PRE-CLEARANCE ECOLOGICAL SURVEY

FOR

PROPOSED ACCESS TRACK ADJACENT TO CONCORD ZONE SUBSTATION TO FACILITATE HEAVY VEHICLE ACCESS DURING CONSTRUCTION AND CONDUIT INSTALLATION BACK OUT TO GEORGE ST, CONCORD,

TO ENABLE COMMISSIONING OF NEW SWITCHGEAR

Prepared for:

AUSGRID

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1 Type and cover (%) of species of indigenous and weed species that will be impacted and mostly removed to allow for construction of suitable access path for heavy vehicular traffic

GLOSSARY

BC Act - Biodiversity Conservation Act

BV Map - Biodiversity Values Map

CCPD – Crown Canopy Projective Density (DEC 2002)

CEEC – Critically Endangered Ecological Community

DAWE - Department of Agriculture, Water and the Environment

DEC – State Department of Environment and Conservation

DECCW – State Department of Environment, Climate Change and Water

DPIE - Department of Planning, Industry and Environment

EEC – Endangered Ecological Community

EPA Act – Environment Protection Act

EPBC Act – Environment Protection and Biodiversity Conservation Act

ESD – Ecologically Sustainable Development

LPI – NSW Land and Property Information

NPWS – State National Parks and Wildlife Service

OEH – Office of the Environment and Heritage

PCT - Plant Community Type

RoTAP – Rare and Threatened Australian Plants

SMCMA – Sydney Metropolitan Catchment Management Authority

TSC Act – Threatened Species Conservation Act

Pre-clearance Ecological Survey for Access Track to facilitate heavy vehicle access during construction and conduit installation at Concord Zone Substation back out to George St, Concord, to enable commissioning of the new switchgear

Date surveyed: 5.02.2020

Project Name: Access Track to facilitate heavy vehicle access during construction and conduit installation at Concord Zone Substation back out to George St, Concord, to enable commissioning of the new switchgear

Ausgrid representative: Mr Dan Halton

ACS Environmental representative: Mr P Stricker

1 Required works and potential impacts to vegetation:

Access is required to the rear of the existing Concord Zone Substation site via the neighbouring access track administered by Westpac. Figure 1 indicates the location of the Ausgrid Concord Zone Substation property and access way adjacent to the property. The access way stretches along for about 100m toward the railway line to the east.

There is a discontinuous row of She Oak trees established along the top of the embankment for the length of the access-way (Figure 2). These individuals would mostly require removal to facilitate heavy vehicle access during construction and conduit installation back out to George St, Concord, to enable commissioning of the new switchgear.

2 Ecological community:

The vegetation occurring along the route is a planted discontinuous row of Swamp Oak (*Casuarina glauca*) (considered to include Urban Natives & Exotics; PCT code: 0; OEH 2016) (Figure 2). The row of trees is not mapped in recent mapping by DPIE (2020) nor on the BV Map (2020). Natural habitat for the occurrence of Swamp Oak is not present at the subject site.

Figure 3 indicates the landscape including the partially cleared access path where established trees are required to be cleared.

