW	44	13:44	23.6	82	8	WSW	4	1005.0	34.8	27	3	W	20	1001.7
31	Su	20.1	25.3	6.0	9.2	7.1				21.1	76	7	E	13	1012.6	24.6	61	7	ENE	31	1009.8
Statistics for December 2017																					
Mean		19.9	27.8		8.3	7.6				23.7	61	4		13	1012.8	25.4	55	4		22	1010.6
Lowest		16.0	18.6		0.6	0.0				16.8	32	1	WSW	4	1003.2	17.1	27	1	S	7	1001.7
Highest		25.2	38.3	10.8	13.6	13.5	SSW	78		35.3	82	8	SSW	24	1023.0	34.8	81	8	NNE	35	1020.7
Total				47.2	249.0	236.8															

Temperature, humidity, pressure and rainfall observations are from Sydney (Observatory Hill) (station 066062). Cloud, evaporation and sunshine observations are from Sydney Airport AMO (station 066037). Wind observations are from Fort Denison (station 066022). Sydney Airport is about 10 km to the south of Observatory Hill.

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Sydney, New South Wales January 2018 Daily Weather Observations

Most observations from Observatory Hill, but some from Fort Denison and Sydney Airport.



Australian Government

Bureau of Meteorology

Date	Day	Temps		Rain	Evap	Sun	Max wind gust			9am						3pm					
		Min	Max				Dirn	Spd	Time	Temp	RH	Cld	Dirn	Spd	MSLP	Temp	RH	Cld	Dirn	Spd	MSLP
		°C	°C					km/h	local	°C	%	eighths		km/h	hPa	°C	%	eighths		km/h	hPa
1	Mo	20.5	29.8	0.6	7.8	12.3				25.2	64	1			1005.5	27.4	58	2			1005.1
2	Tu	20.5	27.0	0	7.4	7.2				23.4	68	5			1007.3	25.3	63	4			1003.9
3	We	19.9	25.1	1.4	5.8	6.0				22.7	64	6			1010.0	23.9	57	5			1012.4
4	Th	18.1	24.0	0.6	7.0	6.3				19.4	80	7			1017.2	22.2	56	4			1015.7
5	Fr	17.3	26.1	0.8	5.8	12.7				22.6	61	1			1017.5	24.3	56	2			1015.1
6	Sa	20.3	29.8	0	9.6	13.0				24.8	65	1			1017.6	27.5	57	2			1013.0
7	Su	22.4	43.4	0	11.0	11.1				29.8	50	0			1012.4	31.1	44	3			1010.0
8	Mo	22.0	31.9	2.4	12.4	4.2				25.8	61	7			1014.5	29.9	43	5	E	19	1011.0
9	Tu	22.1	30.2	18.6	14.2	1.4				22.6	85	7	N	17	1014.5	28.1	58	7	N	15	1011.4
10	We	18.6	24.9	5.8	8.0	4.1	SE	44	23:42	20.7	65	8	SE	17	1019.2	23.5	52	7	SE	19	1018.6
11	Th	19.3	24.0	0	6.8	0.2				21.9	64	7	ENE	7	1018.7	23.2	64	8	ENE	19	1016.4
12	Fr	21.6	27.2	2.8	4.2	6.6	NE	44	16:50	23.7	78	7	N	11	1013.6	26.0	70	1	ENE	24	1009.0
13	Sa	23.2	34.3	0.2	6.8	4.7	SW	69	11:37	25.9	72	7	WSW	15	1001.6	31.1	36	5	SW	30	1000.3
14	Su	14.8	24.5	1.8	8.6	10.3	S	72	16:09	17.7	54	5	S	24	1007.1	23.4	35	2	SSE	41	1010.1
15	Mo	16.3	26.5	0.2	11.0	7.8	SSE	61	14:51	18.8	50	2	S	20	1015.0	25.3	41	3	SSE	30	1013.6
16	Tu	18.3	23.5	0	10.0	7.8				19.8	53	7	S	24	1020.0	22.1	40	7	S	31	1019.5
17	We	17.3	25.8	0	7.2	12.6	SSW	46	00:13	21.3	47	1	SW	22	1019.6	24.8	36	1	S	20	1018.4
18	Th	15.7	26.2	0	9.0	12.7	E	35	15:40	20.0	58	3	W	9	1020.0	23.9	46	1	E	20	1016.7
19	Fr	16.9	28.3	0	8.0	13.3	E	31	14:17	22.8	54	0	W	6	1015.9	27.8	36	0	E	20	1013.6
20	Sa	17.4	30.4	0	11.0	13.1	E	37	14:59	23.3	56	0	WNW	9	1015.6	26.1	49	2	E	22	1013.2
21	Su	19.5	27.3	0	12.0	12.3	ENE	52	16:55	24.7	63	1	N	13	1014.2	26.4	57	1	ENE	28	1011.5
22	Mo	21.5	29.6	0	9.2	8.2				24.9	66	4	W	4	1009.9	28.6	51	7	E	20	1008.0
23	Tu	22.7	26.8	0	9.8	1.7	NNE	43	17:34	24.9	71	7	NNE	13	1011.5	23.9	76	7	NE	15	1011.5
24	We	21.8	28.0	0.4	4.2	8.3	NE	46	20:37	25.2	69	3	ESE	4	1011.8	27.7	63	6	ENE	22	1009.4
25	Th	22.5	27.1	0	10.2	1.6	NNE	37	00:11	23.7	78	7	E	7	1012.4	25.2	76	7	ENE	24	1010.5
26	Fr	23.5	27.4	0	3.6	1.1	ENE	39	14:49	23.8	85	8	ENE	7	1012.8	26.1	74	7	E	22	1010.9
27	Sa	23.8	27.9	0	5.6	9.1	ENE	41	16:49	24.8	82	7	ENE	24	1013.6	26.5	72	7	E	26	1011.7
28	Su	24.0	27.0	0	8.0	5.6	ENE	43	16:34	25.0	80	7	ENE	22	1014.9	25.8	71	6	ENE	30	1013.1
29	Mo	23.3	28.6	0	7.0	11.2	ENE	41	15:54	26.6	66	5	E	11	1014.4	28.1	58	2	E	28	1011.1
30	Tu	21.4	28.7	0	11.0	11.1	NE	48	15:32	26.1	63	1	N	11	1008.2	27.7	58	6	ENE	22	1003.1
31	We	18.0	22.0	2.2	10.8	0.0	S	59	21:55	19.0	73	8	SSW	24	1008.2	21.2	54	8	S	28	1008.7
Statistics for January 2018																					
Mean		20.1	27.8		8.5	7.7				23.3	65	4		13	1013.4	25.9	55	4		23	1011.5
Lowest		14.8	22.0		3.6	0.0				17.7	47	0	#	4	1001.6	21.2	35	0	#	15	1000.3
Highest		24.0	43.4	18.6	14.2	13.3	S	72		29.8	85	8	#	24	1020.0	31.1	76	8	SSE	41	1019.5
Total				37.8	263.0	237.6															

