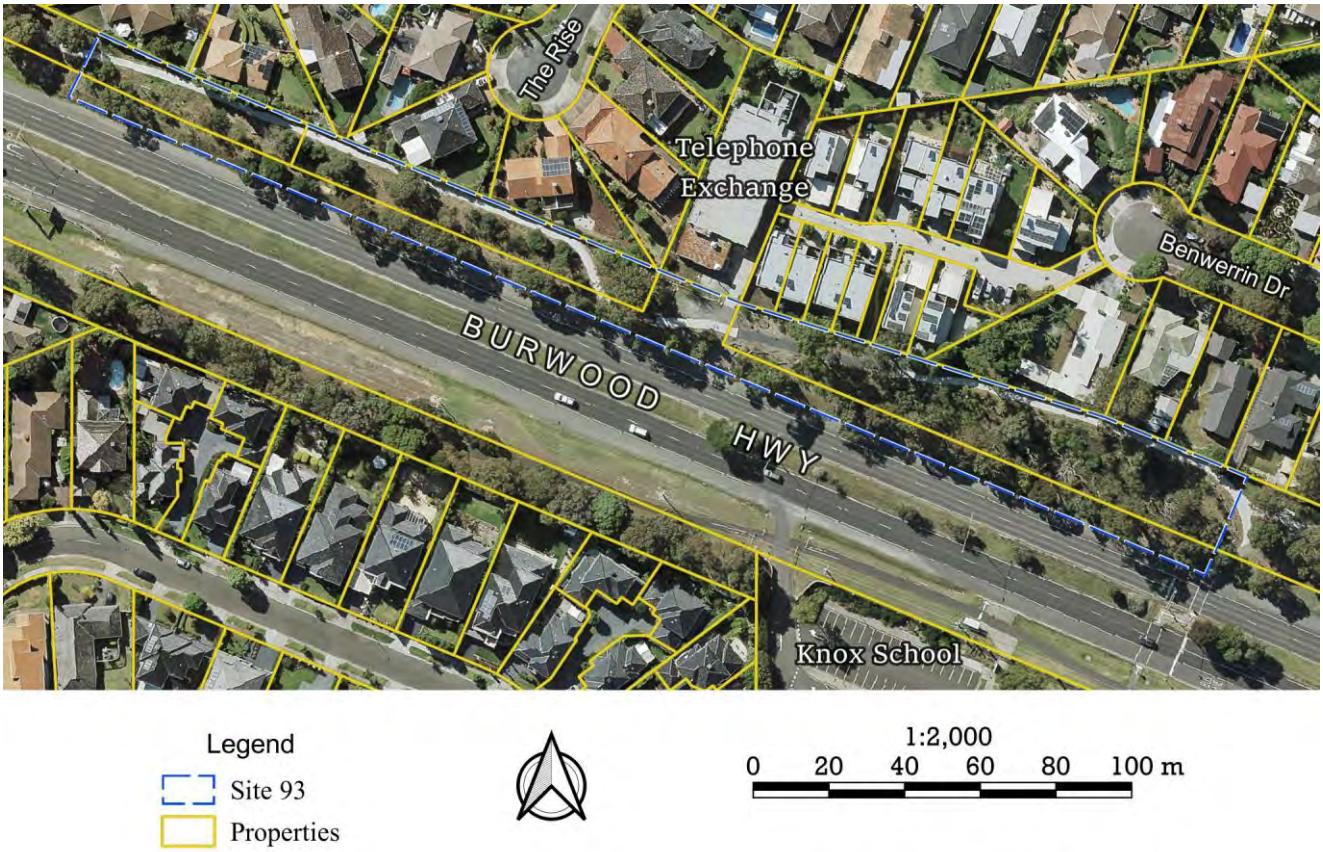
Site 93. Burwood Hwy Roadside, Wantirna

320 lineal metres of road reserve, each side of the Wantirna Telephone Exchange.

Summary of significant features:

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



Boundaries

The site is outlined with blue dashes on the aerial photograph above. Its width extends from the gutter of Burwood Hwy to the northern boundary of the tree reserve. Its western end is a signpost indicating this as Significant Roadside KN9. The eastern end is at a pedestrian crossing. The total area is 0.70 ha. The boundary has not changed since the previous editions of this report.

Land use & tenure: Road reservation and Council tree reserve, used for nature conservation, a shared path, a driveway to a telephone exchange and associated car parking.

