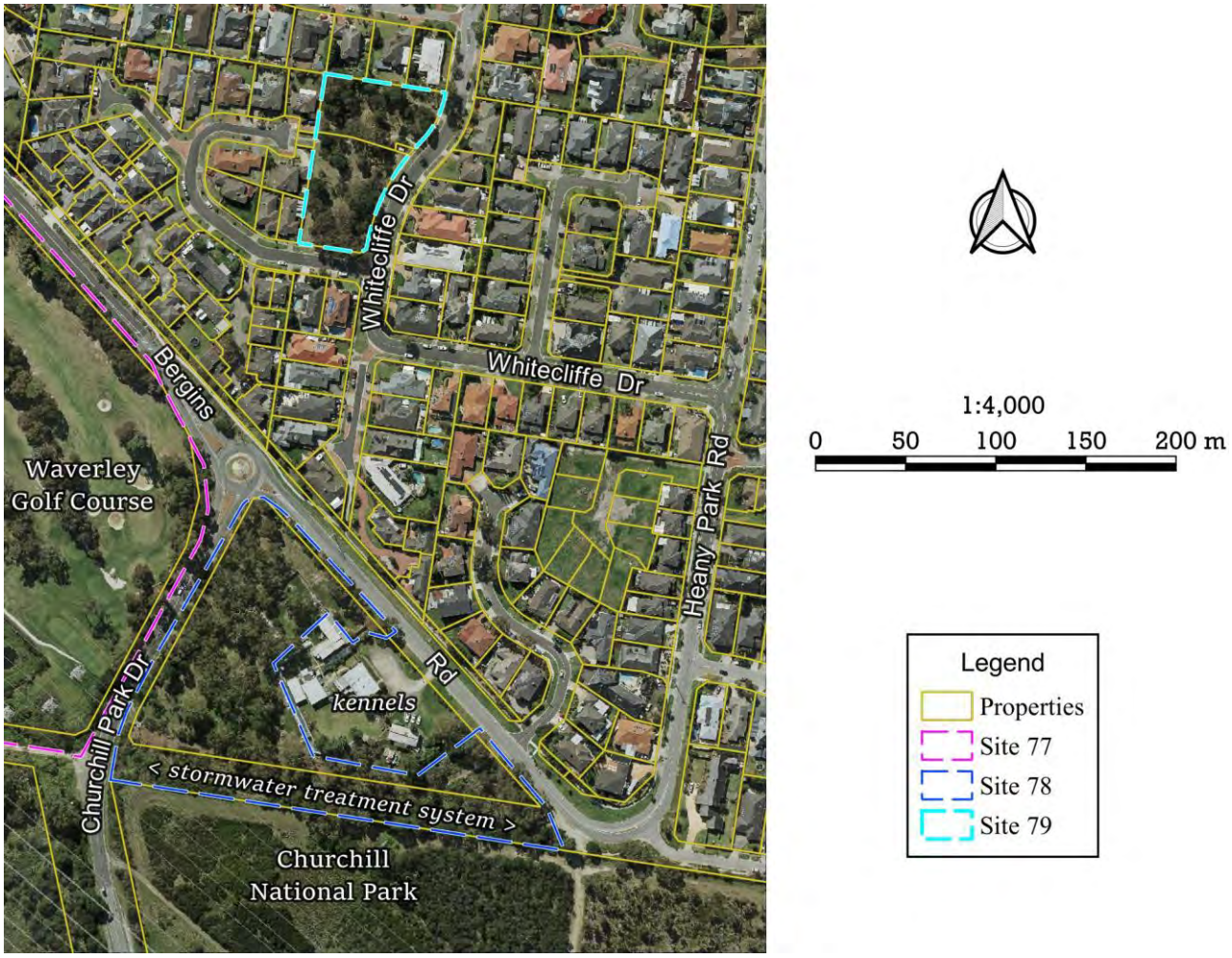
Site 78. Bergins Rd Extension, Rowville

A 1.8 ha area with a stormwater treatment system, agistment area and roadside, each with native vegetation.