Temperature, humidity, pressure and rainfall observations are from Sydney (Observatory Hill) (station 066062). Cloud, evaporation and sunshine observations are from Sydney Airport AMO (station 066037). Wind observations are from Fort Denison (station 066022). Sydney Airport is about 10 km to the south of Observatory Hill.

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Table 5: Flora species recorded on the development site and immediately adjacent vegetation during survey.

* = Exotic; HTW = High Threat Weeds; WONS = Weeds of National Significance. Provenance: AN = Native, but not locally native, E = Exotic, LN = Locally Native, Affinities to vegetation communities per OEH (2013): PD = positive diagnostic, U = uninformative, C = Constant.

Family	Scientific Name	Common Name	Where recorded						Provenance	Affinity		
			RF02 Gallery Rainforest	DSF06 Foreshore Forest	Gore Creek Channel	Weedy boundary/batter	PCT 1776 Historic gardens	PCT 684 Hospital grounds		DSF04	DSF06	RF02
Altingiaceae	<i>Liquidambar styraciflua</i> *	Liquidambar					x	x	E			
Apocynaceae	<i>Araujia sericifera</i> * HTW	Moth Vine				x			E			
Apocynaceae	<i>Parsonsia straminea</i>	Common Silkpod			x				LN			
Arecaceae	<i>Archontophoenix cunninghamiana</i>	Bangalow Palm			x			x	LN			
Arecaceae	<i>Phoenix canariensis</i> * HTW	Canary Island Date Palm				x	x		E			
Arecaceae	<i>Syagrus romanzoffianum</i> *	Cocos Palm						x	E			
Arecaceae	<i>Livistona chinensis</i> *	Chinese Fan Palm						x	E			
Asparagaceae	<i>Asparagus aethiopicus</i> * HTW, WONS	Ground Asparagus	x	x					E			
Aspleniaceae	<i>Asplenium australasicum</i>	Birds Nest Fern	x	x					LN			U
Asteraceae	<i>Bidens pilosa</i> *	Cobbler's Pegs				x			E			
Asteraceae	<i>Cirsium vulgare</i> *	Spear Thistle				x			E			
Asteraceae	<i>Conyza</i> sp.*	-				x			E			
Bignoniaceae	<i>Jacaranda mimosifolia</i> *	Jacaranda					x	x	E			
Casuarinaceae	<i>Allocasuarina littoralis</i>	Black She-oak			x				LN	PD	PD	
Casuarinaceae	<i>Allocasuarina torulosa</i>	Forest Oak					x		LN	U		U
Commelinaceae	<i>Tradescantia fluminensis</i> * HTW	Trad			x				E			
Convolvulaceae	<i>Ipomoea cairica</i> * HTW	Blue Morning Glory				x			E			
Cunoniaceae	<i>Ceratopetalum apetalum</i>	Coachwood		x					LN			PD
Cupressaceae	<i>Cupressus torulosa</i> *	Bhutan Cypress						x	E			
Cupressaceae	<i>Cupressocyparis leylandii</i> *	Leyland Cypress						x	E			
Cupressaceae	<i>Thuja orientalis</i> *	Bookleaf Conifer					x		E			
Cupressaceae	<i>Cupressus cashmeriana</i> *	Kashmir Cypress						x	E			
Cupressaceae	<i>Cedrus atlantica</i> *	Atlantic Cedar						x	E			
Cyatheaceae	<i>Cyathea</i> sp.	Tree Fern			x				LN			
Elaeocarpaceae	<i>Elaeocarpus reticulatus</i>	Blueberry Ash			x				LN	PD	PD	U
Euphorbiaceae	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	Cheese Tree				x	x		LN	PD	PD	U
Euphorbiaceae	<i>Homalanthus populifolius</i>	Bleeding Heart				x			LN			
Euphorbiaceae	<i>Triadica sebifera</i> * HTW	Chinese Tallowwood						x	E			
Fabaceae	<i>Erythrina x sykesii</i> *	Coral Tree				x	x	x	E			
Fabaceae	<i>Glycine clandestina</i>	Twining Glycine	x						LN	U	U	U
Fabaceae	<i>Robinia pseudoacacia</i> * HTW	Golden Rain Tree					x		E			