Site Description

The site's vegetation differs between the two sides of the driveway of the telephone exchange marked on the aerial photograph above. On the western side, the native vegetation is at the drier extreme of Valley Heathy Forest, reflected by the presence of Red Stringybark (*Eucalyptus macrorhyncha*) and densely grassy ground flora. On the eastern side, the vegetation tends toward the opposite extreme of Valley Heathy Forest, dominated by Mealy Stringybark (*Eucalyptus cephalocarpa*) with a high density of Thatch Saw-sedge (*Gahnia radula*) beneath.

West of the Telephone Exchange

The richest and most significant vegetation west of the telephone exchange's driveway is on a cutting batter and within about 2 m of it. This is within the actual road reservation, as opposed to the Council tree reserve, i.e. between the gutter and the parallel yellow line on the aerial photograph above. Perhaps surprisingly, growing on the cutting and its brow are several locally-threatened species persisting better than almost all other occurrences in or near Knox – particularly the Hop Bitter-pea (*Daviesia latifolia*) and Upright Guinea-flower (*Hibbertia australis*).

A 1946 aerial photograph shows that the adjacent section of the tree reserve was almost wholly cleared. However, one Messmate Stringybark (*Eucalyptus obliqua*) was present and it stands today as a very large, multi-trunked tree next to the southwest corner of the telephone exchange. The tree reserve has been the subject of planting at intervals since it was created in the mid-1980s as part of subdivision of the residential estate to the north. The earliest plantings were of non-indigenous Australian species such as wattles, grevilleas and hakeas, some of which remain. More recent plantings have been indigenous. Some indigenous plant species regenerated naturally within the tree reserve and others have been expanding into it.

East of the Telephone Exchange

There is no cutting east of the telephone exchange's driveway. The 1946 aerial photograph shows forest within the road reservation and patchy, young regrowth within the tree reserve (i.e. north of the yellow line on the aerial photograph above). Pines were subsequently planted in what became the tree reserve, growing to maturity before their removal in 2018 and c. 2003. The difference in topography and history compared with the other side of the driveway explains why the vegetation today retains different plant species and structure. The naturalness of the vegetation east of the driveway, and the density its locally-threatened plant species, tend to be greatest near the boundary between the road reservation and the tree reserve.

Relationship to other land

This site is rather isolated from other native vegetation. Plantings of Australian natives and indigenous species beside Burwood Hwy toward Stud Rd are maturing to provide a narrow and probably weak connection to the Blind Creek corridor. There is negligible habitat for native flora or fauna between the site and the Dandenong Creek corridor 1 km away.

Bioregion: Gippsland Plain

Habitat types

Valley Heathy Forest (EVC 127, **regionally Endangered**). Estimated as 0.45 ha, comprising 400 m² in good ecological condition (rating B) and the remainder roughly equally divided between fair ecological condition (rating C) and poor (D).

Canopy trees: Dominated in the western half by *Eucalyptus macrorhyncha* and in the eastern half by *E. cephalocarpa*. *Eucalyptus goniocalyx, E. melliodora, E. obliqua* and *E. radiata* are also present.

Sub-canopy trees: Dominated by *Acacia implexa*. *Exocarpos cupressiformis* is atypically scarce.

Shrubs: Indigenous shrubs are quite sparse but *Daviesia latifolia* is prominent in the western half and *Dillwynia cinerascens* is scattered. *Coprosma quadrifida, Epacris impressa* and *Leptospermum continentale* are scarce and confined to the east. *Cassinia longifolia* and *C. sifton* have colonised the site, the former only over the past decade and the latter now abundant.

Ferns: *Pteridium esculentum* is locally dominant in its stratum, east of the driveway. No other ferns are present.

Creepers: *Dichondra repens* is fairly abundant in the eastern half.

Other groundcover: Fairly rich and densely grassy in the west; dense and sedgy in the east. Dominated variously by *Austrostipa rudis, Gahnia radula, Rytidosperma* species (particularly *R. fulvum* and *R. racemosum*) or large patches of *Dianella revoluta*. *Arthropodium strictum* is also abundant. Character species include *Hibbertia australis, Pimelea humilis* and *Xanthorrhoea minor*.

Plant species

The following plant species have been recorded as growing wild (not just planted) in the site. Asterisks indicate indigenous species that the author did not see on 10th October 2024 but did see in his previous survey on 19th

March 2002. Daggers (†) indicate indigenous species only recorded by Damien Cook on 6th December 1992. The column headed 'Risk' indicates the indigenous species' risk of dying out in Knox, with 'C'=Critically endangered, 'E'=Endangered, 'V'=Vulnerable and 'N'=Near threatened.