Summary of significant features:

- State significance: a patch of the regionally-endangered vegetation type, Swampy Woodland;
- Locally significant: viable populations of several plant species that are threatened with dying out in Knox.



Boundaries

This 1.84-hectare site is outlined with mid-blue dashes on the aerial photograph above. The southern edge follows the fence of Churchill National Park. The other boundaries mainly follow fences and the kerbs of the adjoining roads, diverting around the more intensely developed part of the kennels.

Land use and tenure: A substantial part of the site is occupied by treed parts of Diamond's Kennels. Other parts are used as road verge and for drainage and stormwater treatment. The system of stormwater treatment wetlands marked on the aerial photograph above is on the disused road reservation for Police Rd.

Site description

This site lies at the foot of the Lysterfield Hills at elevations of approximately 60 m, with a gentle southwesterly slope. Prior to settlement, it would have been poorly drained but without an obvious watercourse. Now, a drain with a system of stormwater treatment wetlands has been constructed to cope with the increased runoff and pollution created by urban development uphill.

The bedrock is hornfels created by metamorphosis of Lower Devonian siltstone. In part of the site, along and adjacent to the Bergins Rd roadside, the soil is poorly drained clay loam formed from decomposition of the hornfels. The author believes that the soil in the rest of the site is silt that has gravitated from uphill, even though geological survey maps do not show the hill's colluvium extending that far south.

In the absence of silt, the native vegetation would be expected to be Valley Heathy Forest, and this is what one finds along most of the Bergins Rd edge of the site. A notable feature of this strip is the very large Lightwoods (*Acacia implexa*). Elsewhere, the vegetation is Swampy Woodland dominated by Swamp Gums (*Eucalyptus ovata*), corroborating the interpretation that much of the site's topsoil is silt deposited from further uphill.

In the 2002 site inspection, the highest density of rare plant species was observed in the site's southwestern corner. Several such species regenerated following scalping of topsoil by machinery in c. 2000. The four most significant species – *Gratiola pubescens, Hypolepis rugosula, Drosera peltata* s.l. and *Juncus fockei/holoschoenus* – were destroyed in 2004 during construction of the stormwater treatment system and have not been seen again.

The revegetation that occurred in association with the stormwater project includes a mixture of indigenous species (some of them locally rare) and species from elsewhere in the Melbourne region. Overall, the stormwater works have had a bad effect on locally threatened plants but they have reduced the average density of introduced plants and probably improved the habitat for fauna (particularly frogs).

Diamond's Kennels occupies a substantial part of the site and has little native vegetation other than mature trees, concentrated in the northwest.

Relationship to other land

Many native birds, bats, frogs and insects would be likely to move between this site, Churchill National Park, the Waverley Golf Club (Site 77), the Dandenong Creek habitat corridor (via the Dandenong Police Paddocks Reserve) and the Lysterfield Hills. The continuity of the tree canopy across all of these sites encourages such movements.

Bioregion: Gippsland Plain

Habitat types

Wetland (EVC 74, listed as regionally Endangered but in this case the wetlands are artificial): Estimated to contain 500 m² of vegetation (most of it planted) in fair ecological condition (rating C).

Trees, vines and ferns: Absent.

Shrubs: A small number of *Senecio minimus* have volunteered around the edges of the wetlands.

Aquatic and semi-aquatic flora: Dominated variously by *Typha domingensis, Persicaria decipiens, Eleocharis acuta, Eleocharis sphacelata, Juncus amabilis* or *Juncus sarophorus*. It is difficult to tell how much of this has been planted, but the mixture closely matches the non-planted wetland vegetation in a dam 300 m to the east.

Swampy Woodland (EVC 937, **regionally Endangered**): Estimated as 0.7 ha in area, comprising 0.2 ha in fair ecological condition (rating C) and 0.5 ha in poor ecological condition (rating D). 44 indigenous plant species were recorded in 2002, dropping to 30 in June 2008 and approximately 14 in 2024.