Ginkgoaceae	<i>Ginkgo biloba</i> *	Maidenhair Tree						x	E			
Lauraceae	<i>Cinnamomum camphora</i> * HTW	Camphor Laurel					x	x	E			
Lomandraceae	<i>Lomandra longifolia</i>	Spiky-headed Mat-rush	x	x					LN	PD	PD	C
Lythraceae	<i>Lagerstroemia indica</i> *	Crepe Myrtle					x		E			

Family	Scientific Name	Common Name	Where recorded						Provenance	Affinity		
			RF02 Gallery Rainforest	DSF06 Foreshore Forest	Gore Creek Channel	Weedy boundary/batter	PCT 1776 Historic gardens	PCT 684 Hospital grounds		DSF04	DSF06	RF02
Magnoliaceae	<i>Magnolia grandiflora*</i>	Southern Magnolia						x	E			
Meliaceae	<i>Melia azedarach</i>	White Cedar						x	LN			
Mimosaceae	<i>Acacia falcata</i>	Hickory Wattle					x		LN			
Moraceae	<i>Ficus coronata</i>	Sandpaper Fig	x						LN			
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson Fig		x		x	x	x	LN		PD	
Musaceae	<i>Musa acuminata*</i>	Banana	x	x					E			
Myrsinaceae	<i>Myrsine variabilis</i>	Muttonwood	x	x					LN		U	
Myrtaceae	<i>Acmena smithii</i>	Lilly Pilly						x	LN			U
Myrtaceae	<i>Angophora bakeri</i>	Narrow-leaved Apple					x		LN			
Myrtaceae	<i>Angophora costata</i>	Smooth-barked Apple					x	x	LN	PD	PD	
Myrtaceae	<i>Callistemon salignus</i>	Willow Bottlebrush						x	LN			
Myrtaceae	<i>Corymbia citriodora</i>	Lemon-scented Gum					x		AN			
Myrtaceae	<i>Eucalyptus botryoides</i>	Bangalay					x		LN		U	
Myrtaceae	<i>Eucalyptus pilularis</i>	Blackbutt	x	x	x		x	x	LN	PD	U	U
Myrtaceae	<i>Eucalyptus resinifera</i>	Red Mahogany					x		LN	PD	PD	
Myrtaceae	<i>Eucalyptus saligna</i>	Sydney Blue Gum				x	x	x	LN			
Myrtaceae	<i>Eucalyptus saligna x botryoides</i>	Blue Gum x Bangalay					x		LN			
Myrtaceae	<i>Eucalyptus scoparia</i>	Wallangarra White Gum					x		AN			
Myrtaceae	<i>Eucalyptus sideroxylon</i>	Mugga Ironbark						x	LN			
Myrtaceae	<i>Melaleuca styphelioides</i>	Prickly-leaved Tea Tree				x			LN			
Ochnaceae	<i>Ochna serrulata* HTW</i>	Mickey Mouse Plant	x	x					E			
Oleaceae	<i>Ligustrum lucidum* HTW</i>	Large-leaved Privet				x			E			
Oleaceae	<i>Ligustrum sinense* HTW</i>	Small-leaved Privet	x	x	x				E			
Oleaceae	<i>Notelaea longifolia</i>	Mock Olive	x	x					LN	PD	PD	U
Oleaceae	<i>Olea europea* HTW</i>	African Olive						x	E			
Oleaceae	<i>Ligustrum lucidum* HTW</i>	Large-leaved Privet					x	x	E			
Oxalidaceae	<i>Oxalis perennans</i>	-							LN			
Oxalidaceae	<i>Oxalis</i> sp.	Oxalis			x				LN			
Pinaceae	<i>Cedrus deodara*</i>	Deodar					x	x	E			
Pinaceae	<i>Pinus radiata* HTW</i>	Radiata Pine					x		E			
Pinaceae	<i>Pinus patula* HTW</i>	Patula Pine						x	E			
Pittosporaceae	<i>Hymenosporum flavum</i>	Native Frangipani						x	LN			
Pittosporaceae	<i>Pittosporum undulatum</i>	Sweet Pittosporum	x	x	x	x	x	x	LN	PD	PD	PD
Platanaceae	<i>Platanus digitata*</i>	Plane Tree					x		E			
Poaceae	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Rice Grass			x				LN	PD	PD	
Poaceae	<i>Phyllostachys aurea* HTW</i>	Fishpole Bamboo				x			E			
Polypodiaceae	<i>Platynerium superbum</i>	Staghorn	x	x					LN			
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	Coast Banksia			x				LN	U	PD	
Rosaceae	<i>Pyrus calleryana*</i>	Callery Pear						x	E			