Indigenous mosses and liverworts

Chiloscyphus semiteres, Green Worms
Campylopus introflexus, Heath Star Moss
Hypnum cupressiforme, Common Hypnum

Risk Wild indigenous vascular species

V *Acacia implexa*, Lightwood
V *Acacia mearnsii*, Black Wattle
Acacia paradoxa, Hedge Wattle
E *Acrotriche serrulata*, Honey-pots
Anthosachne scabra, Common Wheat-grass
Arthropodium strictum, Chocolate Lily
Austrostipa pubinodis, Tall Spear-grass
Austrostipa rudis subsp. *rudis*, Veined Spear-grass*
Billardiera mutabilis, Common Apple-berry*
N *Bossiaea prostrata*, Creeping Bossiaea*
Bursaria spinosa, Sweet Bursaria
Carex breviculmis, Short-stem Sedge
Cassinia longifolia, Shiny Cassinia
V *Coprosma quadrifida*, Prickly Currant-bush
C *Daviesia latifolia*, Hop Bitter-pea
Deyeuxia quadriseta, Reed Bent-grass*
Dianella revoluta, Black-anther Flax-lily
Dichelachne rara, Common Plume-grass†
Dichondra repens, Kidney-weed
V *Dillwynia cinerascens*, Grey Parrot-pea
V *Drosera auriculata*, Tall Sundew†
C *Epacris impressa*, Common Heath
Eragrostis brownii, Common Love-grass*
E *Eucalyptus cephalocarpa*, Mealy Stringybark
V *Eucalyptus goniocalyx*, Bundy
C *Eucalyptus macrorhyncha*, Red Stringybark
E *Eucalyptus melliodora*, Yellow Box
E *Eucalyptus obliqua*, Messmate Stringybark
E *Eucalyptus radiata*, Narrow-leaved Peppermint
E *Euchiton involucratus*, Common Cudweed†
V *Exocarpos cupressiformis*, Cherry Ballart
C *Gahnia radula*, Thatch Saw-sedge
Gonocarpus tetragynus, Common Raspwort
E *Hardenbergia violacea*, Purple Coral-pea*
C *Hibbertia australis*, Upright Guinea-flower
C *Hovea heterophylla*, Common Hovea*
E *Hypericum gramineum*, Small St John's Wort†
Juncus pallidus, Pale Rush
Lachnagrostis filiformis, Common Blown-grass*
Lepidosperma gunnii, Slender Sword-sedge*
C *Leptospermum continentale*, Prickly Tea-tree
E *Linum marginale*, Native Flax
Lomandra filiformis subsp. *coriacea*, Wattle Mat-rush

Risk Wild indigenous vascular species

Lomandra filiformis subsp. *filiformis*, Wattle Mat-rush
Lomandra longifolia subsp. *longifolia*, Spiny-headed Mat-rush
V *Luzula meridionalis*, Common Woodrush†
Microlaena stipoides, Weeping Grass
V *Microtis parviflora*, Slender Onion-orchid†
V *Opercularia varia*, Variable Stinkweed
Pandorea pandorana, Wonga Vine
E *Pimelea humilis*, Common Rice-flower
Poa morrisii, Soft Tussock-grass*
Poranthera microphylla, Small Poranthera
Pteridium esculentum, Austral Bracken
Rytidosperma fulvum, Leafy Wallaby-grass
E *Rytidosperma pallidum*, Red-anther (or Silvertop) Wallaby-grass
Rytidosperma penicillatum, Slender Wallaby-grass*
Rytidosperma racemosum, Clustered Wallaby-grass
Rytidosperma setaceum, Bristly Wallaby-grass*
Rytidosperma tenuius, Purplish Wallaby-grass
Schoenus apogon, Common Bog-rush
Senecio hispidulus, Rough Fireweed
Senecio quadridentatus, Cotton Fireweed
V *Solanum laciniatum*, Large Kangaroo Apple
E *Thelymitra peniculata*, Trim Sun-orchid*
Themeda triandra, Kangaroo Grass
V *Veronica gracilis*, Slender Speedwell (planted?)
E *Viola hederacea*, Ivy-leaf Violet†
E *Xanthorrhoea minor*, Small Grass-tree