Canopy trees: *Eucalyptus ovata* is strongly dominant.

Sub-canopy trees: *Acacia mearnsii* and *A. melanoxylon*.

Shrubs: The naturally occurring species are low in diversity and density due to clearing. The most abundant of these are *Kunzea leptospermoides, Leptospermum scoparium* and (formerly) *Ozothamnus ferrugineus* and *Senecio minimus*.

Vines: Absent.

Ferns: There is a patch of *Pteridium esculentum* in the southwest. *Hypolepis rugosula* was destroyed in 2004.

Groundcover: Among the non-planted species, the dominant groundcover species are *Gahnia radula* and various *Juncus* species (particularly *J. amabilis*). Other characteristic species include *Carex appressa* and abundant *Epilobium hirtigerum*. Characteristic species that were destroyed in 2004 include *Centella cordifolia, Gratiola pubescens* and *Isolepis inundata*.

Valley Heathy Forest (EVC 127, **Endangered**) beside Bergins Rd: Estimated as 0.1 ha, all in poor ecological condition (rating D). 14 indigenous plant species were recorded in 2002, nearly all of which were still present in June 2008 and September 2024.

Canopy trees: Dominated by *Eucalyptus cephalocarpa* and *E. radiata*, also with outliers of *E. ovata*.

Sub-canopy trees: *Acacia mearnsii, Allocasuarina littoralis, Exocarpos cupressiformis* and *Acacia implexa* to 10 m tall.

Shrubs: Very scant, but *Kunzea leptospermoides* and *Acacia paradoxa* are present.

Vines and ferns: Absent.

Groundcover: Predominantly introduced grass; also *Gahnia radula*.

Plant species

The following plant species were observed by the author. Asterisks indicate indigenous species only seen in the 2002 survey, before the stormwater treatment system cleared a lot of the vegetation in 2004. Daggers (†) indicate indigenous species seen in 2008 but not in the brief inspection in 2024. Additional species would be detectable in summer. The column headed 'Risk' indicates the indigenous species' risk of dying out in Knox as follows: 'C'=Critically Endangered; 'E'=Endangered; and 'V'=Vulnerable. In addition, the species with names in bold are rare throughout the Melbourne region.