Family	Scientific Name	Common Name	Where recorded						Provenance	Affinity		
			RF02 Gallery Rainforest	DSF06 Foreshore Forest	Gore Creek Channel	Weedy boundary/batter	PCT 1776 Historic gardens	PCT 684 Hospital grounds		DSF04	DSF06	RF02
Salicaceae	<i>Salix matsudana</i> * <i>HTW</i>	Tortured Willow				x			E			
Salicaceae	<i>Populus deltoides</i> *	Eastern Cottonwood						x	E			
Sapindaceae	<i>Acer negundo</i> *	Box Elder			x			x	E			
Sapindaceae	<i>Cupaniopsis anachardiodes</i>	Tuckeroo					x		E			
Smilacaceae	<i>Smilax glycyphylla</i>	Sweet Sarsaparilla		x					LN		PD	U
Solanaceae	<i>Solanum mauritianum</i> *	Wild Tobacco Bush				x			E			
Theaceae	<i>Camellia japonica</i> *	Camellia					x		E			
Ulmaceae	<i>Celtis sinensis</i> *	Japanese Hackberry						x	E			
Urticaceae	<i>Parietaria judaica</i> *	Pellitory				x			E			
Verbeanaceae	<i>Lantana camara</i> * <i>HTW, WONS</i>	Lantana		x		x			E			
Vitaceae	<i>Cissus hypoglauca</i>	Water Vine	x	x	x				LN	U	U	

Table 6: Fauna species recorded during survey. Threatened species in bold type.