Introduced species

Acacia baileyana, Cootamundra Wattle
Acacia longifolia subsp. *longifolia*, Sallow Wattle
Agrostis capillaris, Brown-top Bent
Aira caryophyllea, Silvery Hair-grass
Anthoxanthum odoratum, Sweet Vernal-grass
Briza maxima, Large Quaking-grass
Briza minor, Lesser Quaking-grass
Cassinia sifton, Sifton Bush
Centaurium erythraea, Common Centaury
Cotoneaster pannosus, Cotoneaster
Dactylis glomerata, Cocksfoot
Ehrharta erecta, Panic Veldt-grass
Grevillea hybrids and cultivars
Holcus lanatus, Yorkshire Fog
Hypochaeris radicata, Cat's Ear
Linum trigynum, French Flax
Medicago polymorpha, Burr Medic

Introduced species

Oxalis incarnata, Pale Wood-sorrel
Paspalum dilatatum, Paspalum
Pinus radiata, Monterey Pine
Pittosporum undulatum, Sweet Pittosporum
Plantago lanceolata, Ribwort

Introduced species

Romulea rosea, Common Onion-grass
Rubus anglocandicans, Blackberry
Trifolium repens, White Clover
Ulex europaeus, Gorse (Furze)

Notes concerning some of the locally-threatened plant species

Acacia implexa (Lightwood): Significant for the large size of the population, by Knox standards.

Daviesia latifolia (Hop Bitter-pea): Well over a dozen individuals in 2002, now down to a handful but still among the densest stands in Knox.

Fauna habitat features

The grassy groundcover is probably supporting butterfly larvae, many other invertebrates and skinks.

There are a small number of large trees that may provide roosting or nesting sites for urban-adapted species of birds, possums and bats.

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).

Richness of Flora

The site's over 50 indigenous plant species is a high tally in this highly urbanised area, even though many species are present in very small numbers. The total of six eucalypt species plus one hybrid is also rare in a site of this size. However, these types of attributes are not recognised by the standard criteria of Amos (2004).

Regionally Threatened Ecological Vegetation Class

Valley Heathy Forest is regionally endangered but the standard criteria only regard such a status as significant if the vegetation meets the definition of a 'remnant patch' adopted for the criteria, i.e. a continuous area of at least 0.25 hectares in which the cover of native understorey is at least 10% throughout. In this site, the driveway dissects the area of native understorey in two and only the eastern part meets the minimum area requirement. As a result, the standard criteria do not recognise any significance of the presence of Valley Heathy Forest west of the driveway (questionable though that is). In regard to the eastern area, any 'remnant patch' of a regionally-endangered EVC has a conservation significance rating of at least 'High' under Appendix 3 of *Victoria's Native Vegetation Management – a Framework for Action* (NRE 2002a). That translates to **State** significance under criterion 3.2.3 of Amos (2004).

Threatened Plants

The locally-threatened tree species seen in 2024 and some of the locally-threatened understorey species 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 eucalypt health, partly due to the abovementioned droughts and storms;
- Displacement of indigenous flora and fauna by environmental weeds, but that problem is being kept well under control at present;
- Loss or decline of plant species whose populations are so small and isolated that they are vulnerable to inbreeding, poor reproductive success or elimination by incidents such as digging by dogs or being struck by a falling tree limb.

Strategic planning

The previous (2010) edition of this report led to this site being covered by Schedule 2 of the Environmental Significance Overlay (ESO2). The reasons given for applying ESO2 were essentially the same as the matters of

biological significance discussed above. In the absence of any material change in those reasons, there is no need to change the application of ESO2 to the site.

Information sources used in this assessment

- Data from a 150 m² quadrat (reference number N0190600), gathered by Damien Cook on 6th December 1992, as described by Mark Allaway and Associates in *'Indigenous Vegetation survey to Major Road Reserves – Phase 2 – A Management Strategy for Remnant Roadside Vegetation'* for City of Knox (1993);
- An ecological survey undertaken during this study by Dr Lorimer on 19th March 2002 for the first edition of this report. This included vegetation mapping, a description of the composition and condition of the vegetation, compilation of four lists of indigenous and introduced plant species, incidental fauna observations, and checks for fauna habitat, ecological threats, management issues and populations of scarce or threatened plant species;
- An assessment of the site's vegetation and significance by Dr Lorimer in October 2017 for his report to Knox City Council titled, 'Ecological Assessment of a Proposed Shared Path beside Burwood Hwy, Wantirna';
- A site inspection following removal of pines for the abovementioned shared path;
- A botanical survey by Dr Lorimer on 10th October 2024 for this report;
- Records of flora and fauna observations stored in Knox City Council's biodiversity database;
- Records of flora and fauna observations stored in the Atlas of Living Australia, but note that the plant records are all of planted plants despite not being portrayed as such;
- 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.