Indigenous moss
Campylopus introflexus, Heath Star Moss

Risk	Wild indigenous vascular species
V	*Acacia implexa*, Lightwood
V	*Acacia mearnsii*, Black Wattle
V	*Acacia melanoxylon*, Blackwood
	Acacia paradoxa, Hedge Wattle
	Acaena novae-zelandiae, Bidgee-widgee
V	*Allocasuarina littoralis*, Black Sheoak
C	*Amyema pendula*, Drooping Mistletoe†
	Bursaria spinosa, Sweet Bursaria
	Carex appressa, Tall Sedge*
E	*Centella cordifolia*, Centella*
	Crassula decumbens, Spreading Crassula
	Dianella longifolia var. *longifolia*, Pale Flax-lily*
	Dichondra repens, Kidney-weed†
N	*Drosera peltata* s.l., Pale Sundew*
V	*Epilobium billardiereanum* subsp. *cinereum*, Variable Willow-herb†
	Epilobium hirtigerum, Hairy Willow-herb*
E	*Eucalyptus cephalocarpa*, Mealy Stringybark
V	*Eucalyptus ovata*, Swamp Gum
E	*Eucalyptus radiata*, Narrow-leaved Peppermint
	Euchiton japonicus, Creeping Cudweed*
V	*Exocarpos cupressiformis*, Cherry Ballart
C	*Gahnia radula*, Thatch Saw-sedge
E	***Geranium gardneri*, Rough Crane's-bill†**
	Goodenia ovata, Hop Goodenia*
C	***Gratiola pubescens*, Glandular Brooklime***
E	*Hypericum gramineum*, Small St John's Wort*
C	*Hypolepis rugosula*, Ruddy Ground-fern*
	Isolepis inundata, Swamp Club-rush*
	Juncus amabilis, Hollow Rush
	Juncus bufonius, Toad Rush*
	Juncus gregiflorus, Green Rush*
C	*Juncus fockei/holoschoenus*, a joint-leaf Rush*
	Juncus pallidus, Pale Rush†
E	*Juncus planifolius*, Broad-leaf Rush*
	Juncus sarophorus, Broom Rush
E	*Juncus subsecundus*, Finger Rush*
	Kunzea leptospermoides, Yarra Burgan
	Lachnagrostis filiformis, Common Blown-grass†
	Leptospermum scoparium, Manuka
	Lomandra longifolia, Spiny-headed Mat-rush*
	Lythrum hyssopifolia, Lesser Loosestrife†
V	*Melicytus dentatus*, Tree Violet (×1, probably an offspring of planted plants)
	Microlaena stipoides, Weeping Grass†
C	*Muellerina eucalyptoides*, Creeping Mistletoe*
V	*Ozothamnus ferrugineus*, Tree Everlasting†
	Persicaria decipiens, Slender Knotweed (perhaps planted)†
	Poa morrisii, Soft Tussock-grass*
	Poranthera microphylla, Small Poranthera*
	Pteridium esculentum, Austral Bracken†
	Schoenus apogon, Common Bog-rush*
	Senecio minimus, Shrubby Fireweed†
	Senecio quadridentatus, Cotton Fireweed
V	*Solanum laciniatum*, Large Kangaroo Apple
	Typha domingensis, Cumbungi

Risk	Planted species
	Bursaria spinosa, Sweet Bursaria
	Calocephalus lacteus, Milky Beauty-heads
	Carex appressa, Tall Sedge
E	*Carex fascicularis*, Tassel Sedge
V	*Coprosma quadrifida*, Prickly Currant-bush

Risk	Planted species
V	*Crassula helmsii*, Swamp Crassula
	Cycnogeton procerum, Water-ribbons
V	*Eleocharis acuta*, Common Spike-rush
	Eleocharis sphacelata, Tall Spike-rush
E	*Gahnia sieberiana*, Red-fruit Saw-sedge
	Goodenia ovata, Hop Goodenia
C	*Indigofera australis*, Austral Indigo
E	*Melaleuca ericifolia*, Swamp Paperbark
V	*Melicytus dentatus*, Tree Violet
E	*Poa labillardierei*, Common Tussock-grass
C	*Pomaderris racemosa*, Cluster Pomaderris
	Schoenoplectus tabernaemontani, River Club-rush
	Themeda triandra, Kangaroo Grass
V	*Triglochin striata*, Streaked Arrow-grass

Introduced species
Agrostis capillaris, Brown-top Bent
Allium triquetrum, Angled Onion
Cassinia sifton, Sifton Bush
Cenchrus clandestinus, Kikuyu Grass
Chrysanthemoides monilifera monilifera, Boneseed

Introduced species
Cirsium vulgare, Spear Thistle
Conium maculatum, Hemlock
Cyperus eragrostis, Drain Flat-sedge
Dactylis glomerata, Cocksfoot
Ehrharta erecta, Panic Veldt-grass
Erigeron sumatrensis, Fleabane
Fumaria officinalis spp. agg., Fumitory
Galium aparine, Cleavers
Holcus lanatus, Yorkshire Fog
Juncus articulatus, Jointed Rush
Oxalis incarnata, Pale Wood-sorrel
Paspalum dilatatum, Paspalum
Paspalum distichum, Water Couch
Phytolacca octandra, Red-ink Weed
Ranunculus repens, Creeping Buttercup
Rubus anglocandicans, Blackberry
Rumex crispus, Curled Dock
Symphyotrichum subulatum, Aster-weed
Ulex europaeus, Gorse (Furze)
Watsonia meriana var. *bulbillifera*, Bulbil Watsonia
Zantedeschia aethiopica, White Arum Lily

Notes concerning some of the locally-threatened plant species

Drosera peltata s.l. (Pale Sundew). A single plant was found beneath the transmission lines in July 2002, destroyed in 2004.