Fauna Group	Scientific Name	Common Name	Type of Record
Amphibian	<i>Litoria dentata</i>	Bleating Tree Frog	Audio recording – distant call, probably from riparian habitats along Gore Creek.
Reptile	<i>Lampropholis delicata</i>	Garden Skink	Observed – commonly observed scuttling through leaf litter across the site.
Reptile	<i>Physignathus lesueurii</i>	Eastern water dragon	Observed – nearby along the channelised part of Gore Creek.
Bird	<i>Vanellus miles</i>	Masked Lapwing	Audio recording – heard regularly, best habitats probably in Bob Campbell Oval.
Bird	<i>Cacatua galerita</i>	Sulphur-crested Cockatoo	Observed – regularly observed in canopy trees of the development site.
Bird	<i>Alisterus scapularis</i>	Australian King Parrot	Observed –observed feeding on the open lawns of the development site.
Bird	<i>Trichoglossus haematodus</i>	Rainbow Lorikeet	Observed - regularly observed in canopy trees of the development site.
Bird	<i>Eudynamys scolopacea</i>	Eastern Koel	Audio recording – seasonal visitor common to Sydney gardens in spring-summer.
Bird	<i>Scythrops novaehollandiae</i>	Channel-billed Cuckoo	Audio recording – seasonal visitor common to Sydney gardens in spring-summer.
Bird	<i>Podargus strigoides</i>	Tawny Frogmouth	Observed – family group of three observed in a canopy tree in historic curtilage.
Bird	<i>Dacelo novaeguineae</i>	Laughing Kookaburra	Observed – observed nesting in aerial termite nest in historic curtilage.
Bird	<i>Psophodes olivaceus</i>	Eastern Whipbird	Heard – called from dense weedy vegetation along western boundary.
Bird	<i>Anthochaera carunculata</i>	Red Wattlebird	Audio recording – honeyeater regularly recorded in urban gardens.
Bird	<i>Manorina melanocephala</i>	Noisy Miner	Observed – aggressive small honeyeater that lives in large family groups.
Bird	<i>Acridotheres tristis*</i>	Common Myna	Audio recording –exotic bird that alienate hollows for native species.
Bird	<i>Oriolus sagittatus</i>	Olive-backed Oriole	Heard – probably feeding on fruits of native fig trees.
Bird	<i>Grallina cyanoleuca</i>	Australian Magpie-Lark	Heard – common urban species.
Bird	<i>Cracticus nigrogularis</i>	Pied Butcherbird	Observed –foraging in the deep leaf litter of the historic curtilage.
Bird	<i>Cracticus tibicen</i>	Australian Magpie	Observed – foraging in the lawns of the gardens.
Bird	<i>Strepera graculina</i>	Pied Currawong	Observed – commonly observed in the canopy.
Bird	<i>Corvus coronoides</i>	Australian Raven	Heard – commonly heard flying over during survey.
Mammal	<i>Pseudocheirus peregrinus</i>	Common Ringtail Possum	Observed – emerging from a hollow-bearing tree in the historic curtilage.
Mammal	<i>Trichosurus vulpecula</i>	Common Brushtail Possum	Observed – 2 dead in the grounds (cause of death unknown) and 1 live emerging from the same hollow-bearing tree (but a different hollow) as the Ringtail Possum.
Mammal	<i>Pteropus poliocephalus</i>	Grey-Headed Flying-fox	Audio recording and observed – chattering recorded all night on each night of recording, probably feeding on the fruit of a fig that was near the recorder. Also observed feeding on the flowers of Sydney Blue Gums in the historic curtilage.
Mammal	<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheathtail-bat	Call recorded – identification at probable level of certainty. Three short foraging calls recorded at 3:13 a.m. on 21 st November. The timing indicates it is not roosting on site and the few calls indicate a relatively low level of foraging activity in the historic curtilage at that time.
Mammal	<i>Mormopterus</i> sp.	Freetail-bat	Call recorded – identification at possible level of certainty.
Mammal	<i>Chalinolobus gouldii</i>	Gould’s Wattled Bat	Call recorded definite – identification at definite level of certainty. Many foraging calls were recorded throughout the survey period. A common bat that roosts in hollow-bearing trees or sometimes ceilings or basements of old buildings.
Mammal	<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	Call recorded – identification at probable level of certainty. A short series of calls were recorded on two occasions – at 11.09 p.m. on 16th November and again at 3.40 a.m. on 21st November 2017. This species roosts by day and rests at night in sandstone overhangs and forages near its roost sites. The sandstone escarpment below the development site probably provide roosting sites and the historic curtilage probably occurs within its foraging range.
Mammal	<i>Canis familiaris*</i>	Dog	Audio recording – regular stationary barking, so assumed to be fenced in neighbouring properties.

Table 7: Predicted threatened species (ecosystem credit species), their predicted occurrence and their sensitivity to gain.