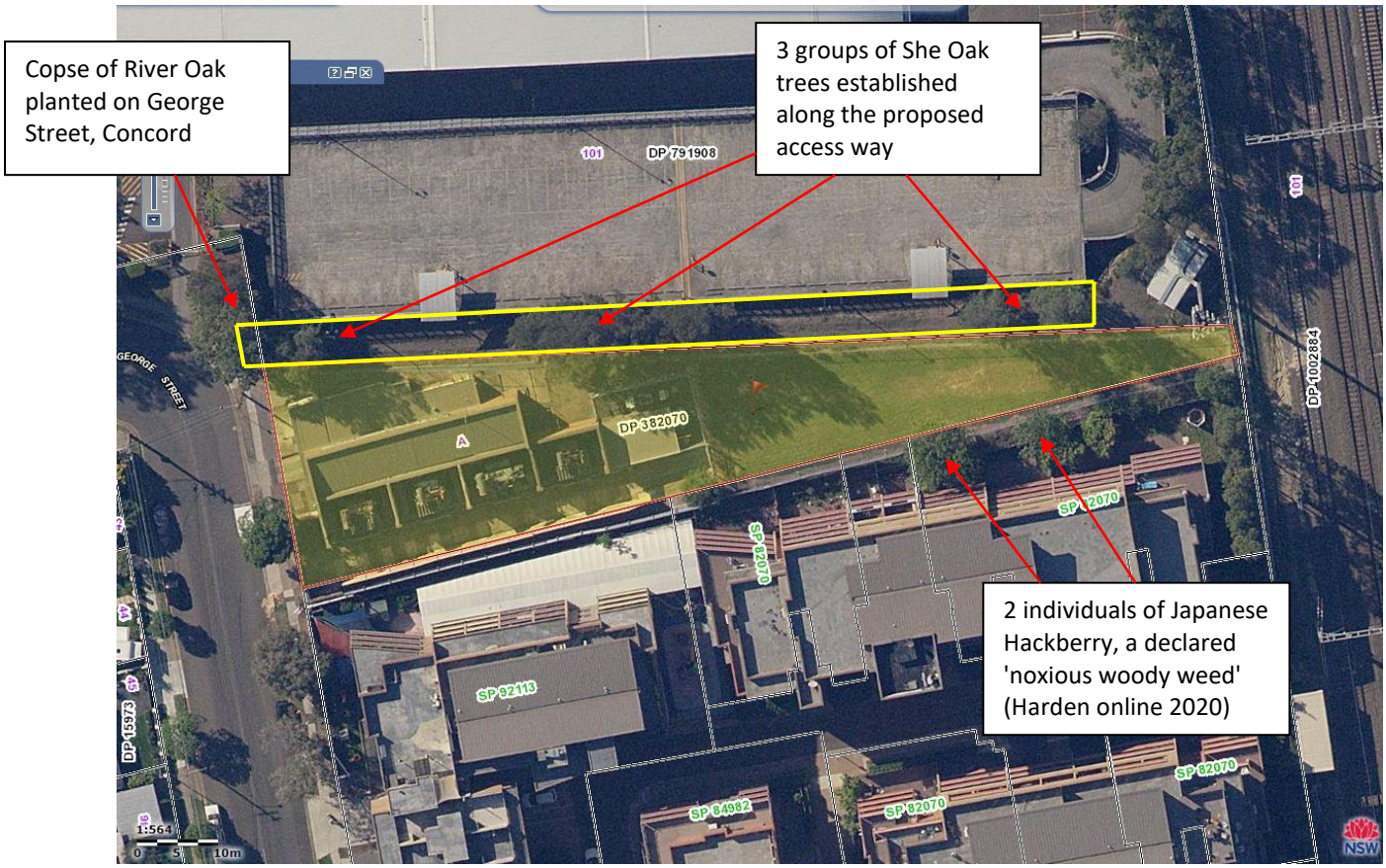

Figure 1 - The location of the Concord Zone Substation (bounded in red) and indicative access path of about 100m in length from George Street, Concord, where 3 groups of She Oak trees are proposed for removal to allow access for heavy vehicular traffic (bounded by yellow font)

Figure 2 - Location of the proposed site of vegetation clearing (Urban Natives and Exotics shaded in yellow)

Figure 3 - Proposed access track of length 100m and width 3m, viewed from east to westwards indicating size and extent of establishment of Swamp Oak along the edge of the access track, the trees apparently planted in a linear row as a screen for the car park, regeneration of juvenile trees also occurring on far (LHS) side of track

3 Status of Ecological community:

The Swamp Oak vegetation occurring along the raised fill embankment has apparently been planted as a screen between the unit block to the south and the Westpac Car Park to the north. Figure 4 is an image of the area taken in 1943 indicating that the landscape at that

time consisted of a cleared area containing tightly packed hedgerows planted in a south-north orientation with container-like man-made structures inter-dispersed among them.

The area where the access track is located was cleared for access at that time but uncertain whether this consisted of raised fill or was located on level ground for access from west to east across the landscape.

Figure 4 - Aerial image of current location of the Concord Zone Substation taken in 1943 indicating planted hedgerows and container-like structures located within the Ausgrid allotment (bounded by red font) and the cleared area of the current access way to the north of the Ausgrid allotment

The individuals of Swamp Oak that occur in three distinct patches along the current access way (Figure 3) have been planted roughly in a linear row, spaced about 1 - 1.5m apart. Suckering and sapling regeneration has occurred such that the vegetation includes a cohort of uneven aged individuals (Figure 3). The height of the mature individuals ranges from 16 - 18m tall (Figure 3).

The Swamp Oak communities occurring naturally on the Cumberland Plain include 'Cumberland Swamp Oak Riparian Forest' that occurs on river-flats of the Cumberland Plain in Western Sydney and 'Estuarine Swamp Oak Forest' that occurs above a tidal influence (OEH 2016). Neither of these habitats occur at the artificial landscape of the raised berm at the current access way which consists largely of soft-fill above a concrete retaining wall (Figure 5).

Figure 5 - Image indicating the drop off from the raised level top of the berm and the steep sloping side-slope of the fill to the retaining wall about 1m below the crest.