Geranium gardneri (Rough Crane's-bill): A solitary individual was seen in 2008. It could easily have escaped detection in the brief 2024 inspection.

Gratiola pubescens (Glandular Brooklime). One group of ten plants was found beneath the transmission lines in July 2002, destroyed in 2004 by installation of stormwater treatment ponds.

Hypolepis rugosula (Ruddy Ground-fern). Several were growing in the eastern corner of the site in July 2002, did not survive being buried under mulch in 2004.

Juncus fockei/holoschoenus (a joint-leaf rush). At least two plants were in the drainage line opposite Wallingford Place in July 2002, destroyed in 2004.

Fauna of special significance

None recorded.

Fauna habitat features

There are some old eucalypts with hollows that would suit roosting or nesting sites of native birds, bats, possums or invertebrates.

The stormwater treatment ponds provide habitat for hardier waterbirds and aquatic fauna such as frogs and invertebrates.

Significance ratings

The following is an assessment of the site's biological significance against the Department of Energy, Environment & Climate Action's standard criteria (Amos 2004).

Regionally-endangered Vegetation Type

The Swampy Woodland in the eastern third of the site meets the definition of a 'remnant patch' adopted by the standard criteria, i.e. a continuous area of at least 0.25 ha in which the cover of native understorey is at least 10% throughout. Swampy Woodland is regionally endangered. Under Appendix 3 of *Victoria's Native*

Vegetation Management – a Framework for Action (NRE 2002a), any remnant patch of a regionally-endangered EVC has a conservation significance rating of at least High. This translates to **State** significance under criterion 3.2.3 of Amos (2004).

Threatened Plants

Most or all of the locally-threatened plant species seen in 2024 have viable populations, thereby meeting criterion 3.1.5 for **Local** significance.

Threats

- Human-induced climate change, which is predicted to cause more severe droughts, heatwaves and storms, as well as substantially lower rainfall (particularly in winter);
- Decline of tree health, partly due to the abovementioned droughts and storms and the associated falling of the water table;
- Displacement of indigenous flora and fauna by environmental weeds, exacerbated by debilitation of the native vegetation by the impacts of climate change.

Strategic planning

- The previous (2010) edition of this report led to this site being covered by Schedule 2 of the Environmental Significance Overlay (ESO2), on the basis of the same matters of biological significance described above. As there has been no subsequent change affecting the rationale for applying ESO2 to the site, no recommendation is made for amending ESO2;
- The site is outside the Urban Growth Boundary;
- The site is zoned Green Wedge Zone – Schedule 2 (GWZ2). The associated minimum subdivision area of 4 ha means the site presently has no subdivision potential without a planning scheme amendment.

Information sources used in this assessment

- Site surveys by Dr Lorimer on 15th April and 31st July 2002 for this report's first edition and on 5th June 2008 for the second edition. The fieldwork included:
  - Compilation of lists of indigenous and introduced plant species in each of four parts of the site;
  - Description of the structural and floristic composition of each type of native vegetation;
  - Incidental fauna observations; and
  - Checks for fauna habitat, ecological threats and management issues;
- Brief observations of the site on 25th July 2004, when the native understorey had been removed and replaced by mulch and newly planted tubestock;
- A site inspection by Dr Lorimer on 18th September 2024, compiling a list of wild indigenous plant species and checking for changes in features relevant to this report compared with pre-existing information;
- Flora and fauna observations stored in the Atlas of Living Australia;
- Aerial and satellite imagery from between 1946 and 2025;
- The Victorian Government's 'NatureKit' website;
- Maps of geology, topography and strategic planning information produced by agencies of the Victorian Government.