Species	Status BC Act (2016)	Status EPBC Act (1999)	Habitat description	Habitat constraints	Geographic restrictions	Vegetation zone	Confirmed predicted species	Reason	Sensitivity to potential gain
<i>Calyptorhynchus lathami</i> Glossy Black-Cockatoo (foraging)	V	-	Occurs in open forest and woodlands along the coast and the Great Dividing Range. <i>Allocasuarina littoralis</i> and <i>Allocasuarina torulosa</i> important food sources. Dependant on large hollow-bearing trees in eucalypts for nesting.			VZ_1 (PCT 1776)	Yes	Suitable potential foraging habitat marginally available on site.	High
						VZ_2 (PCT 684)			
<i>Dasyurus maculatus</i> Spotted-tailed Quoll	V	E	Occurs in a number of forest habitats but requires large areas of relatively intact forest			VZ_1 (PCT 1776)	No	No suitable potential habitat on site. This species relies on large areas of well-connected habitat. The highly urbanised nature of the site and surrounding lands, and the absence of terrestrial shelter sites and poor quality foraging habitats available on site is not favoured by this species.	High
						VZ_2 (PCT 684)			
<i>Lathamus discolor</i> Swift Parrot (Foraging)	E	CE	Occurs on mainland between March and October where eucalypts are flowering profusely or where there are abundant lerp infestations.			VZ_1 (PCT 1776)	No	This species occurs on mainland Australia during the winter months and relies on the presence of winter flowering trees. The site does not provide an abundance of such suitable foraging habitats.	Moderate
						VZ_2 (PCT 684)			
<i>Miniopterus australis</i> Little Bentwing-bat (Foraging)	V	-	Roosts in caves and forages beneath tree canopies.			VZ_1 (PCT 1776)	Yes	Suitable potential habitat on site	High
						VZ_2 (PCT 684)			
<i>Miniopterus schreibersii oceanensis</i> Eastern Bentwing-bat (Foraging)	V	-	Roosts in caves and forages above tree canopies			VZ_1 (PCT 1776)	Yes	Suitable potential habitat on site	High
						VZ_2 (PCT 684)			
<i>Mormopterus norfolkensis</i> Eastern Freetail-bat	V	-	Occur in dry sclerophyll forest and woodland, roost in hollows and man-made structures.			VZ_1 (PCT 1776)	Yes	Suitable potential habitat on site	High
						VZ_2 (PCT 684)			
<i>Pandion cristatus</i> Eastern Osprey (Foraging)	V	-	Favours coastal areas, especially the mouths of large rivers, lagoons and lakes.			PCT 1776	No	This species is a fishing hawk and forages over waterways. The site does not provide such suitable foraging resources.	Moderate
<i>Phascolarctos cinereus</i> Koala (Foraging)	V	V	Occurs where suitable food trees present, generally on rich open valleys.			VZ_1 (PCT 1776)	No	No preferred foraging tree species occur on site. Records from this species from within 10 kilometres of the site are either historic or mistaken data entries.	High
						VZ_2 (PCT 684)			
<i>Pteropus poliocephalus</i> Grey-headed Flying-fox (Foraging)	V	V	Foraging habitat in flowering eucalypts, particularly winter-flowering species; camps in dense wet forest or rainforest gullies.			VZ_1 (PCT 1776)	Yes	Suitable potential habitat on site	High
						VZ_2 (PCT 684)			
<i>Anthochaera phrygia</i> Regent Honeyeater (Foraging)	CE	CE	Inhabits dry open forest and woodland, particularly Box-Ironbark woodland, and riparian forests of River Sheoak. Occasionally non-breeding flocks forage in Swamp Mahogany and Spotted Gum forests on central and north coast and rarely on the south coast			VZ_1 (PCT 1776)	No	This species rarely visits the Sydney area and usually forages on flowering Spotted Gums and Swamp Mahogany. There are no such foraging habitats on or near the site.	High
						VZ_2 (PCT 684)			
<i>Glossopsitta pusilla</i> Little Lorikeet	V	-	Mostly in dry open eucalypt forests and woodlands. Feeds on tree nectar and pollen, particularly profusely-flowering eucalypts, but also melaleucas and mistletoes and mistletoe fruit. Nomadic, movements probably related to food availability.			VZ_1 (PCT 1776)	Yes	Suitable potential habitat on site	High
						VZ_2 (PCT 684)			
<i>Petroica boodang</i> Scarlet Robin	V	-	Occurs in open forests and woodlands. During winter, will visit more open habitats such as grasslands, farmland and urban parks and gardens but abundant logs and coarse woody			PCT 1776	No	This species requires abundant logs and coarse woody debris for perching and foraging. Although they occasionally are found in open farmland and parks, the lack of structural components across the site make the	Moderate

Species	Status BC Act (2016)	Status EPBC Act (1999)	Habitat description	Habitat constraints	Geographic restrictions	Vegetation zone	Confirmed predicted species	Reason	Sensitivity to potential gain
			debris are important structural components of its habitat.					habitats unideal.	
<i>Haliaeetus leucogaster</i> White-bellied Sea-Eagle (Foraging)	V	-	Most commonly seen foraging over water bodies or near coastal waters; will occasionally forage over open country for carrion. Highly mobile and travels long distances. Nests and roosts high in trees in well-timbered country.			PCT 1776	No	Suitable potential nesting habitat on site. This species forages over large waterbodies and perches in areas where view of prey is unobstructed. Although the site is within relatively close proximity to suitable waterbodies, it does not provide suitable foraging habitat.	High

Table 8: Detailed list of Candidate threatened species (species credit species) and presence status on site as determined by targeted survey, indicating also where presence was assumed and/or where presence was determined by expert report.