The planted Swamp Oak ecological plant community is considered to be included in a community type defined as 'Urban Natives and Exotics' (OEH 2016) (PCT '0'; DPIE 2020) and is not listed on registers of the State BC Act (2016) or the Commonwealth EPBC Act (1999).

4 Indigenous and exotic species to be removed:

The proposal is to clear vegetation of most, if not all, of the vegetation along the current access way including stabilising the ground structure to accommodate heavy vehicular traffic along the path.

All or most mature individuals of trees would be removed. Some individuals of common native ground cover species would either be removed or trampled in clearing vegetation to provide access to vehicles.

Table 1 summarises the type and cover (%) of species of indigenous and weed species that will be removed to provide adequate access for the proposed heavy vehicular traffic

Species	**Cover % along current access way (Area: approx. 100m x 4m)**
Swamp Oak including regenerating saplings (non-local occurring native)	30
White Cedar	1 seedling to 40cm tall
Red Leg Grass (*Bothriochloa macra*)	2
Twining Glycine (*Glycine clandestina*)	2
Pigweed (*Portulaca oleracea*)	2
Red Natal Grass (*Melinus repens*)*	5
African Love Grass *Eragrostis curvula*)*	5
Flaxleaf Fleabane *Conyza bonariensis*)*	5
Cats Ear (*Hypochaeris radicata*) *	2
Cobblers Pegs (*Bidens pilosa*)*	5
Common Couch (*Cynodon dactylon*) *	5
Mickey Mouse Plant (*Ochna serrulata*) *	1
Aster (*Aster subulatus*) *	1
Moth Plant (*Araujia sericifera*) *	1
Japanese Hackberry (*Celtis sinensis*) *	1
Kikuyu (*Pennisetum clandestinum*) *	5
She Oak cladodes	30
Bare Ground	20

Legend: * - Species of exotic weed

Table 1 - Type and cover (%) of species of indigenous and weed species that will be impacted and mostly removed to allow for construction of suitable access path for heavy vehicular traffic

5 Threatened species recorded within 5km radius of the site by DPIE (2020):

A total of 13 threatened species were identified as occurring within 10km of the proposed construction site (DPIE 2020 records) but no suitable habitat for any of these species occurs at the subject site and no threatened species were located.

6 Other vegetation to be impacted:

There are some planted individuals of River Oak (*Casuarina cunninghamiana*) to 16m tall located on George Street, Concord, outside the locked gate easement that is proposed for clearing by Ausgrid (Figure 1). Some of these individuals may also require clearing to allow initial access for heavy vehicles along the access way.

Two individuals of Japanese Hackberry (*Celtis sinensis*) (declared noxious woody weeds - Harden, online 2020) are located within the adjacent allotment on the southern side of the Concord Zone Substation (Figure 1). The larger individual to the west (Figure 1) may require trimming to facilitate the construction of the new building.

7 Conclusions of ecological survey and assessment:

The ecological plant community occurring at the subject site which is proposed to be removed to facilitate the construction of a suitable access path for heavy vehicular traffic is a distribution of planted Swamp Oak (*Casuarina glauca*). This vegetation type is not indicative of a natural distribution of Swamp Oak and considered as "Urban Natives and Exotics' in relation to mapping by OEH (2016). The distribution of Swamp Oak does not occur within the range of natural habitat for this species.

Individuals of River Oak and Japanese Hackberry which may be trimmed or removed to facilitate construction are not threatened species, have been planted in unnatural habitats , and their removal or modification is not considered significant.

Habitat is unsuitable for the potential presence of 13 threatened plant species recorded for an area of 10km centred around the subject site. No threatened species of plants were observed at the site.

As such, the requirements under the State BC Act (2016) and Commonwealth EPBC Act (1999) have been addressed and no further action is considered necessary in relation to the proposal.

8 References and literature reviewed

DEC (2004) Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities

DPIE Bionet Atlas of NSW Wildlife (2020). NPWS Geographic Information Systems Division, Hurstville NSW, 2220.

Fairley, A. (2004) Seldom Seen – Rare Plants of Greater Sydney. New Holland Publ Sydney, Aust.

Fairley, A. & Moore, P. (2010) Native Plants of the Sydney District – An Identification Guide. Kangaroo Press, Kenthurst, Sydney.

Harden, G. J. (ed.) (1990 – 2002; 2020 online) Flora of New South Wales, Royal Botanic Gardens, Sydney NSW.

Robinson, L. (1994) *Field Guide to the Native Plants of Sydney.* Kangaroo Press, Kenthurst, Sydney.