Species	Status BC Act (2016)	Status EPBC Act (1999)	Confirmed candidate species	Sensitivity to potential gain	Species presence	Survey period												Vegetation zone	Area of suitable vegetation	
							Optimal survey period							Time surveyed						
							J	F	M	A	M	J		J	A	S	O			N
Ancistrachne maidenii	V	-	No	High																
Anthochaera phrygia Regent Honeyeater (Breeding)	CE	CE	No	High																
Caladenia tessellata Thick Lip Spider Orchid	E	V	No	Moderate																
Callistemon linearifolius Netted Bottle Brush	V	-	No	High																
Calyptorhynchus lathami Glossy Black-Cockatoo (Breeding)	V	-	No	High																
Chalinolobus dwyeri Large-eared Pied Bat	V	V	Yes	Very High	Yes (surveyed)												VZ_1 (PCT 1776)	0.44ha		
Cryptostylis hunteriana Leafless Tongue Orchid	V	V	No	High																
Darwinia peduncularis	V	-	No	Moderate																
Haliaeetus leucogaster White-bellied Sea-Eagle (Breeding)	V	-	No	High																
Hibbertia puberula	E	-	No	High																
Hibbertia spanantha Julian's Hibbertia	CE	CE	No	N/A																
Lathamus discolor Swift Parrot (Breeding)	E	CE	No	Moderate																
Litoria aurea Green and Golden Bell Frog	E	V	No	High																
Litoria brevipalmata Green-thighed Frog	V	-	No	Moderate																
Melaleuca groveana Grove's Paperbark	V	-	No	High																

Species	Status BC Act (2016)	Status EPBC Act (1999)	Confirmed candidate species	Sensitivity to potential gain	Species presence	Survey period												Vegetation zone	Area of suitable vegetation	
							Optimal survey period							Time surveyed						
							J	F	M	A	M	J		J	A	S	O			N
<i>Miniopterus australis</i> Little Bentwing-bat (Breeding)	V	-	No	Very High																
<i>Miniopterus orianae oceanensis</i> Eastern Bentwing-bat (Breeding)	V	-	No	Very High																
<i>Mixophyes iteratus</i> Giant Barred Frog	E	E	No	Moderate																
<i>Myotis macropus</i> Southern Myotis	V	-	Yes	High	No (surveyed)													PCT 1776_Low	0.61ha	
<i>Pandion cristatus</i> Eastern Osprey (Breeding)	V	-	No	Moderate																
<i>Petaurus norfolcensis</i> Squirrel Glider	V	-	No	High																
<i>Phascolarctos cinereus</i> Koala (Breeding)	V	V	No	High																
<i>Pimelea curviflora</i> var. <i>curviflora</i>	V	V	No	High																
<i>Pteropus poliocephalus</i> Grey-headed Flying-fox (Breeding)	V	V	No	High																
<i>Tetratheca glandulosa</i>	V	-	No	High																

Table 9: Species credit species recorded on site and their habitat features associated with it, and its abundance on site as per Section 6.4.1.34 of the BAM (2017).

<i>Chalinolobus dwyeri</i> Large-eared Pied Bat				
Biodiversity risk	Very High		Biodiversity risk weighting	3
Habitat feature	On site	Area (ha)	Abundance (%)	Notes
Caves, cliffs and/or escarpments	No	NA	NA	Suitable habitat features occur below the escarpment above Gore Creek.
Disused and/or mine shafts	No	NA	NA	Not Applicable
Rocky outcropping with cracks and crevices	Yes	0.03ha	Approximately 1% of the total site area	The extent of this habitat on site is very small and is made up of low stacked rocks, likely to have been artificially formed. The areas where this habitat feature occurs is in low, open and well-lit areas likely deterring use of habitat. Low rocky areas on the eastern side of the site are not considered to provide important habitat for this species.
Well-timbered areas with gullies	Neighbouring the western boundary of the site along Gore Creek	0.10 hectares on site, along south-west boundary	3% of the total site area	The extent of suitable gullied areas will not be impacted by the proposal.
Fertile 'valley' or 'plain' on site	No	NA	NA	NA

Table 10: Measures to be implemented before, during and after construction to avoid and minimise the impacts of the project, including action, outcome, timing and responsibility.

MEASURES TO AVOID AND MINIMISE IMPACTS							
Area	Management activity	Action	Outcome	Sequencing and Timing of Actions			Responsibility
				Before Construction	During Construction	After Construction	
All Areas	Fencing	Erect exclusion fencing and gates.	Prevent accidental incursion into protected vegetation.	✓	✓		Contractor
	Erosion and sedimentation controls	Install erosion and sedimentation controls on the development site.	Prevent downslope sedimentation	✓	✓		Contractor
	Nest Boxes	Install nest boxes according to species requirements (e.g. clusters of bat boxes).	Provide replacement habitat for hollow-bearing trees to be felled	✓			Project Ecologist
		Monitoring of Nest boxes	Provide monitoring on the condition and success of installed nest boxes			✓	Bush regenerator Maintenance staff
Weed infested slope	APZ Management	General tree removal under arborist supervision.	Trees felled without damage to retained vegetation	✓	✓		Arborist Contractor
		Hollow tree removal under ecological supervision.	Trees felled without trauma to resident fauna.	✓	✓		Project Ecologist Contractor
		Understorey across the site is to be managed as an Inner Protection Zone (IPA).	Acceptable bushfire hazard.		✓	✓	Landscape Architect Bushfire Consultant Maintenance Staff
	Primary weeding	If batter to be maintained, intense weed removal along weedy slope. Protective material (e.g. jute matting) to be used to stabilise soil.	Weeds controlled.	✓	✓		Landscape Architect Maintenance Staff
	Secondary weeding	Follow up weeding as required.	Weeds controlled.		✓	✓	Landscape Architect Maintenance Staff
	Planting	Dense plantings of species appropriate to vegetation type and of low fire hazard per Landscape Plan.	Slope stabilised and vegetated with native plants of low fire risk.	✓	✓	✓	Landscape Architect Maintenance Staff
	Maintenance	Watering and weeding as required per Landscape Plan.	Slope stabilised and vegetated with native plants of low fire risk.		✓	✓	Maintenance Staff
PCT 684 Landscaped gardens (native/exotic)	Fencing	Erect protective fencing around trees to be retained under Arborist supervision.	Trees and vegetation protected from construction activities.	✓	✓		Contractor
	Tree removal	General tree removal under arborist supervision.	Trees felled without damage to retained vegetation	✓	✓		Arborist Contractor
		Hollow tree removal under ecological supervision.	Trees felled without trauma to resident fauna.	✓	✓		Project Ecologist Contractor
	Planting	Enrichment planting – particularly of understorey.	Diverse and structurally intact vegetation reinstated with aesthetically-pleasing gardens absent of environmental weeds.	✓	✓	✓	Landscape Architect Maintenance staff
	Maintenance	Watering and weeding as required per Landscape Plan.	Diverse and structurally intact vegetation reinstated.			✓	Landscape Architect Maintenance staff
PCT 1776 Coastal Enriched Sandstone Dry Forest	Fencing	Erect protective fencing around trees to be retained under Arborist supervision.	Trees and vegetation protected from construction activities.	✓	✓		Contractor
	Targeted weeding (if required)	Bush regeneration methods to be employed to control weeds.	Weeds controlled.	✓	✓	✓	
	Follow up weeding	Follow up weeding as required.	Weeds controlled.			✓	
	Maintenance	Watering and weeding as required per Landscape Plan.	Diverse and structurally intact vegetation reinstated.			✓	Landscape Architect Maintenance Staff
PCT 1778 Coastal Sandstone Foreshores Forest	Fencing	Erect protective fencing.	Trees and vegetation protected from construction activities.	✓	✓		Contractor
	Primary weeding	Bush regeneration methods employed to control weeds.	Weeds controlled.	✓	✓		Bush Regenerator (in consultation with Council) Maintenance Staff
	Secondary weeding	Follow up weeding as required.	Weeds controlled.		✓	✓	Bush Regenerator (in consultation with Council) Maintenance Staff
	Maintenance	Watering and weeding as required per Landscape Plan.	Diverse and structurally intact vegetation reinstated.		✓	✓	Bush Regenerator (in consultation with Council) Maintenance Staff

MEASURES TO AVOID AND MINIMISE IMPACTS							
Area	Management activity	Action	Outcome	Sequencing and Timing of Actions			Responsibility
				Before Construction	During Construction	After Construction	
PCT 1828 Coastal Sandstone Gallery Rainforest	Fencing	Erect protective fencing.	Trees and vegetation protected from construction activities.	✓	✓		Contractor
	Primary weeding	Bush regeneration methods employed to control weeds.	Weeds controlled.	✓	✓		Bush Regenerator (in consultation with Council) Maintenance Staff
	Secondary weeding	Follow up weeding as required.	Weeds controlled.		✓	✓	Bush Regenerator (in consultation with Council) Maintenance Staff
	Maintenance	Watering and weeding as required per Landscape Plan.	Diverse and structurally intact vegetation reinstated.		✓	✓	Bush Regenerator (in consultation with Council) Maintenance Staff